

THE **BIG** VANTRUNK



Product Guide

**THRIVING
IN EXTREME
ENVIRONMENTS**



EXTREME CABLE MANAGEMENT



Welcome to the new Vantrunk Product Guide

With our extensive range of trusted products, evolved Rapid Installation Systems and new user-friendly 3D visuals we can help you to find the solutions you need.

With close to 50 years of pioneering solutions in the toughest global environments, Vantrunk is renowned for its design and manufacture of cable management solutions that embody technical excellence and quality that...

Thrive in Extreme Environments

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Easy to use Product tab system

CABLE LADDER SYSTEM

The Speedway Cable Ladder System represents a major advance in cable ladder design, providing faster & easier installation, greater cable fill capacity and total flexibility.



1

Cable Ladder

CABLE TRAY SYSTEM

A full range of perforated Cable Trays manufactured to the highest standards, offering time saving and adaptable designs, practical slot patterns and versatile accessories.



2

Cable Tray

STEEL FRAMING SYSTEM

The Intelok Steel Framing System is a strong, easy to erect support system, ideal for supporting Vantrunk Cable Tray, cable ladders, trunking, pipes and ducting.



3

Steel Framing

ANCILLARY SUPPORT PRODUCTS

A wide range of steel ancillary supports designed to complement Vantrunk's Speedway and Cable Tray systems.

4

Supports

UNIVERSAL MOUNTING FRAME SYSTEM

Universal mounting frame system for electrical equipment offering speed and flexibility of installation, available with a variety of accessories and bespoke options to suit any requirement.



5

Mounting Frame

FIXINGS

Cable Management installations often require a wide range of fixings. Vantrunk carry a vast range of these items to ensure that installers have a reliable 'single source' supply of components to meet their site requirements.

6

Fixings

INNOVATIVE DESIGN SOLUTIONS

Our industry experience and our continual investment in research and development over many years has secured our position as the leader in bespoke made to order solutions.

7

Bespoke

GENERAL TECHNICAL

8

Technical

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COMPANY PROFILE

Vantrunk is an internationally renowned manufacturer of extreme cable management products and associated support systems. It's trusted and innovative solutions have been serving the Global Energy, Oil and Gas and Industrial Processing sector for nearly 50 years. Throughout this time Vantrunk has established itself as a leader in the development of proven and innovative cable management solutions designed to thrive in extreme environments.

Our UK Production Site is purpose built for the manufacture of cable management solutions; it includes a 5000m² manufacturing and warehousing facility and an additional 6500m² marshalling and storage area ideal for major projects. As the specialist division of the Unitrunk Group, the company has significantly increased its capacity and expertise through the utilisation of Unitrunk's 9300m² manufacturing facility in Northern Ireland.

At Vantrunk we believe that a manufacturing company must continuously invest to remain competitive in today's global market place. In recent year's substantial strategic investment has been made at both facilities updating the company's process lines using high specification machinery incorporating industry leading technology to ensure that product quality and delivery are consistent.



**APPROACHING
50 YEARS
EXPERIENCE**

VANTRUNK



**THRIVING IN
EXTREME
ENVIRONMENTS**

Vantrunk were the first company in the United Kingdom to manufacture and supply cable ladder products and nearly 50 years later we continue to Thrive in Extreme Environments.

Environments such as the North Sea, the Middle East, Kazakhstan, Australia and Brazil's pre-salt fields, where Vantrunk has been selected to supply its cable management and supports systems. Further applications have been in the Petrochemical and Liquefied Natural Gas Industries as an authority on Cable Management in Extreme Environments including the recent Singapore Parallel Trains major LNG installation.

Given the nature of these critical requirements, our team not only supplies but, as an authority in the "extreme

environment" consults with the main engineering houses regarding suitable materials and technical design choice that will meet their needs. Since becoming part of the Unitrunk Group in July 2000 and benefiting from Unitrunk's 9300m² manufacturing facility in Lisburn, Northern Ireland we have continued to 'lead the charge'.

Quality, innovation and a desire to deliver excellent cable management solutions is at the core of our business whilst excellent service is at the heart of our team.





In the toughest environments on earth engineers rely upon the tried and tested.

Thriving in extreme environments is a key requirement for international Oil and Gas and industrial processing projects given the diverse and challenging geographical locations involved.

It's in these environments that you will find Vantrunk with our wealth of experience in providing both industrial onshore and offshore cable management systems that will meet the demands of even the harshest of environments.

Vantrunk's cable management solutions have been designed to stand up to a variety of extreme natural climatic and environmental conditions affecting corrosion, temperature variation (-50° to +50° C) and seismic elements.

Developers and engineers alike rely on Vantrunk to provide proven cable management solutions and expertise that will allow them to 'thrive in extreme environments' such as the Kashagan Field, Kazakhstan located in the Northern Caspian region.

With its:

- **Shallow waters that freeze from November to March**
- **High atmospheric sulphur content**
- **Extreme weather conditions varying from -30° C in winter to +40° C in summer**

THRIVING IN EXTREME ENVIRONMENTS





GLOBAL
EXPERTISE



VANTRUNK



We believe that excellent working relationships are important for our business to develop and grow, this is why as your partner we are committed to adding value with the highest levels of service, support and innovative range of standard and bespoke cable management solutions.



Operators, engineers and design houses want to deal with companies that understand the challenge of operating in a global marketplace from consolidating and shipping vast quantities of materials around the world to providing information to product inspectors and having the know how to complete the detailed documents required to support international shipments.

Thanks to our worldwide network of partners in key strategic locations including Brazil, Denmark, Qatar, USA, Singapore, Kazakhstan, Azerbaijan, Dubai, Oman, the Netherlands and Australia, we deliver proven cable management solutions designed to 'thrive in extreme environments', on time to major projects located around the world.



Sustainability

At Vantrunk, we work hard to ensure our ability to operate safely and responsibly wherever we do business.

Our approach to sustainability covers issues relating to the environment and project life cycle. As an organisation we incorporate the lessons learned in these areas into our management processes and practices applicable to our global business.

Environment

As a manufacturing business we take every care to minimise scrap and to maximise material usage and with the investment in energy efficient machinery and manufacturing techniques to reduce our impact on the environment.

Project Life Cycle

As an organisation working in a global market we ensure an approach that is sensitive to our responsibilities throughout the life cycle of a project - from the beginning to the end of our operations.

Development of the Vantrunk range of Cable Management Systems is approached with sustainability at its core. Through innovative solutions such as the Speedlok Cover System and Integral Coupler, Vantrunk aims to reduce installation times wherever possible and with a wide range of materials and finishes ensure that products thrive throughout the lifetime of projects in some of the harshest environments on Earth.

As a business committed to corporate responsible practices and continual improvement, Vantrunk is always exploring new horizons, going deeper, working harder and intelligently evolving its operations for the benefit of its clients and the sector.

Health & Safety

Vantrunk employ a full time Group Health & Safety Officer who reports directly to the Board of Directors. Further to this, Vantrunk have a dedicated team of H&S champions who hold monthly meetings to monitor and discuss H&S related issues.

Our statement of general policy:

- To comply with all applicable current health & safety legislation, ACOPs & guidance
- To provide adequate control of the Health & Safety risks arising from our work activities;
- To consult with our employees on matters affecting their health & safety;
- To provide and maintain safe plant and equipment;
- To ensure safe handling and use of substances;
- To provide adequate facilities for the welfare of the employees;
- To provide information, instruction and supervision for employees;
- To ensure that all employees are competent to do their tasks, and to give them adequate training;
- To prevent accidents and cases of work-related ill health;
- To maintain safe & healthy working conditions;

- To review and revise this policy as necessary at regular intervals.
- To be committed to continual improvement of health & safety performance

We believe that one of the major functions is the prevention of accidents and ill health and we do not wish our employees or any other person to suffer as a result of our activities or work processes. To this end we endeavour to comply with all statutory and moral requirements, codes of practice, best guidance and work methods.

The detailed policy of which this document is the general statement is the base plan on which all health & safety procedures, instructions, training, supervision and review & assessment, is founded.

It is also recognised that where we produce articles for use at work, we have a duty to ensure the health & safety of those who use them and make available all the required information for their health & safety.

Kevin Campbell
Managing Director

BEST PRACTISES

**QUALITY & STRENGTH
YOU CAN TRUST**

We want our customers to have confidence in our products, our long term accreditation and compliance with ISO 9001:2008 underscores this confidence.

We are members of the British Electrotechnical and Allied Manufacturers Association (BEAMA), the Energies Industry

Council (EIC) and registered with FPAL and Achilles JQS. Vantrunk is represented on the IEC and European Standards cable management committees through its membership of BEAMA.



Recognition of Our Quality

Quality Mark: Products & Materials



We work hard to make sure our entire range is safe, reliable and manufactured to exceed all relevant quality standards

British Standards



BS EN 61537:2007
Cable Tray systems and cable ladder systems



NEMA VE 1 2009
Metal Cable Tray Systems



BS EN 1461:2009
Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods

BS EN 1011:2008
Continuously hot rolled low carbon steel sheet and strip for cold forming. Technical delivery conditions

BS EN 10130:2006
Cold-rolled low-carbon steel flat products for cold forming. Technical delivery conditions

BS EN 10025-2:2004
Hot rolled products of structural steels. Technical delivery conditions for non-alloy structural steels

BS EN 10025-5:2004
Hot rolled products of structural steels. Technical delivery conditions for structural steels with improved atmospheric corrosion resistance

BS EN 10088-2:2005
Stainless steels. Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes



BS 6946:1988
Specification for metal channel cable support systems for electrical installations

BS EN 1461:2009
Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods

BS EN 10346:2009
Continuously hot-dip coated steel flat products. Technical delivery conditions

BS EN 10149-2:1996
Specification for hot-rolled flat products made of high yield strength steels for cold forming. Delivery conditions for thermo mechanically rolled steels

BS EN 10088-2:2005
Stainless steels. Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes



INNOVATION DEPARTMENT

Continual investment in research and development has kept Vantrunk at the forefront of industry innovation throughout our history...

...placing us in the unique position to observe and influence industry requirements such as the operational lifetime of cable management systems.

As an organisation we provide more than just a product – we provide support for operators, engineers and design houses as they contend with the challenge of operating in a global marketplace.

The team

Vantrunk's Innovation Department is a dynamic and forward thinking team of cable management professionals with over 100 years of combined cable containment, engineering and commercial experience.

As an authority in extreme cable management solutions Vantrunk actively contributes to the industry with key team members sitting on both the IEC and BEAMA cable management committees, with the Managing Director also on the BEAMA commercial committee.

In line with our commitment to continual improvement for the benefit of our customers and the sector, Vantrunk contributed to the creation of the advisory regulations and guides for Cable Management in association with BEAMA – titled: **Best Practice Guide to Cable Ladder and Cable Tray Systems - Channel support Systems and other Associated Supports.**

Team skills include:

- **Technical specification**
- **Standards & legislation**
- **Client relationship**
- **Production**
- **Technical design**
- **CAD development**
- **Prototyping**
- **Testing**

**FOR MORE
INFORMATION**
VISIT VANTRUNK.COM OR
SCAN THE QR CODE BELOW



THE PROCESS

Through a focus on customer needs and the development of in-depth knowledge of their requirements and expectations, Vantrunk's dedicated Innovation Team are continually researching and adopting cutting edge finishes & materials, manufacturing techniques and design solutions.

As a team we rise to challenges and follow a structured innovation and development methodology, including version control for research, field-testing and proof of concept procedures & technologies such as 3D printing that allows us to take a holistic and thorough approach to R&D.

THE SERVICES

At Vantrunk, we offer a range of internationally renowned core cable management services and engineered systems. With nearly 50 years of industry experience we have honed our ability to innovate and deliver specialist cable management solutions that are tailored to meet the clients needs across the globe and solutions designed to thrive in extreme environments.

Services include:

- **Bespoke cable management solutions**
- **Product development**
- **Specialist environments**

THE PRODUCT

Through years of development and careful product maturing, Vantrunk has evolved its trusted systems to cater for the progressive requirements of the international marketplace, providing an extended choice of safe and time-saving innovations designed to complement our core product systems, including:

- **RIS - Universality for Rapid Installation Systems**
- **QF - Quick Fit, time and cost saving assemblies**
- **Speedlok - Secure, safe and fast cable ladder assemblies**
- **Systemization - Flexibility and totality of core cable management products**
- **VXS - Vantrunk Extreme Steel**



Quick Assembly
Cable Ladder



Flexible
Solutions



Rapid
Installation
Systems



Extreme Steel

FACILITIES

Our purpose built production facility includes a 5000m² manufacturing and warehousing facility and an additional 6500m² marshalling and storage area ideal for major projects. Our resources and facilities also extend to include Unitrunk's 9300m² manufacturing facility in Northern Ireland. Both sites are equipped with state of the art industrial production and processing technology.

Facilities include:

- **R&D**
- **Flexible testing area**
- **Measurement**
- **Cutting edge production equipment**
- **Standards conformance**

Please consult our Innovative Design Solutions section for more bespoke products.





ENHANCED

SAVE TIME AND MONEY WITH RIS

RIS: Rapid Installation Systems from Vantrunk

You can slash the cost and time of installation by looking for our RIS logo. RIS, or Rapid Installation Systems, are designed by Vantrunk to make your life easier. Innovative solutions such as the Speedlok Integral Coupler and IntelokQF brackets are part of the Rapid Installtions System and these fast-fitting products let you complete jobs quicker than ever before.

You'll save time on installation, you'll save money on labour costs, and you'll be ready to start your next job well ahead of schedule. And you'll never have to worry about quality – RIS products are engineered to the same exceptional standards as all Vantrunk products.

SPEEDLOK **INTELLOKQF®**



**Look out
for the
RIS mark**

AVEVA PDMS MODELLING SYSTEM

We are consistently innovating how cable management systems are designed and sold; one such innovation is the inclusion of our Cable Ladder and Cable Tray catalogues in the AVEVA PDMS Modelling System.

AVEVA PDMS 3D design software allows maximum efficiency when working on a wide range of plant projects, from the smallest to large scale complex projects. Users range from small engineering contractors to many of the largest multinational process and power companies.

Vantrunk's Speedway cable ladder and Cable Tray solutions were the first "as standard" pre-programmed cable management system catalogues included in AVEVA PDMS.

The benefits of using our products in PDMS are:

- › Reduced on-site rework
- › Parametric definition of Cable Management Solutions in the required size ranges and types
- › A wide range of layout and detail engineering drawings are available for all disciplines
- › Full part code compatibility with Vantrunk's ordering system
- › Higher efficiency and improved quality of design
- › Clear identification of cost changes
- › Reduced schedule times

For information on our PDMS inclusion please do not hesitate to contact us or one of our associates.



AVEVA
PDMS Systems

visit vantrunk.com

NEW WEBSITE & DIGITAL TOOLBOX

We are committed to 'leading the charge' with our innovative products & services but also in how we support the many operators, engineers and design houses we work with.

Through our new website customers can access up-to-date information, knowledge and support for all of our cable management products and support systems.

The Vantrunk Digital Toolbox is available worldwide with just one click, featuring:

- › Access to full technical resources anytime, anyplace
- › Access to focused content on a variety of topics
- › Training via web tutorials and video files

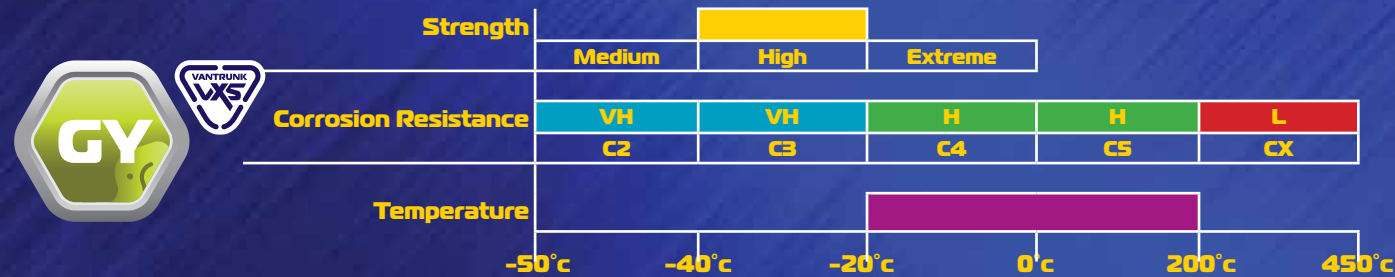


Scan QR code with your smart phone app

visit vantrunk.com

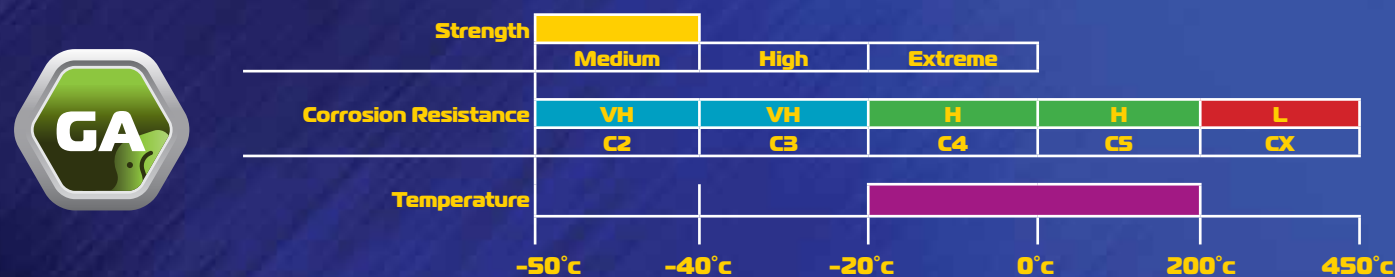
Hot Dipped Galvanized Vantrunk Extreme Steel

BS EN 10025-2:2004



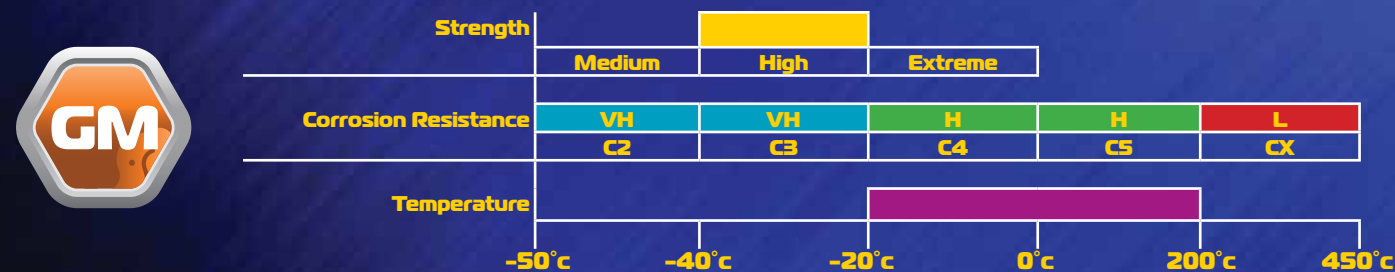
Hot Dipped Galvanized Vantrunk Mild Steel

BS EN 10111:2008 / BS EN 10130:2006



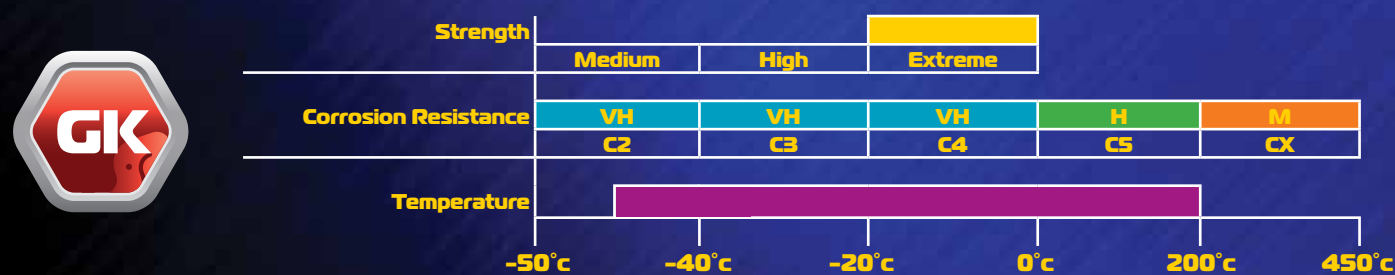
Hot Dipped Galvanized Structural Steel

BS EN 10025-2:2004



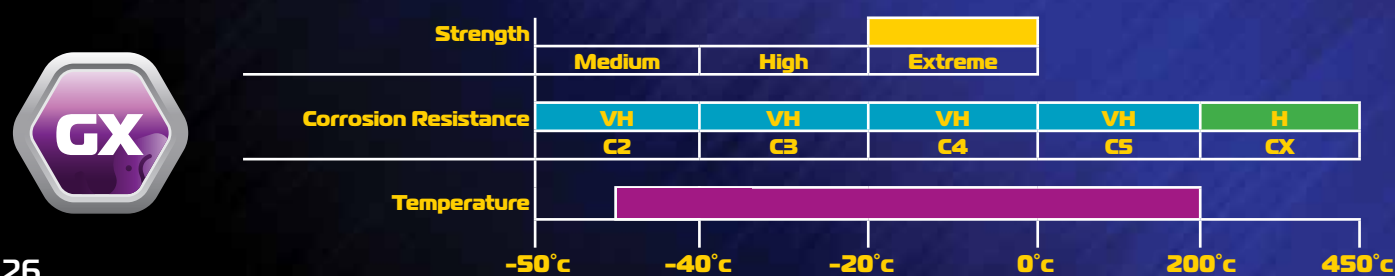
Hot Dipped Galvanized Vantrunk Silicon Rich Structural Steel

BS EN 10025-5:2004



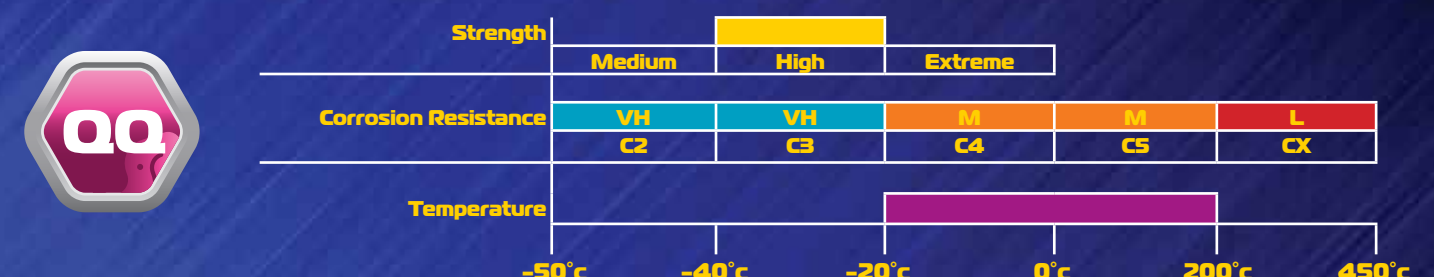
Deep Galvanized Vantrunk Silicon Rich Structural Steel

BS EN 10025-5:2004



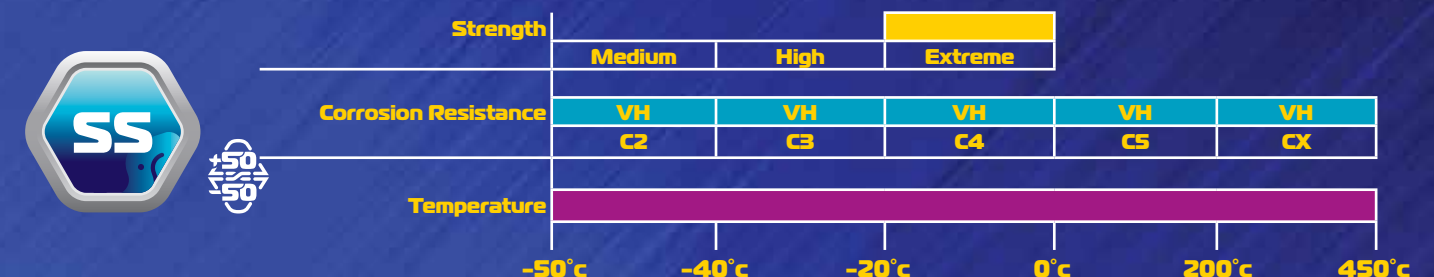
Pre Galvanized Vantrunk Structural Steel

BS EN 10326:2004



Marine Grade Stainless Steel

BS EN 1088-2:2005



ENVIRONMENT CATEGORIES

- C2** Temperate zone, atmospheric environment with low pollution e.g. rural areas, small towns. Dry or cold zones, atmospheric environment with short time of wetness e.g. deserts sub-arctic areas.
- C3** Subtropical and tropical zones with an atmosphere with low pollution.
- C4** Temperate zone, atmospheric environment with high pollution or substantial effect of chlorides e.g. polluted urban areas, coastal areas without spray of salt water. Subtropical and tropical zones with an atmosphere with medium pollution.
- C5** Temperate and subtropical zones, atmospheric environment with very high pollution and/or important effect of chlorides e.g. industrial area, coastal areas, sheltered positions on coastline.
- CX** Subtropical and tropical zones (very high time of wetness), atmospheric environment with very high pollution, including accompanying and production pollution and/or strong effect of chlorides e.g. extreme industrial areas, coastal and offshore areas with occasional contact to salt spray.

LIFE EXPECTANCY CODE:

L = Low - 2 to 5 Years

M = Medium - 5 to 10 Years

H = High - 10 to 20 Years

VH = Very High - Above 20 Years

Notes:

Information from BS EN ISO 14713-1. Hot Dip Galvanizing carried out to BS EN 1461. The operating temperatures stated in the table have been ascertained by using certified values and carrying out independent Charpy testing.

HOW TO USE



The Vantrunk catalogue has been technically designed to deliver ease of use, clarity and speed of reference using the guide points below:



User-friendly tab navigation

Quickly flick to your preferred product sections using the colour coded product tabs and sub sections



How to order guides

Product ordering is explained at the start of Speedway, Cable Tray and Intelok product sections



Product Information

Each product is listed with a reference code supported by a table of variable dimensions, insert relevant values for the Δ and \bigcirc icons where necessary.

For any variations not shown please contact our technical team via eddy.current@vantrunk.co.uk or call +44(0)1928 564211.

The  icon, indicates the number of connection fixings supplied and not the actual type of fixing.



Finishes and Materials

Each product section includes a selection of the available finishes and materials



Index

All products listed alphabetically for ease of reference

THE BIG VANTRUNK

Product Guide



You can also view our complete product range online at

vantrunk.com



HOT DIPPED GALVANIZED VANTRUNK EXTREME STEEL



HOT DIPPED GALVANIZED VANTRUNK MILD STEEL



HOT DIPPED GALVANIZED VANTRUNK STRUCTURAL STEEL



HOT DIPPED GALVANIZED VANTRUNK SILICON RICH STRUCTURAL STEEL



DEEP GALVANIZED VANTRUNK SILICON RICH STRUCTURAL STEEL



PRE GALVANIZED VANTRUNK STRUCTURAL STEEL



MARINE GRADE STAINLESS STEEL

VANTRUNK SPEEDWAY

THE ENHANCED SPEEDWAY EXTREME CABLE LADDER SYSTEM

THE SPEEDWAY CABLE LADDER SYSTEM REPRESENTS A MAJOR ADVANCE IN CABLE LADDER DESIGN, PROVIDING FASTER & EASIER INSTALLATION, GREATER CABLE FILL CAPACITY AND TOTAL FLEXIBILITY.



Quick Assembly
Cable Ladder



Flexible
Solutions



Rapid
Installation
Systems



Extreme
Steel



Withstands
extreme
temperatures
(-50° to +50°C)

HOW TO ORDER

CODE SYSTEM EXPLAINED

The information given on these pages should be used as a guide when ordering Speedway Cable Ladder, Fittings and Accessories. For more detailed information and examples refer to the relevant page within the catalogue.

Speedway Straight Ladder

System Type	Ladder Type	Width	Finish & Material
eg. SW4	SL3	300	GA

Speedway Fittings

System Type	Fitting Type	Width	Radius	Finish & Material
eg. SW4	FE30	300	450	GA

Speedway Couplers

System Type	Coupler Type	Finish & Material
eg. SW4	CS	GA

Speedway Accessories

System Type	Accessory Type	Width	Finish & Material
eg. SW4	DIV	300	GA

Speedway Straight Ladder Covers

System Type	Cover Type	Ladder Type	Width	Finish & Material
eg. SW4	CC	SL3	300	GA

Speedway Fitting Covers

System Type	Cover Type	Fitting Type	Width(s)	Radius	Finish & Material
eg. SW4	CC/FFC	FE30	300	450	GA

Finish and Materials (●)

Details on the full range of standard Finishes and Materials are given in the Finish and Materials section (page 26) and General Technical Section (page 246).



System Type		Page			Page
SW4	Speedway SW4	35	SAC	Short adjustable coupler (SW4 & SW5 are common – use SW45)	70
SW5	Speedway SW5	36			
SW6	Speedway SW	37			
SW	Common to all Speedway systems				
SW45	Common to SW4 & SW5		LAC	Long adjustable coupler (SW4 & SW5 are common – use SW45)	70
Ladder Type			EXP	Expansion coupler (SW4 & SW5 are common – use SW45)	71
SL3	Straight ladder – 3m length		FME	Full Moment Expansion Coupler	72
SL6	Straight ladder – 6m length		FFC	Fitting to fitting coupler	73
Fitting Type		Page	Accessory Type		Page
FE	Flat elbow	42	EFC	External flange clamp	75
IR	Inside riser	47	AFB	Adaptable fixing bracket	76
OR	Outside riser	47	HDB	Hold down bracket (use system type)	78
AR	Articulated riser (add number of sections e.g. AR3 = 3 sections)	53	ASB	Angle securing bracket	79
ET	Equal tee	55	SCB	Structural connecting bracket	82
UT	Unequal tee (quote main width Wm & branch width Wb)	55	DOB	Drop out bracket	83
EC	Cross	59	DIV/SL	Straight ladder divider (use system type)	84
RS	Straight Reducer (quote primary width Wp & secondary width Ws)	61	DIV/FL	Fitting divider (use system type)	84
RL	Reducer left (quote primary width Wp & secondary width Ws)	61	DIV/RL	Riser divider (use system type)	85
RR	Reducer right (quote primary width Wp & secondary width Ws)	62	CDO	Cable drop out (include width)	85
Width (standard)			EP	End plate (use system type & include width)	86
150mm, 300mm, 450mm, 600mm, 750mm, 900mm & 1050mm			EBS/o1	Earth bonding strap	86
Radius (standard)			SMP	Mounting plate (include width)	87
300mm, 450mm, 600mm, 750mm, 900mm 1050mm & 1200mm			PEC	Protective end cap (use system type)	87
Coupler Type		Page	JBP	Junction box plate (add type e.g. JBPo2)	88
CS	Straight coupler	65	TCP	Tube clamp plate (add type e.g. TCPo1)	89
HAC	Horizontal adjustable coupler (SW4 & SW5 are common – use SW45)	67	Cover Type		Page
VAC	Vertical adjustable coupler (SW4 & SW5 are common – use SW45)	68	CC	Closed cover	91
Code Sample: Choose system type and finish			CL	Louvre cover	91
			CP	Peaked cover	91
			System type is SW unless indicated otherwise.		
			Further Guidance		
			Please contact our Sales Team for further advice and guidance on the correct ordering details for the full range of Speedway cable ladder, fittings and accessories.		



SW5 / **FE30** / **150** / **300** / **GY**
System Type Fitting Type Width Radius Finish



CABLE LADDER

Speedway Straight Cable Ladder is available in standard widths of 150mm, 300mm, 450mm, 600mm, 750mm, 900mm & 1050mm. Other widths from 100mm to 1500mm in 50mm increments are available to order.

Ladders over 1050mm wide are available in Heavy and Extra Heavy Duty systems only. Speedway Straight Cable Ladder is available in lengths of 3m and 6m. Unless otherwise specified, 3m lengths are supplied as standard. 6m lengths are made to order.

Speedway cable ladder systems are manufactured in either 1.5mm or 2.0mm material gauges as standard, after taking into consideration the environmental conditions into which the system is being installed.

Details of all available side walls and rung gauge configurations are given in the Speedway Technical Section, consult our Sales Team for details.

The standard side wall and rung gauge combination will be supplied unless otherwise stated.

Rung spacing on straight ladders is at 300mm centres. As standard, the Speedway rung is orientated alternately inverted to allow for cable cleat spacing at 600mm centres.

Other orientations such as rungs all facing up or all facing down are available to order.

ACCREDITED TO THE FOLLOWING STANDARD

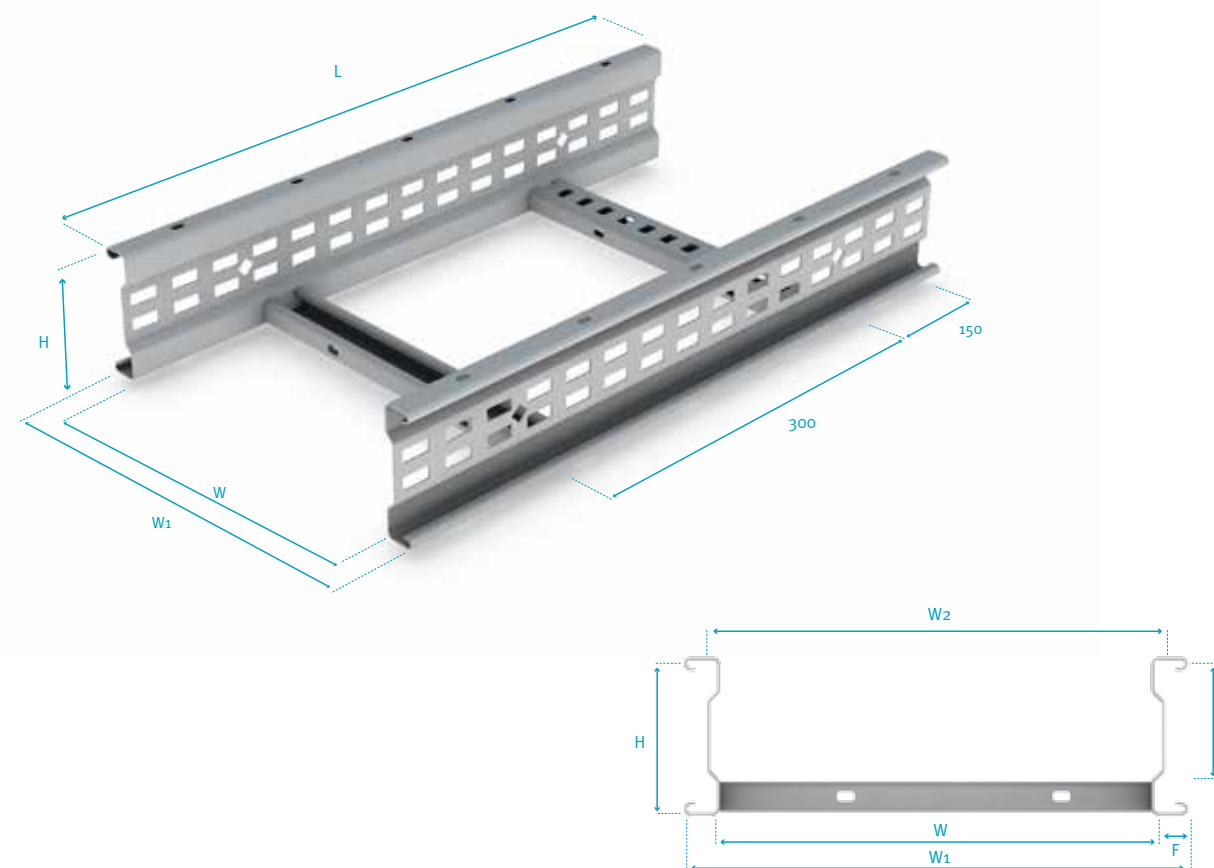


SPEEDWAY LADDER

Speedway SW4 Cable Ladder

Speedway 4 (SW4) Medium Duty Cable Ladder is manufactured in 3.0m lengths as standard with 6.0m lengths to order. The cable ladder is available in standard widths of 150mm, 300mm, 450mm, 600mm, 750mm and 900mm, although other widths up to 1050mm are available to order. Rung spacing is 300mm as standard.

Ref.SW4



Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)
		W	W1	L	H	
SW4/SL3/150/O	10	150	190			11.93
SW4/SL3/300/O	10	300	340			13.55
SW4/SL3/450/O	10	450	490			15.17
SW4/SL3/600/O	10	600	640	3000	104	16.79
SW4/SL3/750/O	10	750	790			21.12
SW4/SL3/900/O	10	900	940			23.28
SW4/SL3/1050/O	10	1050	1090			25.44

O= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Height	H	104mm
Loading Depth	D	78mm
Ladder Width	W	100mm to 1050mm
Maximum Internal Width	W2	W + 10mm
Overall Width	W1	W + 40mm
Flange Width	F	20mm

Finishes & Materials:



Supplied with:

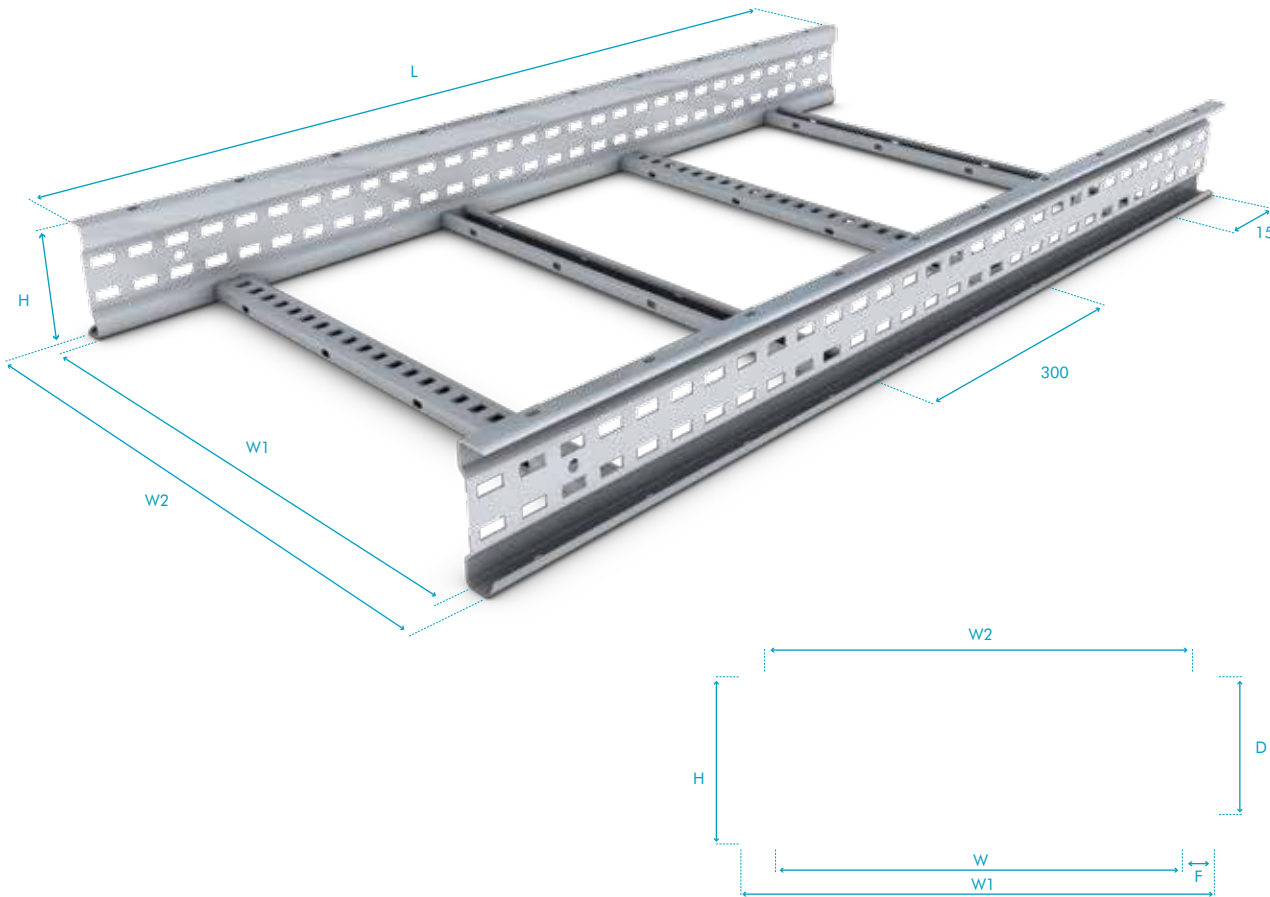




Speedway SW5 Cable Ladder

Speedway 5 (SW5) Heavy Duty Cable Ladder is manufactured in 3.0m lengths as standard with 6.0m lengths supplied to order. The cable ladder is available in standard widths of 150mm, 300mm, 450mm, 600mm, 750mm, 900mm and 1050mm, although other widths up to 1500mm are available to order. Rung spacing is 300mm as standard.

Ref.SW5



Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)
		W	W1	L	H	
SW5/SL3/150/O	10	150	200	3000	125	18.53
SW5/SL3/300/O	10	300	350			20.15
SW5/SL3/450/O	10	450	500			21.77
SW5/SL3/600/O	10	600	650			23.40
SW5/SL3/750/O	10	750	800			27.72
SW5/SL3/900/O	10	900	950			29.88
SW5/SL3/1050/O	10	1050	1100			32.05

O= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Height	H	125mm
Loading Depth	D	100mm
Ladder Width	W	100mm to 1500mm
Maximum Internal Width	W1	W + 14mm
Overall Width	W2	W + 50mm
Flange Width	F	25mm

Finishes & Materials:



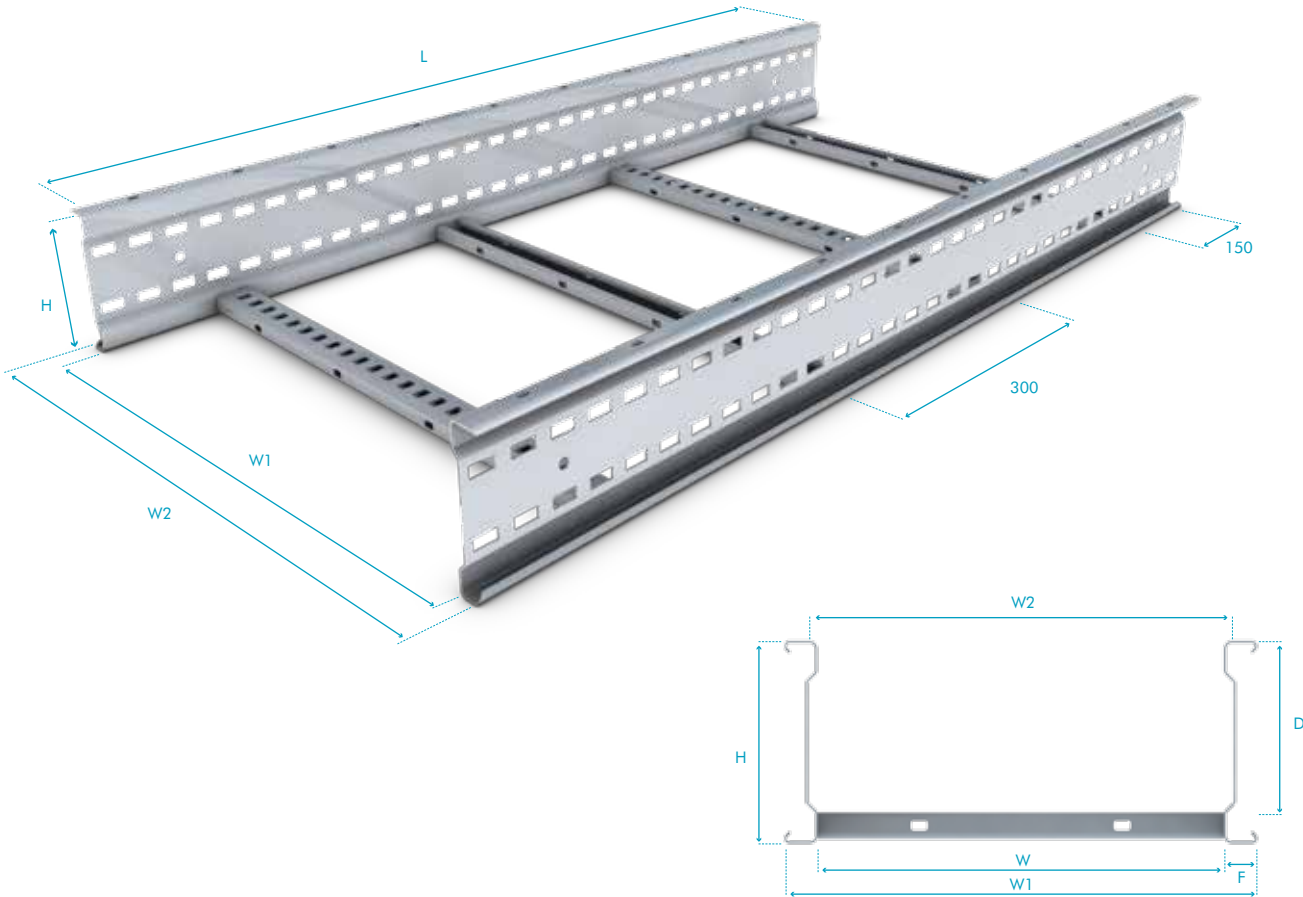
Supplied with:



Speedway SW6 Cable Ladder

Speedway 6 (SW6) Extra Heavy Duty Cable Ladder is manufactured in 3.0m lengths as standard with 6.0m lengths supplied to order. The cable ladder is available in standard widths of 150mm, 300mm, 450mm, 600mm, 750mm, 900mm and 1050mm, although other widths up to 1500mm are available to order. Rung spacing is 300mm as standard.

Ref.SW6



Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)
		W	W1	L	H	
SW6/SL3/150/O	10	150	200	3000	150	21.63
SW6/SL3/300/O	10	300	350			23.79
SW6/SL3/450/O	10	450	500			25.95
SW6/SL3/600/O	10	600	650			28.11
SW6/SL3/750/O	10	750	800			30.28
SW6/SL3/900/O	10	900	950			32.44
SW6/SL3/1050/O	10	1050	1100			34.60

O= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Height	H	150mm
Loading Depth	D	125mm
Ladder Width	W	100mm to 1500mm
Maximum Internal Width	W1	W + 14mm
Overall Width	W2	W + 50mm
Flange Width	F	25mm

Finishes & Materials:



Supplied with:





FITTINGS

Vantrunk Speedway cable ladder fittings incorporate several features which enhance the systems ease of installation.

All Speedway fittings are manufactured with the Speedlok Integral Coupler, thereby, reducing the number of fixings required to connect the ladder and fitting and in turn reducing the ladder to fitting connection time by 67%. The substantial reduction in the number of fixings and reduction in the number of couplers required helps to reduce top side weight in off-shore facilities.

As in the cable ladder side wall, the cable ladder fitting side wall has an offset central web to enhance stability under load conditions.

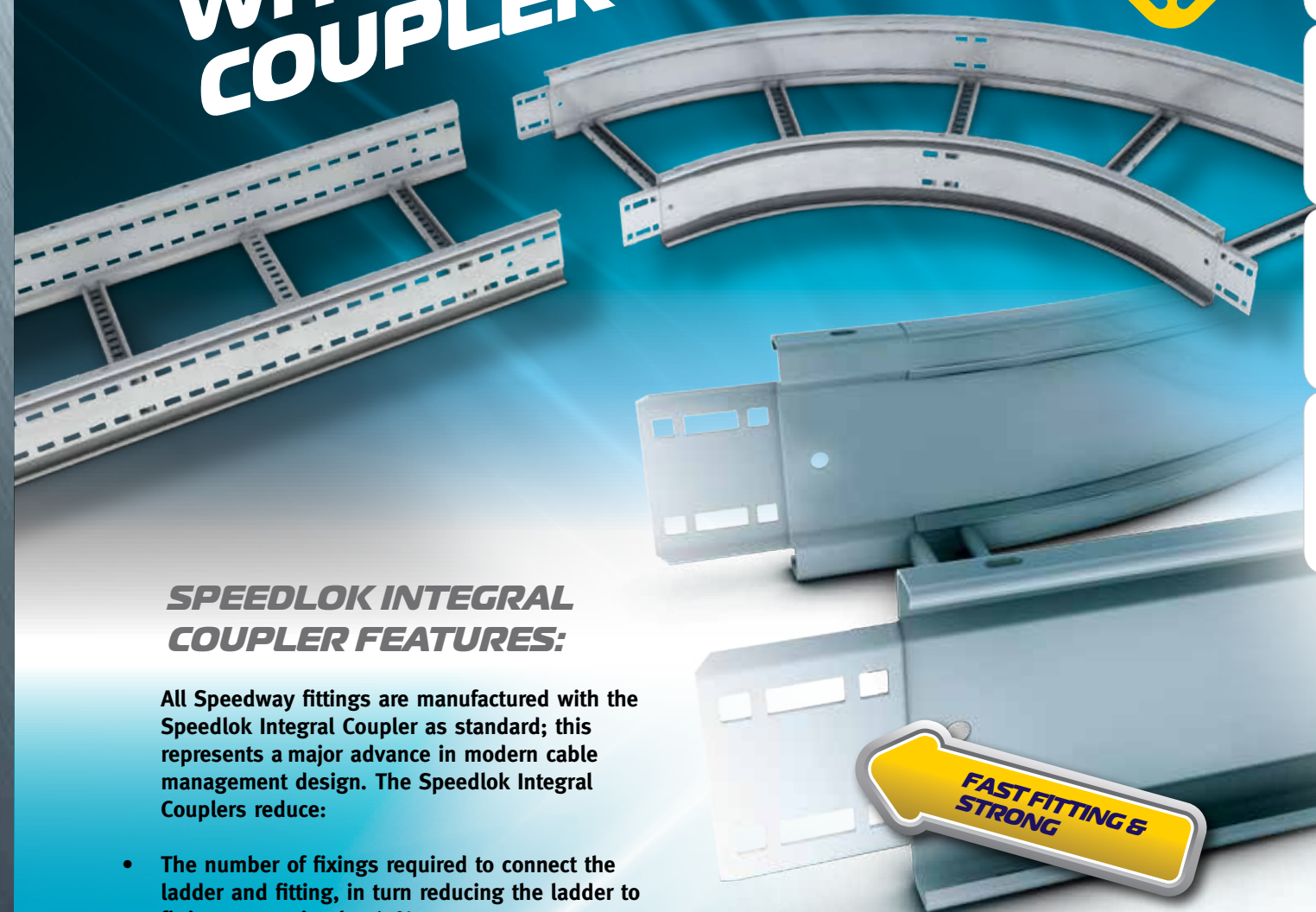
All radius sections in the Vantrunk Speedway range of fittings have a repeatable and true radius which eliminates the traditional “make it fit” approach during installation.

All Speedway fittings are pre-drilled to accept an earth bonding jumper at all connection points thereby complying with the IEC, European Norms and NEMA standards requirements.

ACCREDITED TO THE
FOLLOWING STANDARD



LOK DOWN WITH THE INTEGRAL COUPLER



SPEEDLOK INTEGRAL COUPLER FEATURES:

All Speedway fittings are manufactured with the Speedlok Integral Coupler as standard; this represents a major advance in modern cable management design. The Speedlok Integral Couplers reduce:

- The number of fixings required to connect the ladder and fitting, in turn reducing the ladder to fitting connection by 67%.
- And therefore the overall installation time, weight and cost.

For more information on the
Speedlok Integral Coupler
visit vantrunk.com



VANTRUNK
SPEEDLOK
QUICKFIT CABLE LADDER





FLAT ELBOWS

Speedway Flat Elbows (FE) are designed to create fixed angular coplanar connections between horizontal cable runs (cable ladder installed in horizontal plane) and between vertical cable runs (cable ladder installed in vertical plane).

Speedway Flat Elbows are available in widths from 150mm to 1050mm and angles at 30, 45, 60 and 90 degree as standard. The standard radii are 300mm, 450mm, 600mm 750mm and 900mm. Other widths between 100mm to 1500mm and radii, subject to cable ladder system type, are also available.

The Speedway Flat Elbow is manufactured with a repeatable and true radius which eliminates the traditional approach of 'make it fit' during installation.

All Speedway Flat Elbows are manufactured with a Speedlok Integral Coupler, removing the need for separate couplers in the joining mechanism between cable ladder fittings and straight lengths of ladder. Fittings can be supplied without Integral Coupler if required.

All Flat Elbows will be supplied with all necessary fixings for fixing the elbow to the straight length.

The rungs are orientated with the open face uppermost to suit the use of cleats and similar cable restraint devices. This allows compliance with current recommendations for cable restraint, especially where cables are used which have a high potential fault current level.

WHEN JOINING ONE FITTING TO ANOTHER TO SUIT ON SITE INSTALLATION REQUIREMENTS THE USE OF A FITTING TO FITTING COUPLER (FFC) WILL BE REQUIRED. PLEASE REFER TO PG 73 FOR FURTHER DETAILS

ACCREDITED TO THE FOLLOWING STANDARD



FLAT ELBOWS

SPEEDWAY FLAT ELBOWS



The rungs in the Speedway Flat Elbows are located radially at either 0° or at 7° incremental angles (or multiples thereof) and are passed to give a maximum linear distance of no more than 465mm between adjacent rungs on adjacent Speedway Cable Ladder and Speedway Cable Ladder Fittings when measured along the outer radius.

The rungs are orientated with the open face uppermost to suit the use of cleats and similar cable restraint devices. This allows compliance with current recommendations for cable restraint, especially where cables are used which have a high potential fault current level.

The number of rungs shown in the Speedway Flat Elbows, left, are based on the standard 300mm wide and 300mm radius flat elbows. Refer to the dimensional information tables for the number of rungs for other widths and radii.



Speedway 30° Flat Elbow



Speedway 60° Flat Elbow



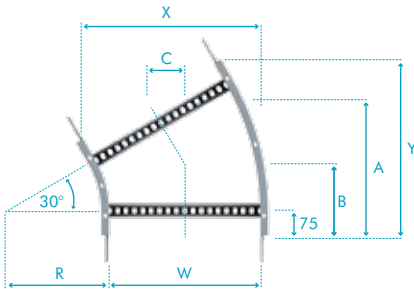
Speedway 45° Flat Elbow



Speedway 90° Flat Elbow

Speedway 30° Flat Elbows

Ref.FE30



Part Number	No of Rungs	Dimensions (mm)							Weight (kg)		
		R	W	A	B	C	X	Y	SW4	SW5	SW6
SW△/FE30/150/300/○	2	300	150	327	175	88	266	375	1.76	2.61	3.15
SW△/FE30/300/300/○	2		300	365	196	98	416	450	2.23	3.18	3.86
SW△/FE30/450/300/○	2		450	402	216	108	566	525	2.70	3.74	4.56
SW△/FE30/600/300/○	2		600	440	236	118	716	600	3.83	4.96	6.14
SW△/FE30/750/300/○	2		750	477	256	128	866	675	5.28	6.50	7.06
SW△/FE30/900/300/○	3	600	900	515	276	138	1016	750	6.08	7.39	7.99
SW△/FE30/1050/300/○	3		1050	552	296	148	1166	825	6.87	8.28	8.91
SW△/FE30/150/600/○	2		150	477	256	128	306	525	2.36	3.58	4.25
SW△/FE30/300/600/○	2		300	515	276	138	456	600	2.83	4.14	4.96
SW△/FE30/450/600/○	2		450	552	296	148	606	675	3.79	5.20	6.32
SW△/FE30/600/600/○	3		600	590	316	158	756	750	4.43	5.93	7.24
SW△/FE30/750/600/○	3		750	627	336	168	906	825	5.88	7.47	8.16
SW△/FE30/900/600/○	3		900	665	356	178	1056	900	6.68	8.36	9.09
SW△/FE30/1050/600/○	3		1050	702	376	188	1206	975	7.48	9.25	10.01

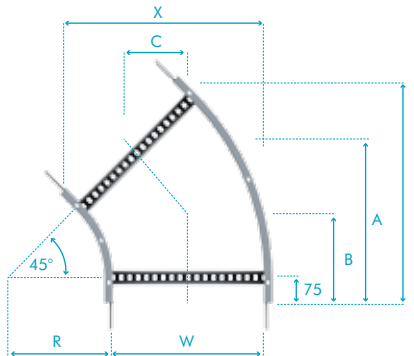


△= Select a Ladder Type ○= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Speedway 45° Flat Elbows

Ref.FE45



Part Number	No of Rungs	Dimensions (mm)							Weight (kg)		
		R	W	A	B	C	X	Y	SW4	SW5	SW6
SW△/FE45/150/300/○	2	300	150	393	230	163	326	460	2.13	3.21	3.84
SW△/FE45/300/300/○	2		300	446	261	185	476	566	2.68	3.90	4.68
SW△/FE45/450/300/○	3		450	499	292	207	626	673	3.72	5.08	6.18
SW△/FE45/600/300/○	3		600	552	324	229	776	779	4.43	5.93	7.24
SW△/FE45/750/300/○	3		750	605	355	251	926	885	5.95	7.59	8.30
SW△/FE45/900/300/○	3	600	900	658	386	273	1076	991	6.83	8.60	9.36
SW△/FE45/1050/300/○	4		1050	711	417	295	1226	1097	9.22	11.12	11.94
SW△/FE45/150/600/○	3		150	605	355	251	413	673	3.20	4.83	5.71
SW△/FE45/300/600/○	3		300	658	386	273	563	779	3.91	5.68	6.77
SW△/FE45/450/600/○	3		450	711	417	295	713	885	4.62	6.53	7.83
SW△/FE45/600/600/○	3		600	764	448	317	863	991	5.33	7.38	8.89
SW△/FE45/750/600/○	4		750	817	479	339	1013	1097	7.94	10.12	11.04
SW△/FE45/900/600/○	4		900	870	510	361	1163	1203	9.03	11.35	12.31
SW△/FE45/1050/600/○	4		1050	924	541	383	1313	1309	10.12	12.58	13.59

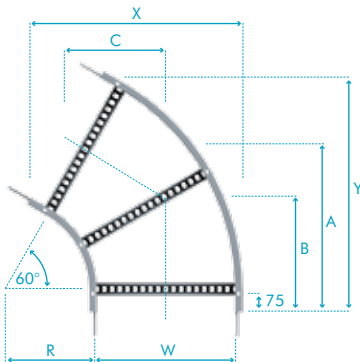


△= Select a Ladder Type ○= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Speedway 60° Flat Elbows

Ref.FE60



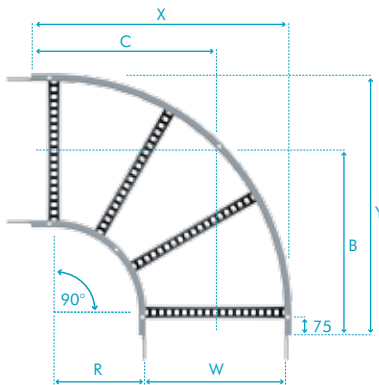
Part Number	No of Rungs	Dimensions (mm)							Weight (kg)		
		R	W	A	B	C	X	Y	SW4	SW5	SW6
SW△/FE60/150/300/○	2	300	150	437	292	252	395	520	2.51	3.82	4.53
SW△/FE60/300/300/○	2		300	502	335	290	545	649	3.46	4.95	5.94
SW△/FE60/450/300/○	3		450	567	378	327	695	779	4.24	5.92	7.14
SW△/FE60/600/300/○	3		600	632	421	365	845	909	5.03	6.89	8.34
SW△/FE60/750/300/○	3		750	697	465	402	995	1039	8.79	10.84	11.70
SW△/FE60/900/300/○	5	600	900	762	508	440	1145	1169	10.18	12.40	13.34
SW△/FE60/1050/300/○	5		1050	827	551	477	1295	1299	11.56	13.97	14.97
SW△/FE60/150/600/○	3		150	697	465	402	545	779	3.87	5.92	6.95
SW△/FE60/300/600/○	3		300	762	508	440	695	909	4.66	6.89	8.15
SW△/FE60/450/600/○	3		450	827	551	477	845	1039	6.42	8.83	10.64
SW△/FE60/600/600/○	5		600	892	595	515	995	1169	7.53	10.13	12.28
SW△/FE60/750/600/○	5		750	957	638	552	1145	1299	10.00	12.78	13.91
SW△/FE60/900/600/○	5		900	1022	681	590	1295	1429	11.38	14.34	15.54
SW△/FE60/1050/600/○	5		1050	1087	725	627	1445	1559	12.76	15.91	17.17

△= Select a Ladder Type ○= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Speedway 90° Flat Elbows

Ref.FE90



Part Number	No of Rungs	Dimensions (mm)							Weight (kg)		
		R	W	B	C	X	Y		SW4	SW5	SW6
SW△/FE90/150/300/○	2	300	150	450	450	545	545		3.42	5.19	6.12
SW△/FE90/300/300/○	3		300	525	525	695	695		4.36	6.41	7.60
SW△/FE90/450/300/○	4		450	600	600	845	845		5.78	8.10	9.72
SW△/FE90/600/300/○	4		600	675	675	995	995		6.89	9.48	11.41
SW△/FE90/750/300/○	5		750	750	750	1145	1145		10.15	13.02	14.18
SW△/FE90/900/300/○	5	600	900	825	825	1295	1295		11.68	14.83	16.09
SW△/FE90/1050/300/○	7		1050	900	900	1445	1445		16.24	19.66	21.03
SW△/FE90/150/600/○	4		150	750	750	845	845		5.39	8.26	9.64
SW△/FE90/300/600/○	4		300	825	825	995	995		6.49	9.64	11.34
SW△/FE90/450/600/○	5		450	900	900	1145	1145		8.08	11.50	13.68
SW△/FE90/600/600/○	5		600	975	975	1295	1295		9.34	13.03	15.58
SW△/FE90/750/600/○	7		750	1050	1050	1445	1445		14.12	18.09	19.65
SW△/FE90/900/600/○	7	1200	900	1125	1125	1595	1595		16.08	20.33	21.99
SW△/FE90/1050/600/○	7		1050	1200	1200	1745	1745		18.05	22.57	24.33

△= Select a Ladder Type ○= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).



INSIDE & OUTSIDE RISERS

Speedway Inside Risers (IR) and Outside Risers (OR) are designed to create fixed angular non-coplanar connections between cable runs and can be used in both vertical and horizontal orientations.

Speedway Inside Risers (or vertical inside bends) create internal changes in direction; outside risers (or vertical outside bends) create external changes in direction.

Speedway Risers are available in widths from 150mm to 1050mm as standard. Speedway Risers are available with angles of 30°, 45°, 60° & 90° and in standard radii of 300mm, 450mm, 600mm, 750mm, 900mm, 1050mm & 1200mm. Other widths between 100mm to 1500mm and radii, subject to cable ladder type, are also available.

All Speedway Inside and Outside Risers are manufactured with a Speedlok Integral Coupler, removing the need for separate couplers in the joining mechanism between cable ladder fittings and straight lengths of ladder. All Speedway risers will be supplied with all necessary fixings.

The rungs are located at the intersection of adjacent facets and are orientated with the open face uppermost to suit the use of cleats and similar cable restraint devices. This allows compliance with current recommendations for cable restraint, especially where cables are used which have a high potential fault current level.

WHEN JOINING ONE FITTING TO ANOTHER TO SUIT ON SITE INSTALLATION REQUIREMENTS THE USE OF A FITTING TO FITTING COUPLER (FFC) WILL BE REQUIRED. PLEASE REFER TO PG 73 FOR FURTHER DETAILS

ACCREDITED TO THE FOLLOWING STANDARD



INSIDE RISERS & OUTSIDE RISERS

Speedway 30° Inside & Outside Risers

Ref. IR / OR / 30

Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X		Y
SW4/IR30/150/300/O	1	300	150	190	145	203	1.00
SW4/IR30/300/300/O			300	340	145	203	1.16
SW4/IR30/450/300/O			450	490	145	203	1.32
SW4/IR30/600/300/O			600	640	145	203	1.49
SW4/IR30/750/300/O			750	790	145	203	1.92
SW4/IR30/900/300/O			900	940	145	203	2.14
SW4/IR30/1050/300/O			1050	1090	145	203	2.35
SW4/IR30/150/600/O	2	600	150	190	185	353	1.73
SW4/IR30/300/600/O			300	340	185	353	2.06
SW4/IR30/450/600/O			450	490	185	353	2.38
SW4/IR30/600/600/O			600	640	185	353	2.71
SW4/IR30/750/600/O			750	790	185	353	3.57
SW4/IR30/900/600/O			900	940	185	353	4.01
SW4/IR30/1050/600/O			1050	1090	185	353	4.44
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
Radius R mm	W	W1	X	Y			
SW5/IR30/150/300/O	1	300	150	200	165	213	1.52
SW5/IR30/300/300/O			300	350	165	213	1.68
SW5/IR30/450/300/O			450	500	165	213	1.85
SW5/IR30/600/300/O			600	650	165	213	2.01
SW5/IR30/750/300/O			750	800	165	213	2.44
SW5/IR30/900/300/O			900	950	165	213	2.66
SW5/IR30/1050/300/O			1050	1100	165	213	2.87
SW5/IR30/150/600/O	2	600	150	200	205	363	2.62
SW5/IR30/300/600/O			300	350	205	363	2.94
SW5/IR30/450/600/O			450	500	205	363	3.27
SW5/IR30/600/600/O			600	650	205	363	3.59
SW5/IR30/750/600/O			750	800	205	363	4.46
SW5/IR30/900/600/O			900	950	205	363	4.89
SW5/IR30/1050/600/O			1050	1100	205	363	5.32
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
Radius R mm	W	W1	X	Y			
SW6/IR30/150/300/O	1	300	150	200	190	225	1.92
SW6/IR30/300/300/O			300	350	190	225	2.13
SW6/IR30/450/300/O			450	500	190	225	2.35
SW6/IR30/600/300/O			600	650	190	225	2.56
SW6/IR30/750/300/O			750	800	190	225	2.78
SW6/IR30/900/300/O			900	950	190	225	3.00
SW6/IR30/1050/300/O			1050	1100	190	225	3.21
SW6/IR30/150/600/O	2	600	150	200	230	375	3.17
SW6/IR30/300/600/O			300	350	230	375	3.61
SW6/IR30/450/600/O			450	500	230	375	4.04
SW6/IR30/600/600/O			600	650	230	375	4.47
SW6/IR30/750/600/O			750	800	230	375	4.90
SW6/IR30/900/600/O			900	950	230	375	5.34
SW6/IR30/1050/600/O			1050	1100	230	375	5.77

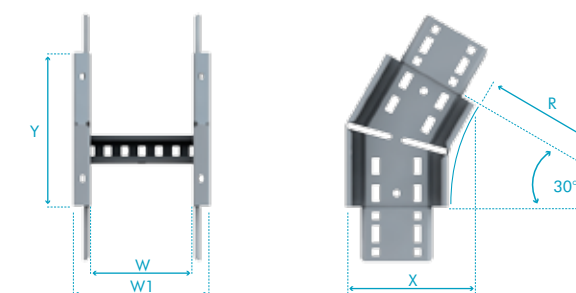
O= Select a Finish & Material



Speedway 30° Inside Riser



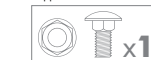
Speedway 30° Outside Riser



Finishes & Materials:



Supplied with:



Not Required:



VANTRUNK SPEEDLOK
QUICKFIT CABLE LADDER

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Speedway 45° Inside & Outside Risers

Ref.IR / OR / 45

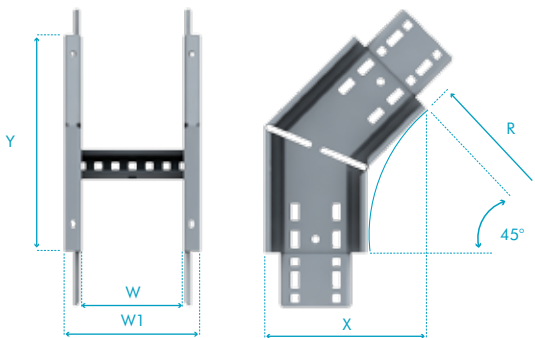
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X		Y
SW4/IR45/150/300/○	1	300	150	190	193	286	1.33
SW4/IR45/300/300/○			300	340	193	286	1.50
SW4/IR45/450/300/○			450	490	193	286	1.66
SW4/IR45/600/300/○			600	640	193	286	1.82
SW4/IR45/750/300/○			750	790	193	286	2.25
SW4/IR45/900/300/○			900	940	193	286	2.47
SW4/IR45/1050/300/○			1050	1090	193	286	2.69
SW4/IR45/150/600/○	2	600	150	190	281	499	2.41
SW4/IR45/300/600/○			300	340	281	499	2.73
SW4/IR45/450/600/○			450	490	281	499	3.06
SW4/IR45/600/600/○			600	640	281	499	3.38
SW4/IR45/750/600/○			750	790	281	499	4.25
SW4/IR45/900/600/○			900	940	281	499	4.68
SW4/IR45/1050/600/○			1050	1090	281	499	5.11
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X	Y	
SW5/IR45/150/300/○	1	300	150	200	213	301	2.53
SW5/IR45/300/300/○			300	350	213	301	2.85
SW5/IR45/450/300/○			450	500	213	301	3.18
SW5/IR45/600/300/○			600	650	213	301	3.50
SW5/IR45/750/300/○			750	794	213	301	4.37
SW5/IR45/900/300/○			900	950	213	301	4.80
SW5/IR45/1050/300/○			1050	1094	213	301	5.23
SW5/IR45/150/600/○	2	600	150	200	301	513	4.20
SW5/IR45/300/600/○			300	350	301	513	4.53
SW5/IR45/450/600/○			450	500	301	513	4.85
SW5/IR45/600/600/○			600	650	301	513	5.18
SW5/IR45/750/600/○			750	794	301	513	6.04
SW5/IR45/900/600/○			900	950	301	513	6.48
SW5/IR45/1050/600/○			1050	1094	301	513	6.91
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X	Y	
SW6/IR45/150/300/○	1	300	150	200	238	318	2.79
SW6/IR45/300/300/○			300	350	238	318	3.22
SW6/IR45/450/300/○			450	500	238	318	3.66
SW6/IR45/600/300/○			600	650	238	318	4.09
SW6/IR45/750/300/○			750	794	238	318	4.52
SW6/IR45/900/300/○			900	950	238	318	4.95
SW6/IR45/1050/300/○			1050	1094	238	318	5.39
SW6/IR45/150/600/○	2	600	150	200	326	530	4.47
SW6/IR45/300/600/○			300	350	326	530	4.90
SW6/IR45/450/600/○			450	500	326	530	5.33
SW6/IR45/600/600/○			600	650	326	530	5.76
SW6/IR45/750/600/○			750	794	326	530	6.20
SW6/IR45/900/600/○			900	950	326	530	6.63
SW6/IR45/1050/600/○			1050	1094	326	530	7.06



Speedway 45° Inside Riser



Speedway 45° Outside Riser



Finishes & Materials:



Supplied with: x16

Not Required:



Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

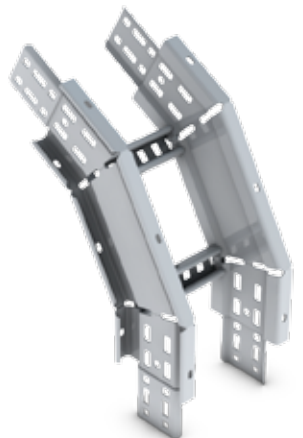
Speedway 60° Inside & Outside Risers

Ref.IR / OR / 60

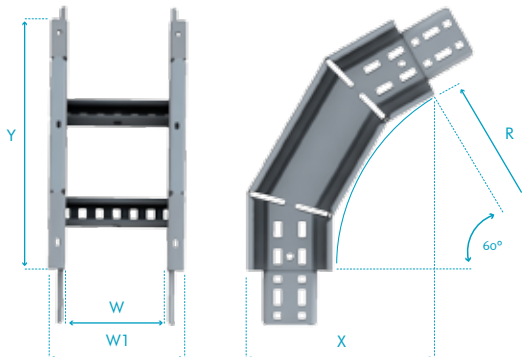
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X		Y
SW4/IR60/150/300/○	2	300	150	190	255	351	1.87
SW4/IR60/300/300/○			300	340	255	351	2.20
SW4/IR60/450/300/○			450	490	255	351	2.52
SW4/IR60/600/300/○			600	640	255	351	2.85
SW4/IR60/750/300/○			750	790	255	351	3.71
SW4/IR60/900/300/○			900	940	255	351	4.14
SW4/IR60/1050/300/○			1050	1090	255	351	4.58
SW4/IR60/150/600/○	3	600	150	190	405	611	3.21
SW4/IR60/300/600/○			300	340	405	611	3.70
SW4/IR60/450/600/○			450	490	405	611	4.19
SW4/IR60/600/600/○			600	640	405	611	4.67
SW4/IR60/750/600/○			750	790	405	611	5.97
SW4/IR60/900/600/○			900	940	405	611	6.62
SW4/IR60/1050/600/○			1050	1090	405	611	7.27
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X	Y	
SW5/IR60/150/300/○	2	300	150	200	275	368	2.97
SW5/IR60/300/300/○			300	350	275	368	3.29
SW5/IR60/450/300/○			450	500	275	368	3.62
SW5/IR60/600/300/○			600	650	275	368	3.94
SW5/IR60/750/300/○			750	800	275	368	4.80
SW5/IR60/900/300/○			900	950	275	368	5.24
SW5/IR60/1050/300/○			1050	1100	275	368	5.67
SW5/IR60/150/600/○	3	600	150	200	425	628	4.93
SW5/IR60/300/600/○			300	350	425	628	5.42
SW5/IR60/450/600/○			450	500	425	628	5.90
SW5/IR60/600/600/○			600	650	425	628	6.39
SW5/IR60/750/600/○			750	800	425	628	7.69
SW5/IR60/900/600/○			900	950	425	628	8.34
SW5/IR60/1050/600/○			1050	1100	425	628	8.98
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X	Y	
SW6/IR60/150/300/○	2	300	150	200	300	390	3.51
SW6/IR60/300/300/○			300	350	300	390	3.95
SW6/IR60/450/300/○			450	500	300	390	4.38
SW6/IR60/600/300/○			600	650	300	390	4.81
SW6/IR60/750/300/○			750	800	300	390	5.24
SW6/IR60/900/300/○			900	950	300	390	5.68
SW6/IR60/1050/300/○			1050	1100	300	390	6.11
SW6/IR60/150/600/○	3	600	150	200	450	650	5.88
SW6/IR60/300/600/○			300	350	450	650	6.52
SW6/IR60/450/600/○			450	500	450	650	7.17
SW6/IR60/600/600/○			600	650	450	650	7.82
SW6/IR60/750/600/○			750	800	450	650	8.47
SW6/IR60/900/600/○			900	950	450	650	9.12
SW6/IR60/1050/600/○			1050	1100	450	650	9.77



Speedway 60° Inside Riser



Speedway 60° Outside Riser



Finishes & Materials:



Supplied with: x16

Not Required:

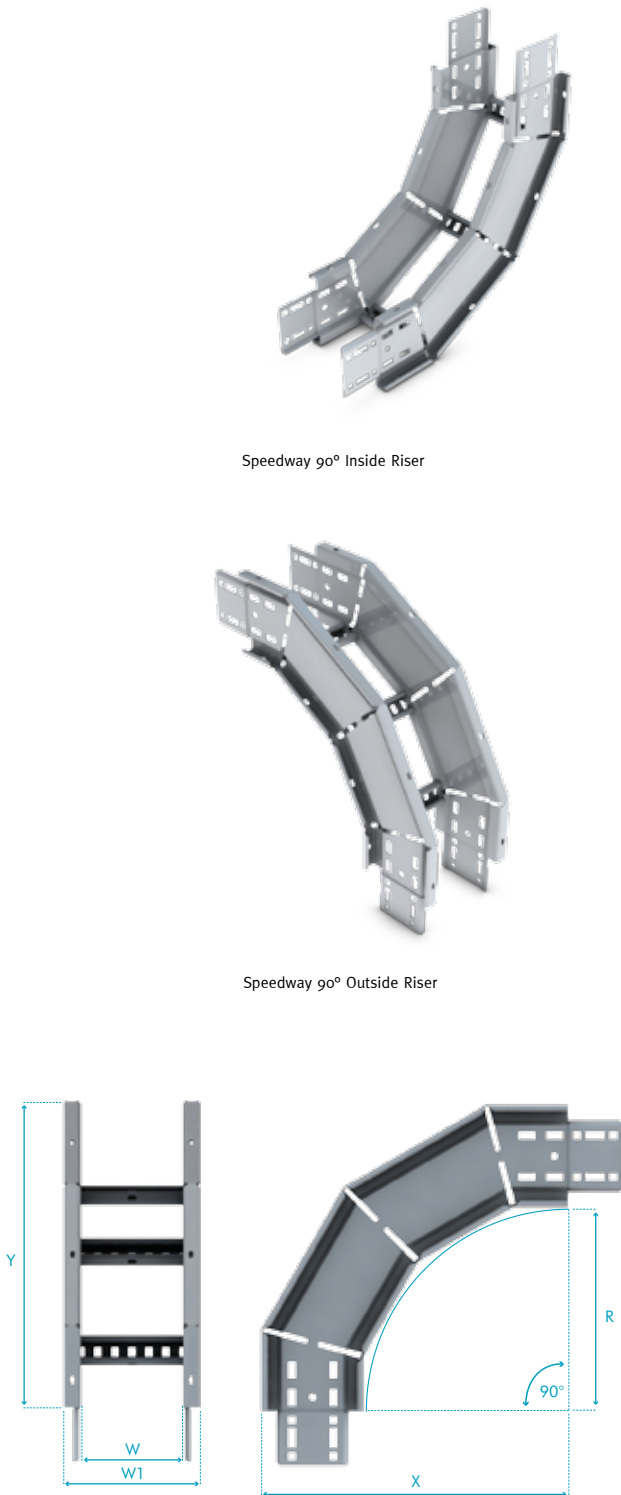


Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Speedway 90° Inside & Outside Risers

Ref. IR / OR / 90

Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X		Y
SW4/IR90/150/300/○	3	300	150	190	405	405	2.75
SW4/IR90/300/300/○			300	340	405	405	3.23
SW4/IR90/450/300/○			450	490	405	405	3.72
SW4/IR90/600/300/○			600	640	405	405	4.21
SW4/IR90/750/300/○			750	790	405	405	5.50
SW4/IR90/900/300/○			900	940	405	405	6.15
SW4/IR90/1050/300/○			1050	1090	405	405	6.80
SW4/IR90/150/600/○	4	600	150	190	705	705	4.69
SW4/IR90/300/600/○			300	340	705	705	5.34
SW4/IR90/450/600/○			450	490	705	705	5.99
SW4/IR90/600/600/○			600	640	705	705	6.64
SW4/IR90/750/600/○			750	790	705	705	8.37
SW4/IR90/900/600/○			900	940	705	705	9.23
SW4/IR90/1050/600/○			1050	1090	705	705	10.1
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X	Y	
SW5/IR90/150/300/○	3	300	150	200	425	425	4.20
SW5/IR90/300/300/○			300	350	425	425	4.69
SW5/IR90/450/300/○			450	500	425	425	5.18
SW5/IR90/600/300/○			600	650	425	425	5.66
SW5/IR90/750/300/○			750	800	425	425	6.96
SW5/IR90/900/300/○			900	950	425	425	7.61
SW5/IR90/1050/300/○			1050	1100	425	425	8.26
SW5/IR90/150/600/○	4	600	150	200	725	725	7.25
SW5/IR90/300/600/○			300	350	725	725	7.90
SW5/IR90/450/600/○			450	500	725	725	8.54
SW5/IR90/600/600/○			600	650	725	725	9.19
SW5/IR90/750/600/○			750	800	725	725	10.92
SW5/IR90/900/600/○			900	950	725	725	11.79
SW5/IR90/1050/600/○			1050	1100	725	725	12.65
Part Number	No. of Rungs	Dimensions (mm)				Weight (kg)	
		Radius R mm	W	W1	X	Y	
SW6/IR90/150/300/○	3	300	150	200	450	450	5.11
SW6/IR90/300/300/○			300	350	450	450	5.76
SW6/IR90/450/300/○			450	500	450	450	6.41
SW6/IR90/600/300/○			600	650	450	450	7.06
SW6/IR90/750/300/○			750	800	450	450	7.71
SW6/IR90/900/300/○			900	950	450	450	8.36
SW6/IR90/1050/300/○			1050	1100	450	450	9.01
SW6/IR90/150/600/○	4	600	150	200	750	750	8.62
SW6/IR90/300/600/○			300	350	750	750	9.48
SW6/IR90/450/600/○			450	500	750	750	10.35
SW6/IR90/600/600/○			600	650	750	750	11.21
SW6/IR90/750/600/○			750	800	750	750	12.08
SW6/IR90/900/600/○			900	950	750	750	12.94
SW6/IR90/1050/600/○			1050	1100	750	750	13.81



Finishes & Materials:

Supplied with: x16

Not Required:

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

SPEEDLOK
QUICK-FIT CABLE LADDER

UPDATE YOUR PROFILE WITH SPEEDWAY EXTREME CABLE LADDER

LADDER PROFILE & SLOTS:

- Beam theory shows that an I-Section is an extremely efficient form for resisting shear and bending loads in the plane of the web.
- Vantrunk's unique Speedway ladder profile maximizes strength by moving towards the I-Beam profile by adding a central web that also minimises slip at the joint.
- The slots on the Speedway ladder side are located close to the centre point of the ladder, thus eliminating the potential for localized weakness.
- Speedway Straight Ladder features fully slotted stringers which enables faster installation and also reduces weight. Speedway Straight Ladder can be cut to length and coupled without the need for drilling.
- The Speedway Cable Ladder features a returned profile edge which prevents damage to cables and installers.



For more information on the Speedway Extreme Cable Ladder visit vantrunk.com

VANTRUNK
SPEEDWAY®
EXTREME CABLE LADDER

HOW TO ORDER

SW6 / IR90 / 750 / 600 / SS

System Type Fitting Type Width Radius Finish



ARTICULATED RISERS

Speedway Articulated Risers (AR) are designed to create adjustable angular non-coplanar connections between Speedway Cable runs and can be used in both vertical and horizontal orientations.

Speedway Articulated Risers consist of pre-assembled units, each comprising of end connectors and one or more middle sections which can be adjusted on site to suit specific installation requirements.

The articulated riser has a number of advantages over fixed risers:

- universal application – there is no requirement to select both inside and outside risers.
- any number of middle sections can be added to achieve very large radii and allow strong support along an undulating cable route.
- the pattern of fixing holes allows for infinite angle and radius adjustment.
- can be used to form a bridge, an 'S' bend, or an offset to suit installation routing challenges on site.
- the end connectors are vertical adjustable couplers and, by using the easi-bend slots, can be adjusted on site to create combined horizontal & vertical offset connections, or combined riser/tee connections onto the side wall of a main cable ladder run.

Speedway Articulated Risers are available in widths from 150mm to 1050mm as standard. Other widths between 100mm to 1500mm are also available subject to cable ladder type.

Intended to be locked into place after installation, the Speedway Articulated Riser is not designed to allow for relative movement between adjacent cable runs.

WHEN JOINING ONE FITTING TO ANOTHER TO SUIT ON SITE INSTALLATION REQUIREMENTS THE USE OF A FITTING TO FITTING COUPLER (FFC) WILL BE REQUIRED. PLEASE REFER TO PG 73 FOR FURTHER DETAILS

ARTICULATED RISERS

Articulated Risers Ref.AR (See table)

The following table shows the combination of angle and radius which can be formed for a number of differing middle sections. The radius for both the inside and outside articulated riser is measured relative to the rung position.

Angle & Section Details

DIA: A	Part Number	Angle	No. of Sections	Radius R mm			
				Inside Articulated Risers		Outside Articulated Risers	
				SW4 & SW5	SW6	SW4 & SW5	SW6
	SWΔ/AR1/□/○	30	1	1148	1160	1070	1058
	SWΔ/AR2/□/○		2	1718	1731	1640	1628
	SWΔ/AR3/□/○		3	2327	2340	2250	2237
	SWΔ/AR1/□/○	45	1	781	793	737	724
	SWΔ/AR2/□/○		2	1163	1176	1122	1109
	SWΔ/AR3/□/○		3	1562	1574	1484	1472
	SWΔ/AR4/□/○		4	1945	1957	1867	1855
	SWΔ/AR1/□/○	60	1	592	605	514	502
	SWΔ/AR2/□/○		2	882	894	804	791
	SWΔ/AR3/□/○		3	1178	1191	1100	1088
	SWΔ/AR4/□/○		4	1466	1479	1388	1376
	SWΔ/AR5/□/○		5	1753	1766	1676	1663
	SWΔ/AR6/□/○		6	2041	2053	1963	1950
	SWΔ/AR1/□/○	90	1	399	411	330	318
	SWΔ/AR2/□/○		2	596	608	527	515
	SWΔ/AR3/□/○		3	793	806	715	703
	SWΔ/AR4/□/○		4	986	998	908	896
	SWΔ/AR5/□/○		5	1178	1191	1100	1088
	SWΔ/AR6/□/○		6	1370	1383	1292	1280
	SWΔ/AR7/□/○		7	1562	1574	1484	1472
	SWΔ/AR8/□/○		8	1753	1766	1676	1663

Δ = Select a Ladder Type □ = Select a Ladder Width ○ = Select a Finish & Material

Bridge Dimensions

When using the Speedway Articulated Riser as a bridge the following dimensions should be used as a guide.

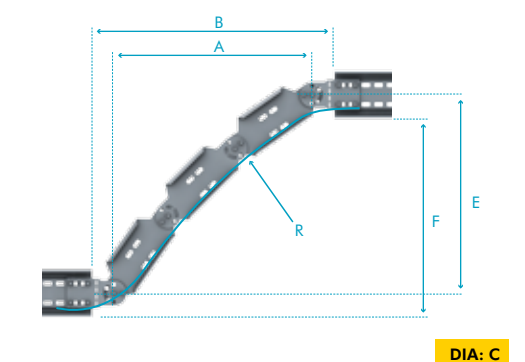
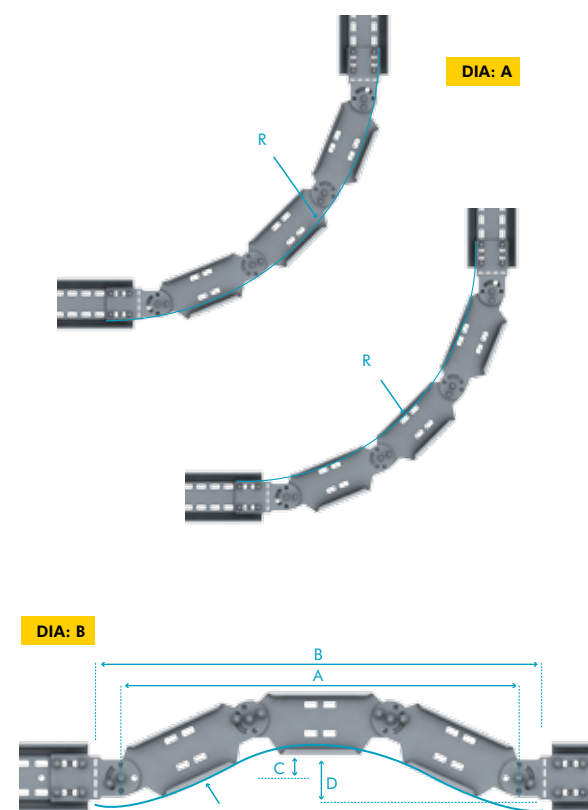
DIA: B	Part Number	Radius R (mm)	No. of Sections	A (mm)	B (mm)	C (mm)	D (mm)	
							SW4/5	SW6
	SWΔ/AR3/□/○	300	3	715	855	165	204	216
	SWΔ/AR3/□/○		3	801	941	113	152	164
	SWΔ/AR4/□/○	450	4	961	1101	242	251	293
	SWΔ/AR3/□/○		3	840	980	80	118	131

Vertical Offset Dimensions

The following table gives the maximum horizontal and vertical offsets which can be achieved for articulated risers with 1 to 4 sections whilst maintaining a radius of 300mm relative to the rung position.

DIA: C	Part Number	Radius R (mm)	No. of Sections	A (mm)	B (mm)	E (mm)	F (mm)	
							SW4/5	SW6
	SWΔ/AR1/□/○	300	1	216	356	208	183	208
	SWΔ/AR2/□/○		2	399	539	441	416	441
	SWΔ/AR3/□/○		3	600	740	663	638	663
	SWΔ/AR4/□/○		4	823	963	865	840	865

Δ = Select a Ladder Type □ = Select a Ladder Width ○ = Select a Finish & Material



Consult our Technical Team for further offset dimensional information and guidance in the selection of the correct number of middle sections.



EQUAL & UNEQUAL TEES

Speedway Equal Tees (ET) and Unequal Tees (UT) are designed to create perpendicular coplanar connections between horizontal cable runs (ladder installed in horizontal plane) and between vertical cable runs (ladder installed in vertical plane).

Speedway Tees are available in widths from 150mm to 1050mm as standard. Speedway tees are available with standard radii of 300mm, 450mm, 600mm, 750mm, 900mm, 1050mm & 1200mm. Other widths between 100mm to 1500mm and radii, subject to cable ladder type, are also available.

The Speedway Tee radial side walls are manufactured with a repeatable and true radius which eliminates the traditional approach of 'make it fit' during installation.

All Speedway Tees are now manufactured with a Speedlok Integral Coupler, removing the need for separate couplers in the joining mechanism between cable ladder fittings and straight lengths of ladder. All Speedway Tees will be supplied with all necessary fixings.

The rungs in the Speedway Tees are spaced to give a maximum linear distance of no more than 465mm between adjacent rungs/rungs on adjacent ladder and fittings. The rungs are orientated with the open face uppermost to suit the use of cleats and similar cable restraint devices. This allows compliance with current recommendations for cable restraint, especially where cables are used which have a high potential fault current level.

Tees have a primary or main width (Wm) and a secondary or branch width (Wb). Tees with the same primary and secondary widths are called equal tees. Tees with differing main and branch widths are called unequal tees.

WHEN JOINING ONE FITTING TO ANOTHER TO SUIT ON SITE INSTALLATION REQUIREMENTS THE USE OF A FITTING TO FITTING COUPLER (FFC) WILL BE REQUIRED. PLEASE REFER TO PG 73 FOR FURTHER DETAILS

ACCREDITED TO THE FOLLOWING STANDARD



EQUAL & UNEQUAL TEES

Speedway 300mm Radius Tees

Ref.UT (Unequal Tee)

Ref.ET (Equal Tee)

Part Number	Type	Dimensions (mm)							Weight (kg)		
		R	Wm	Wb	A	B	X	Y	SW4	SW5	SW6
SWΔ/ET/150/300/○	150mm Branch	300	150	150	450	450	900	550	5.41	7.97	9.44
SWΔ/UT/300/150/300/○			300	150	450	525	900	700	5.90	8.45	10.09
SWΔ/UT/450/150/300/○			450	150	450	600	900	850	6.39	8.94	10.74
SWΔ/UT/600/150/300/○			600	150	450	675	900	1000	6.87	9.43	11.39
SWΔ/UT/750/150/300/○			750	150	450	750	900	1150	8.38	10.93	12.04
SWΔ/UT/900/150/300/○			900	150	450	825	900	1300	9.03	11.58	12.69
SWΔ/UT/1050/150/300/○			1050	150	450	900	900	1450	9.68	12.23	13.34
SWΔ/UT/150/300/300/○	300mm Branch	300	150	300	525	450	1050	550	6.03	8.75	10.40
SWΔ/ET/300/300/○			300	300	525	525	1050	700	6.51	9.24	11.05
SWΔ/UT/450/300/300/○			450	300	525	600	1050	850	7.00	9.73	11.70
SWΔ/UT/600/300/300/○			600	300	525	675	1050	1000	7.49	10.21	12.35
SWΔ/UT/750/300/300/○			750	300	525	750	1050	1150	9.10	11.83	13.00
SWΔ/UT/900/300/300/○			900	300	525	825	1050	1300	9.75	12.48	13.65
SWΔ/UT/1050/300/300/○			1050	300	525	900	1050	1450	10.40	13.13	14.30
SWΔ/UT/150/450/300/○	450mm Branch	300	150	450	600	450	1200	550	6.87	9.77	11.67
SWΔ/UT/300/450/300/○			300	450	600	525	1200	700	7.52	10.42	12.54
SWΔ/ET/450/300/○			450	450	600	600	1200	850	8.17	11.07	13.40
SWΔ/UT/600/450/300/○			600	450	600	675	1200	1000	8.82	11.72	14.27
SWΔ/UT/750/450/300/○			750	450	600	750	1200	1150	11.00	13.90	15.13
SWΔ/UT/900/450/300/○			900	450	600	825	1200	1300	11.86	14.77	16.00
SWΔ/UT/1050/450/300/○			1050	450	600	900	1200	1450	12.73	15.63	16.86
SWΔ/UT/150/600/300/○	600mm Branch	300	150	600	675	450	1350	550	7.48	10.56	12.63
SWΔ/UT/300/600/300/○			300	600	675	525	1350	700	8.13	11.21	13.50
SWΔ/UT/450/600/300/○			450	600	675	600	1350	850	8.78	11.86	14.36
SWΔ/ET/600/300/○			600	600	675	675	1350	1000	9.43	12.51	15.23
SWΔ/UT/750/600/300/○			750	600	675	750	1350	1150	11.72	14.80	16.09
SWΔ/UT/900/600/300/○			900	600	675	825	1350	1300	12.58	15.66	16.96
SWΔ/UT/1050/600/300/○			1050	600	675	900	1350	1450	13.45	16.53	17.82
SWΔ/UT/150/750/300/○	750mm Branch	300	150	750	750	450	1500	550	8.98	12.23	13.59
SWΔ/UT/300/750/300/○			300	750	750	525	1500	700	9.84	13.10	14.46
SWΔ/UT/450/750/300/○			450	750	750	600	1500	850	10.71	13.96	15.32
SWΔ/UT/600/750/300/○			600	750	750	675	1500	1000	11.57	14.83	16.19
SWΔ/ET/750/300/○			750	750	750	750	1500	1150	12.44	15.69	17.05
SWΔ/UT/900/750/300/○			900	750	750	825	1500	1300	13.30	16.56	17.92
SWΔ/UT/1050/750/300/○			1050	750	750	900	1500	1450	14.17	17.42	18.78
SWΔ/UT/150/900/300/○	900mm Branch	300	150	900	825	450	1650	550	10.01	13.44	14.86
SWΔ/UT/300/900/300/○			300	900	825	525	1650	700	11.09	14.52	15.94
SWΔ/UT/450/900/300/○			450	900	825	600	1650	850	12.17	15.60	17.03
SWΔ/UT/600/900/300/○			600	900	825	675	1650	1000	13.26	16.68	18.11
SWΔ/UT/750/900/300/○			750	900	825	750	1650	1150	14.34	17.76	19.19
SWΔ/ET/900/300/○			900	900	825	825	1650	1300	15.42	18.84	20.27
SWΔ/UT/1050/900/300/○			1050	900	825	900	1650	1450	16.50	19.93	21.35
SWΔ/UT/150/1050/300/○	1050mm Branch	300	150	1050	900	450	1800	550	10.73	14.33	15.82
SWΔ/UT/300/1050/300/○			300	1050	900	525	1800	700	11.81	15.41	16.90
SWΔ/UT/450/1050/300/○			450	1050	900	600	1800	850	12.89	16.50	17.99
SWΔ/UT/600/1050/300/○			600	1050	900	675	1800	1000	13.98	17.58	19.07
SWΔ/UT/750/1050/300/○			750	1050	900	750	1800	1150	15.06	18.66	20.15
SWΔ/UT/900/1050/300/○			900	1050	900	825	1800	1300	16.14	19.74	21.23
SWΔ/ET/1050/300/○			1050	1050	900	900	1800	1450	17.22	20.82	22.31

Δ= Select a Ladder Type ○= Select a Finish & Material



Finishes & Materials:



Supplied with:



Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

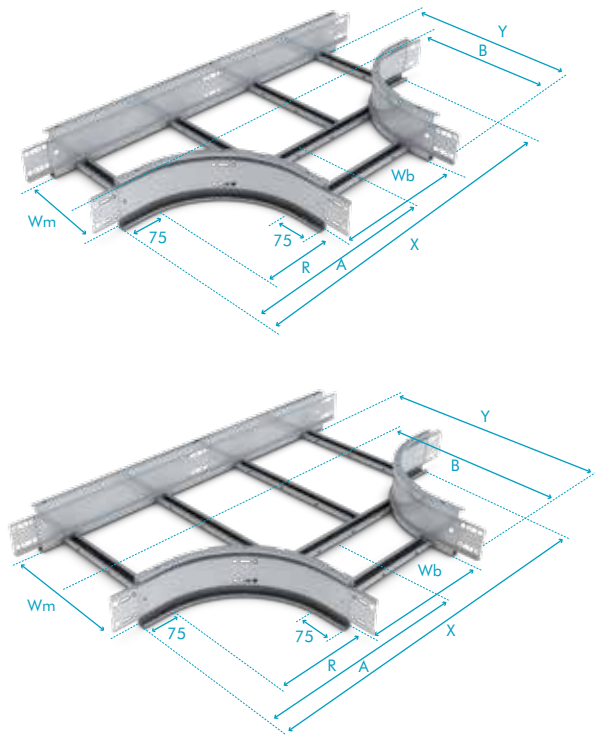


Speedway 600mm Radius Tees

Ref.UT (Unequal Tee) ET (Equal Tee)

Part Number	Type	Dimensions (mm)							Weight (kg)		
		R	Wm	Wb	A	B	X	Y	SW4	SW5	SW6
SWΔ/ET/150/600/○	150mm Branch	600	150	150	750	750	1500	850	8.98	13.34	15.68
SWΔ/UT/300/150/600/○			300	150	750	825	1500	1000	9.63	13.98	16.54
SWΔ/UT/450/150/600/○			450	150	750	900	1500	1150	10.28	14.63	17.41
SWΔ/UT/600/150/600/○			600	150	750	975	1500	1300	10.93	15.28	18.27
SWΔ/UT/750/150/600/○			750	150	750	1050	1500	1450	13.02	17.37	19.14
SWΔ/UT/900/150/600/○			900	150	750	1125	1500	1600	13.89	18.24	20.00
SWΔ/UT/1050/150/600/○			1050	150	750	1200	1500	1750	14.75	19.10	20.87
SWΔ/UT/150/300/600/○	300mm Branch	600	150	300	825	750	1650	850	9.93	14.45	17.07
SWΔ/ET/300/600/○			300	300	825	825	1650	1000	10.74	15.26	18.15
SWΔ/UT/450/300/600/○			450	300	825	900	1650	1150	11.55	16.07	19.24
SWΔ/UT/600/300/600/○			600	300	825	975	1650	1300	12.36	16.88	20.32
SWΔ/UT/750/300/600/○			750	300	825	1050	1650	1450	15.05	19.57	21.40
SWΔ/UT/900/300/600/○			900	300	825	1125	1650	1600	16.13	20.65	22.48
SWΔ/UT/1050/300/600/○			1050	300	825	1200	1650	1750	17.21	21.73	23.56
SWΔ/UT/150/450/600/○	450mm Branch	600	150	450	900	750	1800	850	10.54	15.24	18.03
SWΔ/UT/300/450/600/○			300	450	900	825	1800	1000	11.35	16.05	19.11
SWΔ/ET/450/600/○			450	450	900	900	1800	1150	12.16	16.86	20.19
SWΔ/UT/600/450/600/○			600	450	900	975	1800	1300	12.97	17.67	21.28
SWΔ/UT/750/450/600/○			750	450	900	1050	1800	1450	15.77	20.47	22.36
SWΔ/UT/900/450/600/○			900	450	900	1125	1800	1600	16.85	21.55	23.44
SWΔ/UT/1050/450/600/○			1050	450	900	1200	1800	1750	17.93	22.63	24.52
SWΔ/UT/150/600/600/○	600mm Branch	600	150	600	975	750	1950	850	11.15	16.03	18.99
SWΔ/UT/300/600/600/○			300	600	975	825	1950	1000	11.96	16.84	20.07
SWΔ/UT/450/600/600/○			450	600	975	900	1950	1150	12.77	17.65	21.15
SWΔ/ET/600/600/○			600	600	975	975	1950	1300	13.58	18.46	22.23
SWΔ/UT/750/600/600/○			750	600	975	1050	1950	1450	16.49	21.36	23.32
SWΔ/UT/900/600/600/○			900	600	975	1125	1950	1600	17.57	22.44	24.40
SWΔ/UT/1050/600/600/○			1050	600	975	1200	1950	1750	18.65	23.52	25.48
SWΔ/UT/150/750/600/○	750mm Branch	600	150	750	1050	750	2100	850	13.32	18.37	20.39
SWΔ/UT/300/750/600/○			300	750	1050	825	2100	1000	14.62	19.67	21.69
SWΔ/UT/450/750/600/○			450	750	1050	900	2100	1150	15.92	20.97	22.98
SWΔ/UT/600/750/600/○			600	750	1050	975	2100	1300	17.21	22.26	24.28
SWΔ/ET/750/600/○			750	750	1050	1050	2100	1450	18.51	23.56	25.58
SWΔ/UT/900/750/600/○			900	750	1050	1125	2100	1600	19.81	24.86	26.88
SWΔ/UT/1050/750/600/○			1050	750	1050	1200	2100	1750	21.11	26.16	28.17
SWΔ/UT/150/900/600/○	900mm Branch	600	150	900	1125	750	2250	850	14.04	19.27	21.35
SWΔ/UT/300/900/600/○			300	900	1125	825	2250	1000	15.34	20.56	22.65
SWΔ/UT/450/900/600/○			450	900	1125	900	2250	1150	16.63	21.86	23.94
SWΔ/UT/600/900/600/○			600	900	1125	975	2250	1300	17.93	23.16	25.24
SWΔ/UT/750/900/600/○			750	900	1125	1050	2250	1450	19.23	24.46	26.54
SWΔ/ET/900/600/○			900	900	1125	1125	2250	1600	20.53	25.75	27.84
SWΔ/UT/1050/900/600/○			1050	900	1125	1200	2250	1750	21.82	27.05	29.13
SWΔ/UT/150/1050/600/○	1050mm Branch	600	150	1050	1200	750	2400	850	14.76	20.16	22.31
SWΔ/UT/300/1050/600/○			300	1050	1200	825	2400	1000	16.06	21.46	23.60
SWΔ/UT/450/1050/600/○			450	1050	1200	900	2400	1150	17.35	22.76	24.90
SWΔ/UT/600/1050/600/○			600	1050	1200	975	2400	1300	18.65	24.05	26.20
SWΔ/UT/750/1050/600/○			750	1050	1200	1050	2400	1450	19.95	25.35	27.50
SWΔ/UT/900/1050/600/○			900	1050	1200	1125	2400	1600	21.25	26.65	28.79
SWΔ/ET/1050/600/○			1050	1050	1200	1200	2400	1750	22.54	27.95	30.09

Δ= Select a Ladder Type ○= Select a Finish & Material



Finishes & Materials:



Supplied with:



Not Required:



Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

EXPAND YOUR HORIZONS WITH THE FULL MOMENT EXPANSION COUPLER

FULL MOMENT EXPANSION COUPLER FEATURES:

- Vantrunk (FME) Full Moment Expansion Coupler gives several unique features when used on an installation:
- Increases the maximum movement due to temperature expansion from 28mm to 75mm therefore reducing the number of expansion couplers.
- Can carry a heavier cable load and does not need the cable ladder to be supported 600mm either side of the expansion joint.
- Due to the extra strength and rigidity of a ladder joint using Full Moment Expansion couplers, these can be used in situations where very heavy cable ladder loading would increase the deflection if a standard coupler was used.

For more information on the Full Moment Expansion Coupler visit vantrunk.com



Lengths	Cable Ladder
Fittings	Cable Tray
Couplers	Steel Framing
Accessories	Supports
Covers	Mounting Frame
Technical	Fixings
Bespoke	Technical
Index	

CROSSES

Speedway Crosses (EC) are designed to create intersecting coplanar connections between horizontal cable runs (ladder installed in horizontal plane) and between vertical cable runs (ladder installed in vertical plane).

Speedway Crosses are available in widths from 150mm to 1050mm as standard. Speedway Crosses are available with standard radii of 300mm, 450mm, 600mm, 750mm, 900mm, 1050mm & 1200mm. Other widths between 100mm to 1500mm and radii, subject to cable ladder type, are also available.

The Speedway Cross is manufactured with a repeatable and true radius which eliminates the traditional approach of ‘make it fit’ during installation.

All Speedway Crosses are now manufactured with a Speedlok Integral Coupler, removing the need for separate couplers in the joining mechanism between cable ladder fittings and straight lengths of ladder.

All Speedway Crosses will be supplied with all necessary fixings.

The rungs are orientated with the open face uppermost to suit the use of cleats and similar cable restraint devices. This allows compliance with current recommendations for cable restraint, especially where cables are used which have a high potential fault current level.

Equal Crosses, where the branches have identical widths, are supplied as standard. Short and long adjustable couplers, as well as abrupt reducers, can be used to convert equal crosses into unequal crosses. The Short and Long Adjustable Couplers give a maximum width reduction of 150mm and 300mm respectively.

Consult our Sales Team on the availability of non-standard crosses where differing branch widths and differing radii are required to suit specific installation requirements.

WHEN JOINING ONE FITTING TO ANOTHER TO SUIT ON SITE INSTALLATION REQUIREMENTS THE USE OF A FITTING TO FITTING COUPLER (FFC) WILL BE REQUIRED. PLEASE REFER TO PG 73 FOR FURTHER DETAILS

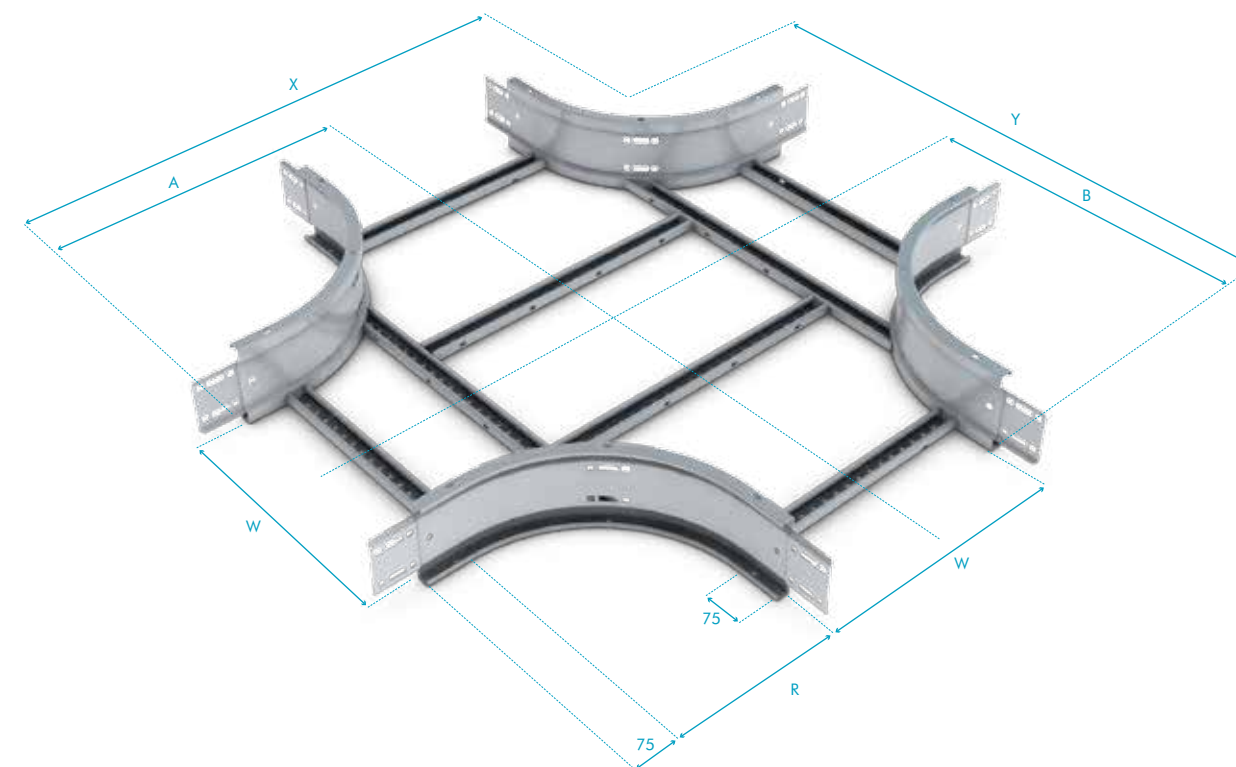
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CROSSES

Speedway Crosses

Ref.EC



Part Number	Type	Dimensions (mm)						Weights (kg)		
		R	W	A	B	X	Y	SW4	SW5	SW6
SW△/EC/150/300/○	300mm Branch	300	150	450	450	900	900	6.74	9.68	11.57
SW△/EC/300/300/○		300	300	525	525	1050	1050	7.87	10.82	13.09
SW△/EC/450/300/○		300	450	600	600	1200	1200	9.64	12.58	15.44
SW△/EC/600/300/○		300	600	675	675	1350	1350	10.94	13.88	17.17
SW△/EC/750/300/○		300	750	750	750	1500	1500	14.65	17.59	18.90
SW△/EC/900/300/○		300	900	825	825	1650	1650	17.87	20.81	22.12
SW△/EC/1050/300/○		300	1050	900	900	1800	1800	19.82	22.76	24.07
SW△/EC/150/600/○	600mm Branch	600	150	750	750	1500	1500	11.42	16.56	19.61
SW△/EC/300/600/○		600	300	825	825	1650	1650	13.37	18.51	22.22
SW△/EC/450/600/○		600	450	900	900	1800	1800	14.83	19.97	24.16
SW△/EC/600/600/○		600	600	975	975	1950	1950	16.29	21.43	26.11
SW△/EC/750/600/○		600	750	1050	1050	2100	2100	22.33	27.47	29.58
SW△/EC/900/600/○		600	900	1125	1125	2250	2250	24.49	29.64	31.75
SW△/EC/1050/600/○		600	1050	1200	1200	2400	2400	26.66	31.80	33.91

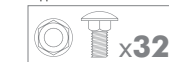
△= Select a Ladder Type ○= Select a Finish & Material



Finishes & Materials:



Supplied with:



Not Required:



Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).



REDUCERS - STRAIGHT, LEFT & RIGHT (RS, RL & RR)

Speedway Reducers are used to create coplanar reductions in widths between adjoining straight ladders and between straight ladders and fittings of the same ladder type, fulfilling the same role as short and long adjustable couplers but using a purpose-made fitting capable of self-support as part of a cable run.

Speedway Straight Reducers (RS reducer straight) are used to create a concentric reduction, having an equal width reduction along both sides. Left hand reducers (RL reducer left) and right hand reducers (RR reducer right) are used to create offset reductions to suit particular installation requirements. Left hand reducers have the width reduction on the left when viewed from the primary width. Right hand reducers have the width reduction on the right when viewed from the primary width.

Speedway reducers are available for use across the full range of Speedway cable ladder widths to facilitate width changes from the widest to the narrowest width and all possible combinations in between. The Speedway Reducer has an overall length of 500mm irrespective of ladder type and width reduction.

All Speedway Reducers are now manufactured with a Speedlok Integral Coupler, removing the need for separate couplers in the joining mechanism between cable ladder fittings and straight lengths of ladder. All Speedway Reducers will be supplied with all necessary fixings.

Each reducer has two rungs as standard. The reducer rungs are orientated with the open face uppermost to suit the use of cleats and similar cable restraint devices. This allows compliance with current recommendations for cable restraint, especially where cables are used which have a high potential fault current level.

WHEN JOINING ONE FITTING TO ANOTHER TO SUIT ON SITE INSTALLATION REQUIREMENTS THE USE OF A FITTING TO FITTING COUPLER (FFC) WILL BE REQUIRED. PLEASE REFER TO PG 73 FOR FURTHER DETAILS

ACCREDITED TO THE FOLLOWING STANDARD

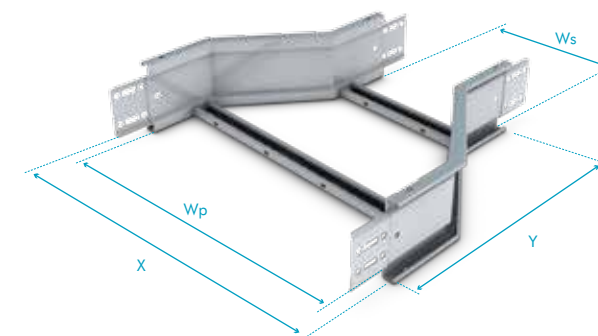


REDUCERS

Reducer Straight Ref.RS

Part Number	Dimensions (mm)					Weight (kg)		
	Wp	Ws	X		Y	SW4	SW5	SW6
			SW4	SW5 & SW6				
SW△/RS/300/150/○	300	150	340	350	75	2.65	3.94	4.68
SW△/RS/450/150/○	450		490	500	150	2.97	4.35	5.18
SW△/RS/600/150/○	600		640	650	225	3.33	4.85	5.77
SW△/RS/750/150/○	750		790	800	300	4.06	5.71	6.42
SW△/RS/900/150/○	900		940	950	375	4.52	6.34	7.10
SW△/RS/1050/150/○	1050		1090	1100	450	5.00	6.98	7.80
SW△/RS/450/300/○	450	300	490	500	75	2.98	4.26	5.11
SW△/RS/600/300/○	600		640	650	150	3.29	4.67	5.61
SW△/RS/750/300/○	750		790	800	225	4.04	5.55	6.21
SW△/RS/900/300/○	900		940	950	300	4.49	6.14	6.85
SW△/RS/1050/300/○	1050	450	1090	1100	375	4.96	6.77	7.53
SW△/RS/600/450/○	600		670	650	75	3.30	4.59	5.54
SW△/RS/750/450/○	750		790	800	150	4.05	5.43	6.04
SW△/RS/900/450/○	900		940	950	225	4.47	5.98	6.64
SW△/RS/1050/450/○	1050		1090	1100	300	4.92	6.58	7.29
SW△/RS/750/600/○	750	600	800	800	75	4.11	5.40	5.98
SW△/RS/900/600/○	900		940	950	150	4.48	5.86	6.48
SW△/RS/1050/600/○	1050		1090	1100	225	4.90	6.41	7.07
SW△/RS/900/750/○	900	750	940	950	75	4.55	5.83	6.41
SW△/RS/1050/750/○	1050		1090	1100	150	4.91	6.30	6.91
SW△/RS/1050/900/○	1050	900	1090	1100	75	4.98	6.26	6.84

△= Select a Ladder Type ○= Select a Finish & Material



Finishes & Materials:



Supplied with:



Not Required:

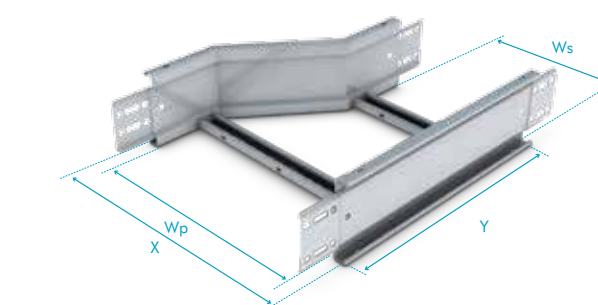


Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

Reducer Left Ref.RL

Part Number	Dimensions (mm)					Weight (kg)		
	Wp	Ws	X		Y	SW4	SW5	SW6
			SW4	SW5 & SW6				
SW△/RL/300/150/○	300	150	340	350	75	2.70	4.01	4.76
SW△/RL/450/150/○	450		490	500	150	3.08	4.53	5.38
SW△/RL/600/150/○	600		640	650	225	3.50	5.10	6.07
SW△/RL/750/150/○	750		790	800	300	4.26	6.03	6.78
SW△/RL/900/150/○	900		940	950	375	4.75	6.69	7.51
SW△/RL/1050/150/○	1050		1090	1100	450	5.25	7.36	8.24
SW△/RL/450/300/○	450	300	490	500	75	3.02	4.33	5.19
SW△/RL/600/300/○	600		640	650	150	3.40	4.85	5.81
SW△/RL/750/300/○	750		790	800	225	4.20	5.81	6.50
SW△/RL/900/300/○	900		940	950	300	4.69	6.46	7.21
SW△/RL/1050/300/○	1050	450	1090	1100	375	5.18	7.12	7.94
SW△/RL/600/450/○	600		670	650	75	3.35	4.66	5.62
SW△/RL/750/450/○	750		790	800	150	4.16	5.61	6.24
SW△/RL/900/450/○	900		940	950	225	4.63	6.24	6.93
SW△/RL/1050/450/○	1050		1090	1100	300	5.12	6.89	7.65
SW△/RL/750/600/○	750	600	800	800	75	4.16	5.47	6.05
SW△/RL/900/600/○	900		940	950	150	4.59	6.04	6.68
SW△/RL/1050/600/○	1050		1090	1100	225	5.07	6.67	7.37
SW△/RL/900/750/○	900	750	940	950	75	4.59	5.90	6.49
SW△/RL/1050/750/○	1050		1090	1100	150	5.03	6.47	7.11
SW△/RL/1050/900/○	1050	900	1090	1100	75	5.02	6.33	6.92

△= Select a Ladder Type ○= Select a Finish & Material



Finishes & Materials:



Supplied with:



Not Required:



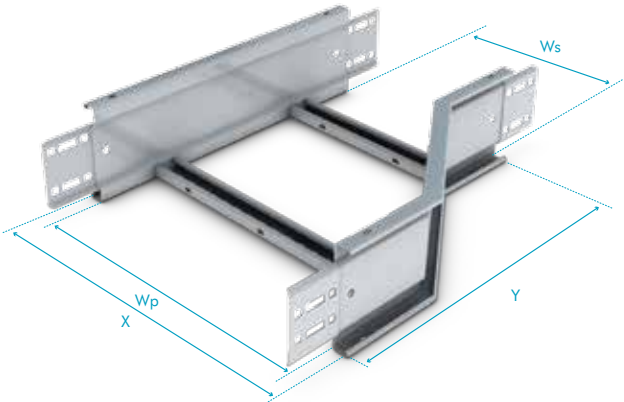
Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).



Reducer Right Ref.RR

Part Number	Dimensions (mm)				Weight (kg)			
	Wp	Ws	X		Y	SW4	SW5	SW6
			SW4	SW5 & SW6				
SWΔ/RR/300/150/○	300	150	340	350	75	2.70	4.01	4.76
SWΔ/RR/450/150/○	450		490	500	150	3.08	4.53	5.38
SWΔ/RR/600/150/○	600		640	650	225	3.50	5.10	6.07
SWΔ/RR/750/150/○	750		790	800	300	4.26	6.03	6.78
SWΔ/RR/900/150/○	900		940	950	375	4.75	6.69	7.51
SWΔ/RR/1050/150/○	1050		1090	1100	450	5.25	7.36	8.24
SWΔ/RR/450/300/○	450	300	490	500	75	3.02	4.33	5.19
SWΔ/RR/600/300/○	600		640	650	150	3.40	4.85	5.81
SWΔ/RR/750/300/○	750		790	800	225	4.20	5.81	6.50
SWΔ/RR/900/300/○	900		940	950	300	4.69	6.46	7.21
SWΔ/RR/1050/300/○	1050		1090	1100	375	5.18	7.12	7.94
SWΔ/RR/600/450/○	600	450	670	650	75	3.35	4.66	5.62
SWΔ/RR/750/450/○	750		790	800	150	4.16	5.61	6.24
SWΔ/RR/900/450/○	900		940	950	225	4.63	6.24	6.93
SWΔ/RR/1050/450/○	1050		1090	1100	300	5.12	6.89	7.65
SWΔ/RR/750/600/○	750	600	800	800	75	4.16	5.47	6.05
SWΔ/RR/900/600/○	900		940	950	150	4.59	6.04	6.68
SWΔ/RR/1050/600/○	1050		1090	1100	225	5.07	6.67	7.37
SWΔ/RR/900/750/○	900	750	940	950	75	4.59	5.90	6.49
SWΔ/RR/1050/750/○	1050		1090	1100	150	5.03	6.47	7.11
SWΔ/RR/1050/900/○	1050	900	1090	1100	75	5.02	6.33	6.92

Δ= Select a Ladder Type ○= Select a Finish & Material



Finishes & Materials:



Weights shown are for standard hot dip galvanised finish only, for Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Speedway Technical Section of our catalogue (Page 96).

HAVE YOU GOT WHAT IT TAKES TO CLIMB THE...

VANTRUNK

LEAGUE OF LADDERS

Advertisement for the VANTRUNK LEAGUE OF LADDERS app. It features three smartphones displaying the app's interface: a main menu with a 'Test Circuit' button, a 'LEVEL 1 COMPLETED' screen showing a personal best time of 00:26.341, and a 'PLAY GAME' screen. A QR code is provided for downloading the app. The text 'DOWNLOAD THE ONLINE CHALLENGE FROM VANTRUNK.COM' is prominently displayed. The VANTRUNK logo is at the bottom right.



COUPLERS

The Speedway Coupling System has been designed to prevent slip between connected components – a common problem for slotted cable ladder systems when under load.

The slot pattern in the ladder sides can be combined with the slot pattern in the couplers and integral couplers to create a pattern of squares; these square patterns can also be formed irrespective of where straight ladders are cut to length to suit site installation requirements. The specially designed Vantrunk square shouldered bolt interlocks into this pattern of squares to create a slip-resistant connection.

The Speedway Coupler has a profile which exactly matches the unique profile of the Speedway Ladder (& Fitting side walls) to give a high performance connection which securely holds the connected components together.

All standard Speedway Couplers are supplied singly and come complete with all necessary fixings. i.e. specially designed domed head M10X20 cup square bolts (eliminating sharp edges) and M10 Serrated Flange Nuts as standard.

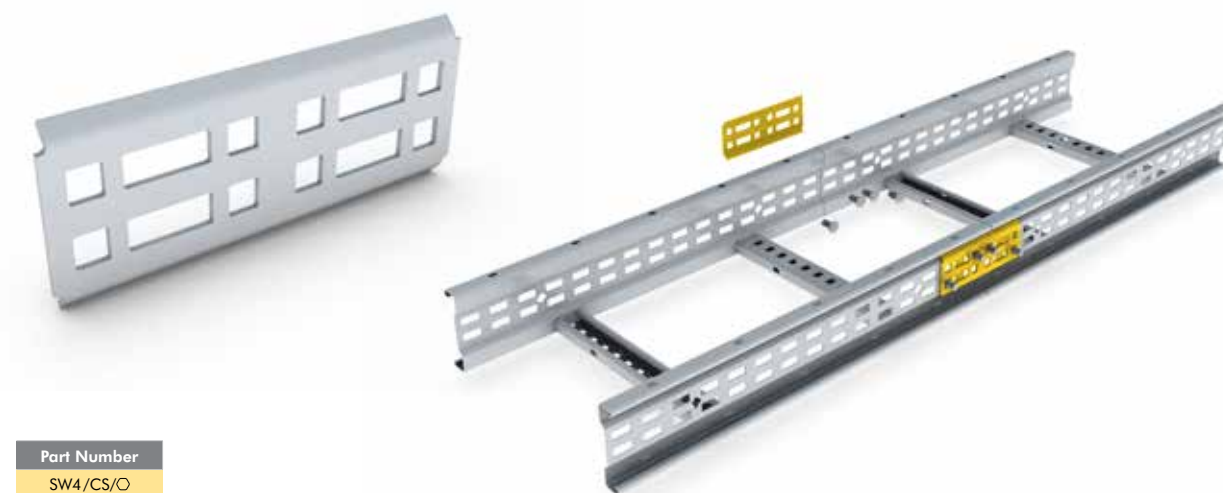
ACCREDITED TO THE FOLLOWING STANDARD



COUPLERS

SW4 Straight Coupler

Ref.SW4/CS



Part Number

SW4/CS/O

Finishes & Materials:



Supplied with:

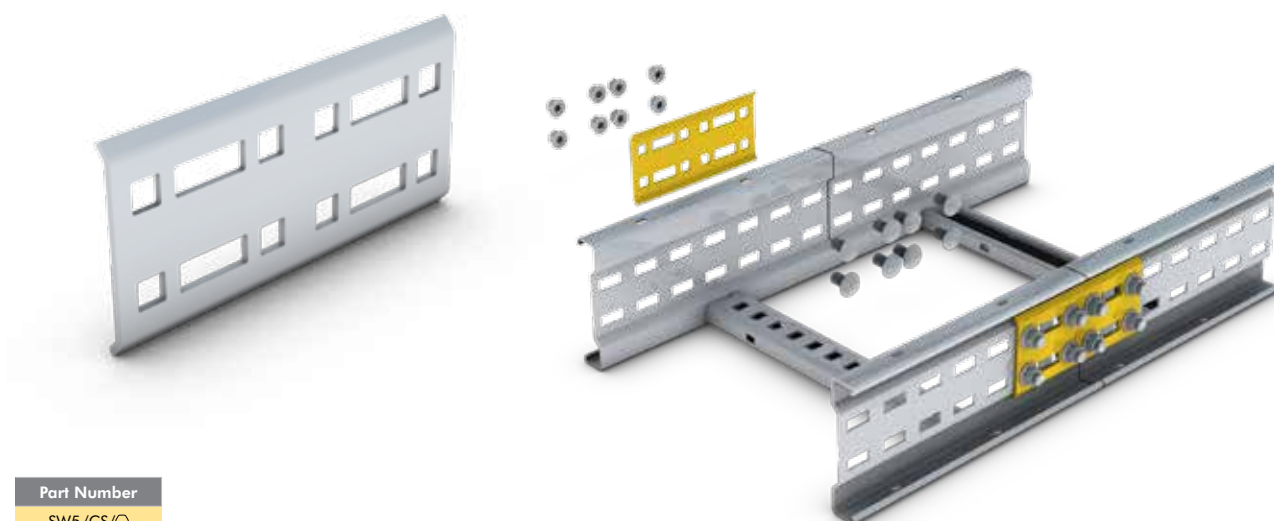


Showing assembly detail onto ladder. Supplied with 4 fixings per coupler

○ = Select a Finish & Material

SW5 Straight Coupler

Ref.SW5/CS



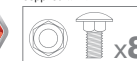
Part Number

SW5/CS/O

Finishes & Materials:



Supplied with:

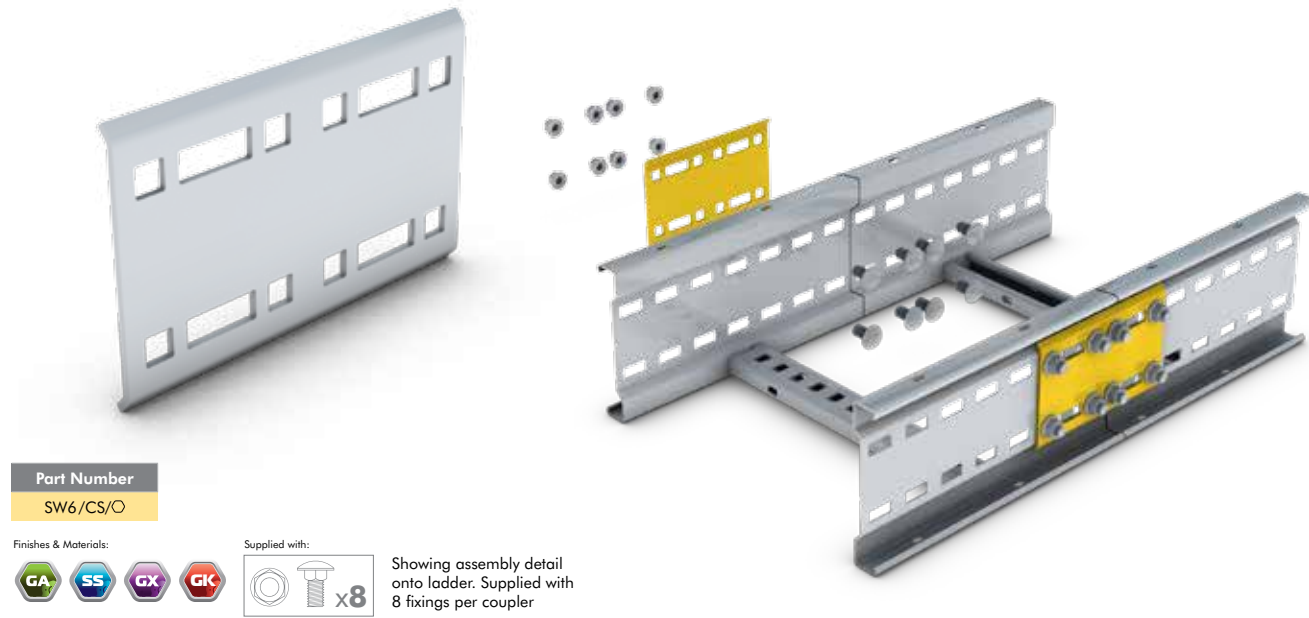


Showing assembly detail onto ladder. Supplied with 8 fixings per coupler

○ = Select a Finish & Material

SW6 Straight Coupler

Ref.SW6/CS



O= Select a Finish & Material

COUPLERS

Horizontal Adjustable Couplers

Ref.HAC



Speedway Horizontal Adjustable Couplers (HAC's) are used to join straight ladder and fittings where these need to be connected at offset angles in the same horizontal or vertical plane. When connecting a HAC to a cable ladder fitting please connect via a Fitting to Fitting Coupler (FFC), turn to page 73 for details.

Speedway Horizontal Adjustable Couplers are supplied singly and come complete with all necessary ladder fixing sets.

The Speedway Horizontal Adjustable Coupler is supplied flat and has easi-bend slots which allow the coupler to be bent on site to any angle to connect two cable ladder runs to form 'T' & 'Y' intersections.



Part Number
SW△/HAC/O



△= Select a Ladder Type O= Select a Finish & Material

Vertical Adjustable Couplers

Ref.VAC

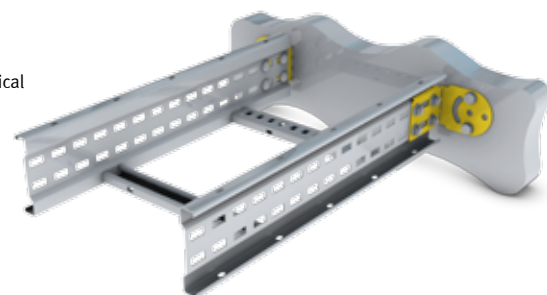


Speedway Vertical Adjustable couplers (VAC) are used to join straight ladder and fittings where these need to be connected at offset angles when these lie in different planes. When connecting a VAC to a cable ladder fitting please connect via a Fitting to Fitting Coupler (FFC), turn to page 73 for details.

Speedway Vertical Adjustable couplers are supplied singly and come complete with all necessary ladder fixing sets. Each vertical adjustable coupler comprises of two half plates complete with all necessary pivot fixings.

The arrangement of the pivot holes and elongated slots allows for infinite angular adjustment to suit specific site requirements. The vertical adjustable coupler features easi-bend slots which allow the couplers to be adjusted on site to create combined horizontal & vertical offset connections, ladder connections onto the side wall of a main run to form tees, or straight ladder & fitting connections directly to a floor or wall.

Vertical Adjustable Coupler
Half shown bent to 90° and connecting a ladder to a vertical structure



Vertical Adjustable Coupler
Shown connecting two ladders in the vertical plane



Vertical Adjustable Coupler
Shown bent to 90° and connecting an angled ladder to a horizontal ladder



Part Number
SW△/VAC/○



△= Select a Ladder Type ○= Select a Finish & Material

COUPLERS

Horizontal Hinged Couplers

Ref.HHC



Speedway Horizontal Hinged Couplers (HHC's) are offered as an alternative to the HAC. Speedway Horizontal Hinged Couplers are supplied singly and come complete with all necessary ladder fixing sets.

The Speedway Horizontal Hinged Coupler is supplied as an assembly allowing the coupler to be hinged to any angle to connect two cable ladder runs to form 'T' & 'Y' intersections.



Part Number
SW△/HHC/○



Showing assembly detail onto ladder. Supplied with 8 fixings per coupler

△= Select a Ladder Type ○= Select a Finish & Material

Short & Long Adjustable Couplers

Ref.SAC & LAC

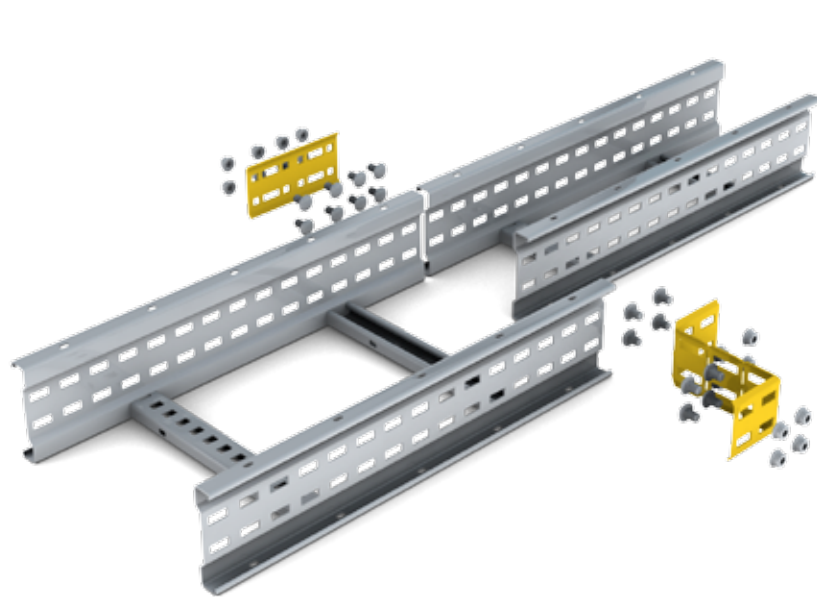


Speedway Short and Long Adjustable Couplers are used to create custom reductions in width during installation & to convert equal tees and crosses into unequal tees and crosses when used with a Fitting to Fitting Coupler (FFC).

Speedway Short and Long Adjustable Couplers are supplied singly and come complete with all necessary ladder fixing sets. Each adjustable coupler has 50mm long segments with easibend slots which allow the couplers to be adjusted on site to suit specific installation requirements.

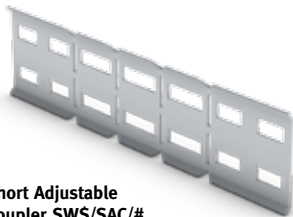
Short adjustable couplers allow reductions of up to & including 150mm per coupler. Long adjustable couplers allow reductions of up to & including 300mm per coupler.

A single short or long adjustable coupler can be used in conjunction with a standard coupler to create an offset connection between two ladders or fittings of differing widths. For concentric reductions, two short or long adjustable couplers are required.

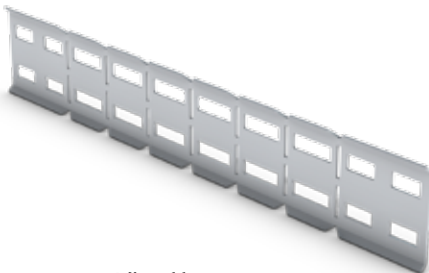


Short Adjustable Coupler SWS/SAC/#

Supplied flat & complete with all ladder fixings

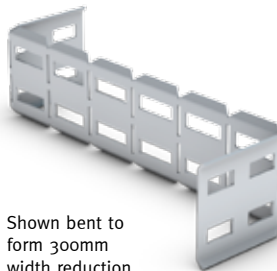


Shown bent to form 150mm width reduction



Long Adjustable Coupler SWS/LAC/#

Supplied flat & complete with all ladder fixings



Shown bent to form 300mm width reduction

Part Number	Part
SW△/SAC/○	Short Adjustable Coupler
SW△/LAC/○	Long Adjustable Coupler

Finishes & Materials:

GA SS GX GK

Supplied with:

x8

△= Select a Ladder Type ○= Select a Finish & Material

COUPLERS

Expansion Couplers

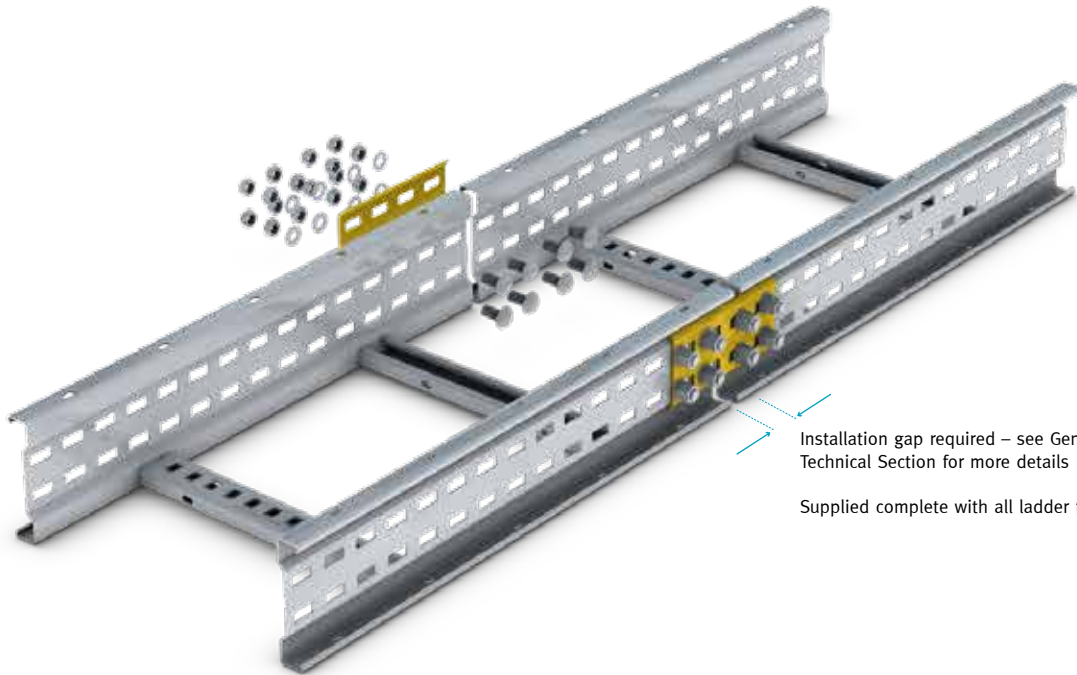
Ref.EXP

Speedway Expansion Couplers (EXP) are recommended for those installations where the maximum and minimum temperatures are such that the expansion and contraction of the cable ladder installation is a consideration.

Each Expansion Coupler is designed to allow for a maximum movement of 28mm. Speedway expansion couplers are supplied singly and come complete with all necessary ladder fixings (8 fixings supplied with each coupler).

The Expansion Coupler should not be installed without a support either side of the expansion joint within 600mm.

Specific recommendations covering the spacing of expansion couplers and the setting gap at the time of installation are given in the General Technical Section.



Installation gap required – see General Technical Section for more details
Supplied complete with all ladder fixings

Part Number
SW△/EXP/○

Finishes & Materials:

GA SS GX GK

Supplied with:

x8

△= Select a Ladder Type ○= Select a Finish & Material

Full Moment Expansion Couplers

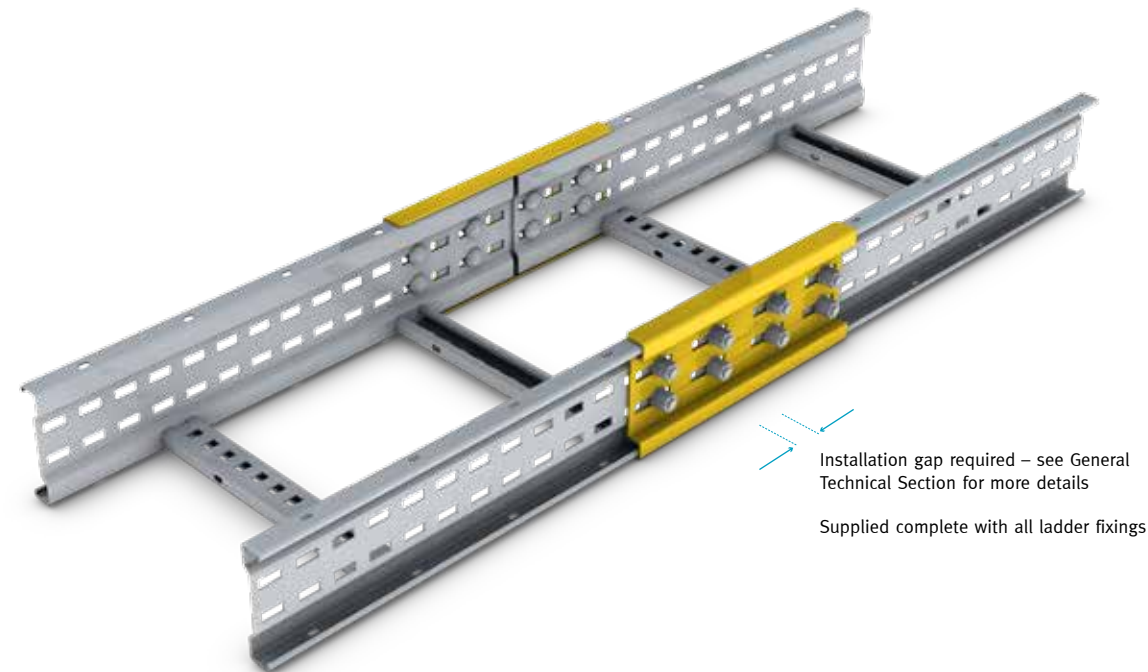
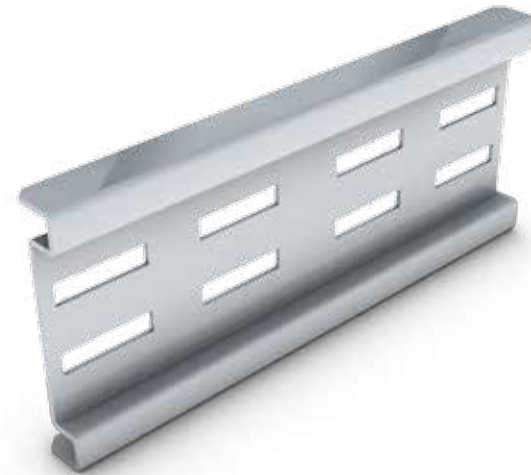
Ref.FME

Speedway Full Moment Expansion Couplers (FME) are recommended for those installations where the maximum and minimum temperatures are such that the expansion and contraction of the cable ladder installation is a consideration and where it is not possible to provide support within 600mm of the expansion joint.

Capable of carrying the full load of the Speedway Cable Ladder at the expansion joint, each expansion coupler is designed to allow for a maximum movement of 75mm.

Speedway Full Moment Expansion Couplers are supplied singly and come complete with all necessary ladder fixings (8 fixing sets per coupler).

Specific recommendations covering the spacing of expansion couplers and the setting gap at the time of installation are given in the General Technical Section of the catalogue.




Installation gap required – see General Technical Section for more details

Supplied complete with all ladder fixings

Part Number
SW△/FME/○

Finishes & Materials: GA SS GX GK

Supplied with:  x8

△ = Select a Ladder Type ○ = Select a Finish & Material

Fitting to Fitting Coupler

Ref.FFC

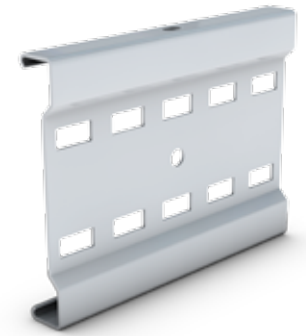
Speedway Fitting to Fitting Coupler (FFC) facilitates the joining of two abutting cable ladder fittings with Speedlok Integral Couplers. The fitting to fitting coupler is also used when turning an equal cross into an unequal Cross.

The Fitting to Fitting Coupler is based on the traditional Speedway Cable Ladder profile which is manufactured to a length of 200mm. The FFC is available across the Speedway product range in SW4, SW5 and SW6. To allow for two cable ladder fittings to be secured each FFC has 5 rows of slots, containing an 11mm hole in the middle row to allow fixing of an Earth Bonding Strap (ESB/o1)

To join two ladder fittings, first loose fit the FFC to one of the abutting fittings. Once the FFC is in place it will allow the secondary fitting to be positioned and fixed easily, tighten the fixings allowing the integral couplers to clamp onto the FFC profile thus providing a secure joining mechanism between the fittings.


An FFC will also be required when turning an Equal Cross (EC) into an Unequal Cross using a Reducer. Firstly the FFC should be secured loosely to the Cross, when both FFCs are in place secure the reducer. When all fixing locations are tightened the reducer will provide an immediate reduction to the equal cross. Please refer to Equal Crosses for more details.

The Fitting to Fitting coupler is supplied singly and does not require fixings. To allow for full mechanical and environmental protection of cables, a Fitting to Fitting Cover will be required.



Part Number
SW△/FFC/○

Finishes & Materials: GA SS GX GK

Supplied with:  x0

△ = Select a Ladder Type ○ = Select a Finish & Material



ACCESSORIES

The Speedway Cable Ladder System is complemented by a range of accessories designed to aid installation and to add additional functionality & flexibility to the Speedway Cable Ladder System.

From versatile fixing clamps and brackets to junction box mounting plates and instrumentation tubing clamp plates, the Vantrunk range of Speedway Accessories have been designed over many years to represent cost-effective & practical solutions in the real installation environment.

ACCREDITED TO THE FOLLOWING STANDARD



ACCESSORIES

External Flange Clamp

Ref.EFC

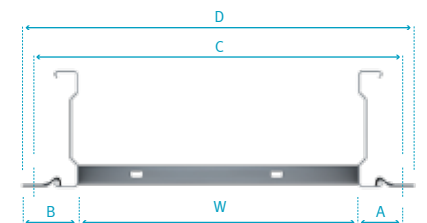
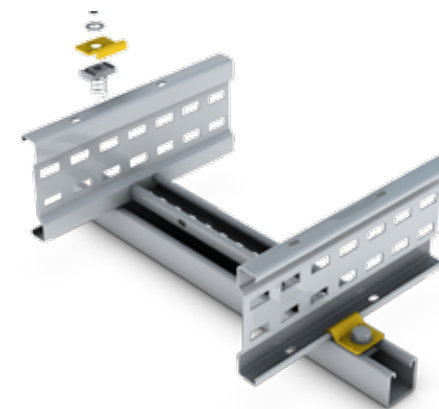
The External Flange Clamp (EFC) forms a simple but effective means of connecting Speedway Cable Ladder and Fittings to the supporting structure.

Designed for use with either channel (BS 6946 strut type) or structural steelwork, the external flange clamp has an M10 clearance hole.

Forming a secure clamping attachment onto the bottom flange of the Speedway profile, the external flange clamp can be used with all Speedway SW4, SW5, & SW6 cable ladder and fittings.

The External Flange Clamp is suitable for securing horizontal runs of Speedway Cable Ladder and Fittings in the horizontal plane.

External Flange Clamps are not suitable for supporting Speedway Cable Ladder installed as part of a vertical run.



The minimum thread length for the M10 fixing bolt is 22mm plus the thickness of the supporting steelwork. Refer to the table below for details of the fixing bolts.

Part Number	Thread Length	Description
OM10x25	25	M10 x 25 Hex Head Bolt
OM10x30	30	M10 x 30 Hex Head Bolt
OM10x35	35	M10 x 35 Hex Head Bolt
OM10x40	40	M10 x 40 Hex Head Bolt

Part Number
SW/EFC/O

Finishes & Materials:



Supplied with:



O= Select a Finish & Material

The following table gives the recommended fixing hole centres and general dimensions when using External Flange Clamps.

Ladder Type	Dimensions (mm)			
	A	B	C	D
Speedway SW4				
Speedway SW5	44.5	55	W+89	W+110
Speedway SW6				

W = Ladder Width

Adaptable Fixing Bracket

Ref.AFB

The Speedway Adaptable Fixing Bracket (AFB) provides a bolted connection between the supporting structure and the Speedway Cable Ladder & Fittings.

The adaptable fixing bracket is recommended for use in supporting vertical runs of Speedway Cable Ladder and Fittings and for applications where the Speedway Cable Ladder is edge-mounted (i.e. installed in the vertical plane running horizontally).

The adaptable fixing bracket gives multiple fixing options for attaching and securing Speedway Cable Ladder and Fittings.

Forming a secure bolted connection into the lower row of slots, the adaptable fixing bracket is suitable for use with Speedway SW4, SW5, & SW6 Cable Ladder and Fittings.

For those applications where space is limited, the Adaptable Fixing Bracket can be fitted internally within the Speedway Cable Ladder. The unique design of the

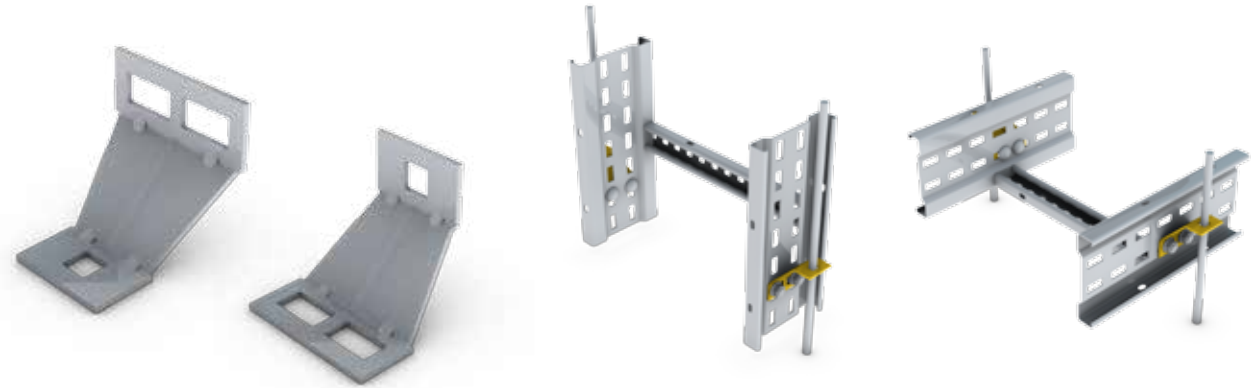
Adaptable Fixing Bracket is such that there is no decrease in the effective loading area of the cable ladder when installed in this manner.

The adaptable fixing bracket can also be used singularly or in pairs to suspend Speedway Cable Ladder from threaded rod. For Speedway SW4 & SW5 Cable Ladder, the adaptable fixing bracket forms a simple but effective end connector to walls and floors.

The adaptable fixing bracket is supplied with one ladder fixing as standard.

Safe working load 300kg per pair of adaptable fixing brackets when supporting edge mounted Speedway cable ladder.

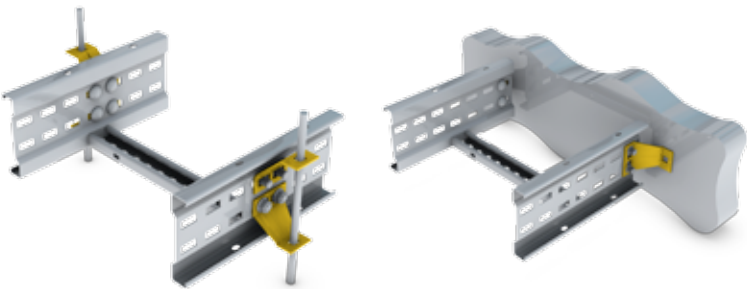
Safe working load 215 kg per pair of adaptable fixing brackets when supporting Speedway Cable Ladder installed as part of a vertical run.



Supplied with one ladder fixing

Adaptable fixing bracket used to secure vertical Speedway SW4 or SW5 cable ladder to threaded rod hangers





Adaptable fixing bracket used in pairs to secure Speedway cable ladder to threaded rod hangers




Adaptable fixing bracket used to secure Speedway cable ladder to threaded rod hangers

Adaptable fixing bracket used to secure Speedway SW4 or SW5 cable ladder to wall (or floor)

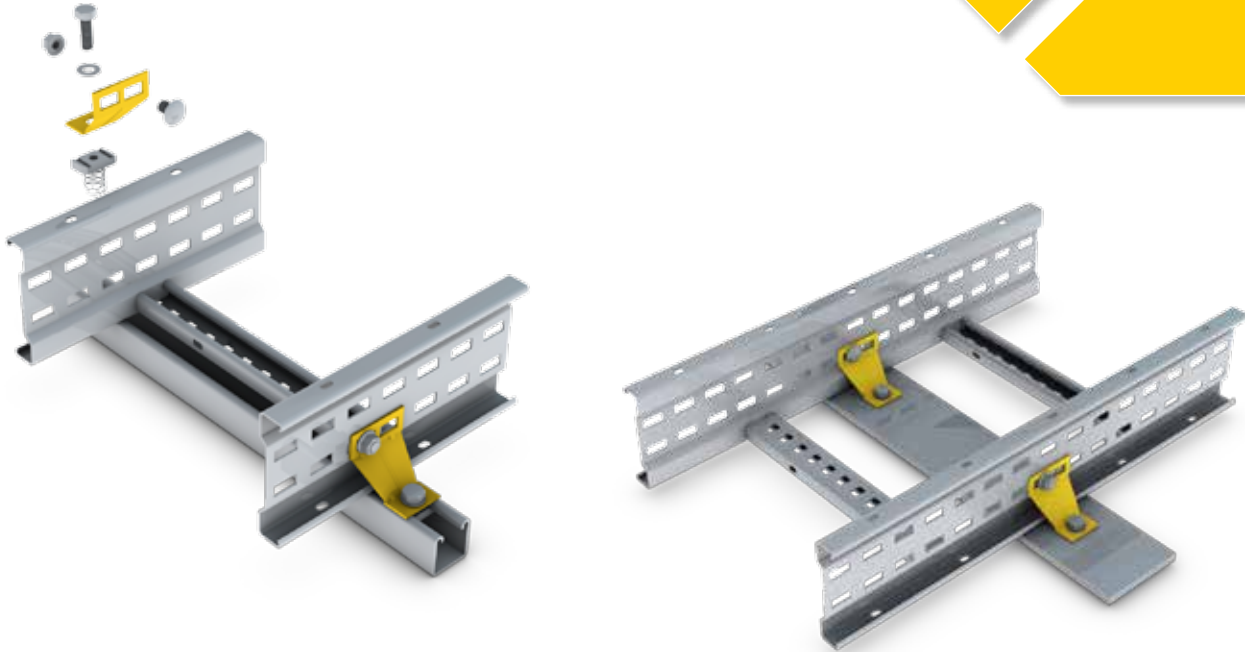
Part Number
SW/AFB/○

Finishes & Materials:
   

Supplied with:
 x1
MOUNTING FIXINGS NOT INCLUDED

○ = Select a Finish & Material

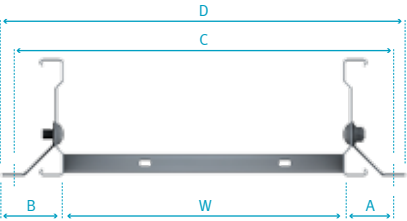
ACCESSORIES



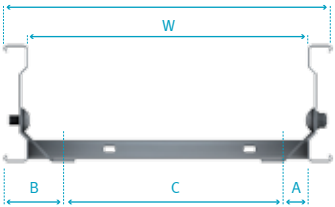
Adaptable fixing bracket used to secure Speedway cable ladder to channel

Adaptable fixing bracket can be fitted internally to save space

Adaptable fixing bracket used to secure Speedway cable ladder to structural steelwork



Adaptable fixing bracket located externally on cable ladder



Adaptable fixing bracket located internally on cable ladder

Ladder Type	Dimensions (mm)			
	Installed Externally			
	A	B	C	D
Speedway SW4				
Speedway SW5	53.5	64.5	W + 102	W + 129
Speedway SW6				

W = Ladder Width

Part Number	Thread Length	Description
OM10x25	25	M10 x 25 Hex Head Bolt
OM10x30	30	M10 x 30 Hex Head Bolt
OM10x35	35	M10 x 35 Hex Head Bolt
OM10x40	40	M10 x 40 Hex Head Bolt

Ladder Type	Dimensions (mm)			
	Installed Externally			
	A	B	C	D
Speedway SW4				
Speedway SW5	39.5	65	W / 79	W + 50
Speedway SW6				

These tables give the recommended fixing hole centres and general dimensions when using adaptable fixing brackets.

The minimum thread length for the M10 fixing bolt is 22mm plus the thickness of the supporting steelwork. Refer to the table (left) for details of the fixing bolts.



Speedway Hold Down Bracket

Ref.HDB

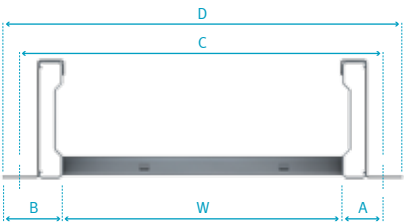
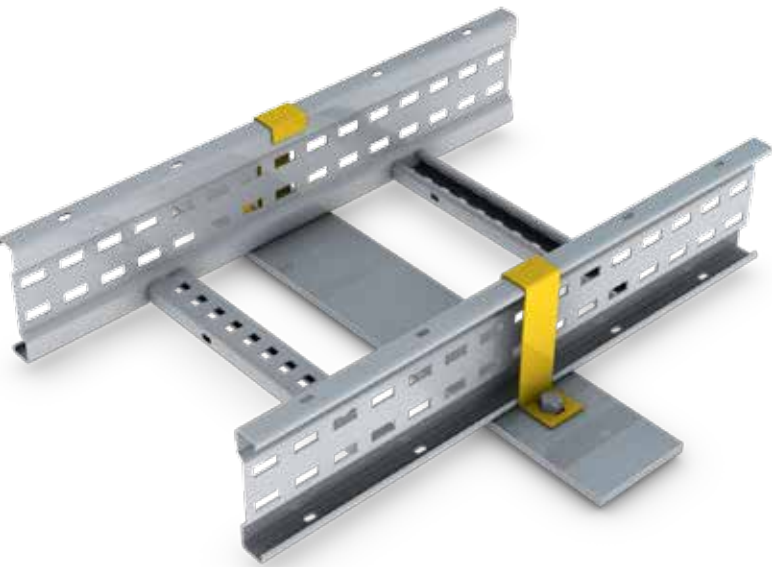
The Speedway Hold Down Bracket (HDB) is a simple but effective means of securing Speedway Cable Ladder and Fittings to the supporting structure. The Hold Down Bracket has a single M10 clearance slot which allows for easy adjustment to suit predrilled fixing holes in the supporting structure. The Hold Down Bracket is equally suited for installation on channel (BS 6946 strut type) or steelwork.

Fixings not supplied.

Hold Down Brackets are not suitable for supporting Speedway Cable Ladder installed as part of a vertical run.



25mm x 11.5mm slot



Speedway hold down bracket fitted onto Speedway cable ladder

Ladder Type	Dimensions (mm)			
	A	B	C	D
Speedway SW4	45	65	W+90	W+130
Speedway SW5				
Speedway SW6				

W = Ladder Width

Part Number
SWΔ/HDB/○

Finishes & Materials:
GA SS GX GK
Δ = Select a Ladder Type
○ = Select a Finish & Material



Part Number	Thread Length	Description
OM10x25	25	M10 x 25 Hex Head Bolt
OM10x30	30	M10 x 30 Hex Head Bolt
OM10x35	35	M10 x 35 Hex Head Bolt
OM10x40	40	M10 x 40 Hex Head Bolt

The minimum thread length for the M10 fixing bolt is 22mm plus the thickness of the supporting steelwork. Refer to the table above for details of the fixing bolts.

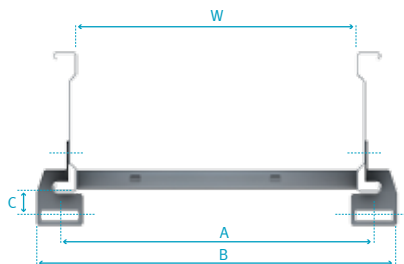
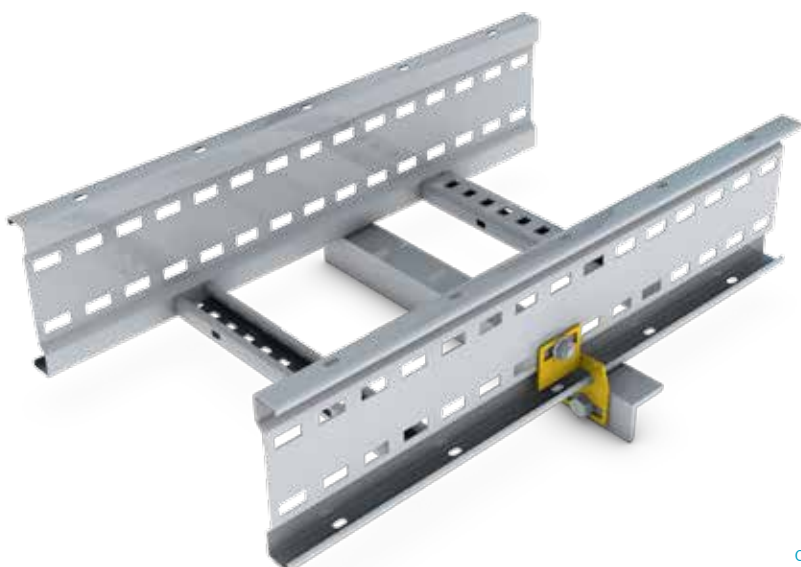
Angle Securing Bracket

Ref.ASB

The Speedway Angle Securing Bracket (ASB) is designed to connect Speedway SW4, SW5, & SW6 Cable Ladder to supporting structural angles. The 40mm x 11.5mm slots in both faces of the Angle Securing Bracket make installation quick & easy (M10 fixing recommended). The Angle Securing Bracket is supplied with one ladder fixing bracket as standard.



Supplied with one ladder fixing.



Speedway angle securing bracket fitted onto Speedway cable ladder

Ladder Type	Dimensions (mm)		
	A	B	C
Speedway SW4	W+36	W+86	24
Speedway SW5			
Speedway SW6			

Part Number
SW/ASB/○

W = Ladder Width

Finishes & Materials:
GA SS GX GK
○ = Select a Finish & Material



Part Number	Thread Length	Description
OM10x25	25	M10 x 25 Hex Head Bolt
OM10x30	30	M10 x 30 Hex Head Bolt
OM10x35	35	M10 x 25 Hex Head Bolt
OM10x40	40	M10 x 30 Hex Head Bolt

The minimum thread length for the M10 fixing bolt is 22mm plus the thickness of the supporting steelwork. Refer to the table above for details of the fixing bolts.

Insulating Assemblies

A comprehensive range of nylon insulating assemblies are available to suit those installations where there is a requirement to provide electrical separation between the Speedway Cable Ladder System and the support structure.

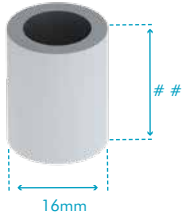
A typical example is a stainless steel Speedway Cable Ladder System mounted on galvanised or painted steel supports.

The insulating assembly is based on nylon base pads, nylon bushes and nylon washers which, when used with the Speedway External Flange Clamp, the Speedway Adaptable Fixing Bracket, or the speedway hold down bracket totally encapsulate the fixings and provide an insulation barrier between the Speedway Cable Ladder System and the supporting structure.

M10 Nylon Bush

The length of the nylon bush is equal to the thickness of the supporting steelwork (##). The nylon bush requires a 17mm diameter hole in the supporting steelwork.

315AN01-##: Nylon Bush Length ## = Steel Thickness (mm)



M10 Fixing Bolt

The minimum thread length for the fixing bolt (□) is 22mm plus the thickness of the supporting steelwork(##). Refer to the table below for details of the fixing bolts.

Part Number	Thread Length (□)	Description
SSM10X25HS	25mm	M10 x 25 Hex Head Set Screw Stainless Steel
SSM10X30HS	30mm	M10 x 30 Hex Head Set Screw Stainless Steel
SSM10X35HS	35mm	M10 x 35 Hex Head Set Screw Stainless Steel
SSM10X40HS	40mm	M10 x 40 Hex Head Set Screw Stainless Steel

□ - Thread length code. See table above.

For Example:

If the thickness of the Steelwork = 12mm
The length of the Nylon Bush is also 12mm = 315AN01-12
This means that the Minimum Thread Length of the Fixing Bolt = 22 + 12 = 34mm
Rounding this figure up to the nearest standard bolt length of 35mm, the supplied bolt = SSM10x35HS
If an AFB is to be used, order: SW/AFB/SS-INS/12

ACCESSORIES

Insulating Assembly Components for External Flange Clamp (EFC)

Part Number	Item	Description
SSM10X□HS	1	M10 Hex Head Set Screw Stainless Steel - Length = □
SSM10FW	2	M10 Flat Washer Stainless Steel
SW/EFC/SS	3A	Speedway External Flange Clamp Stainless Steel
315AN18	4A	Nylon Pad (66.5 x 50 x 4mm)
315AN01-##	5	Nylon Bush - Length = ##
NYM10FW	6	M10 Flat Washer Nylon
SSM10HN	7	M10 Hex Nut Stainless Steel

Order details are as follows:
SW/EFC/SS-INS/##

Insulating Assembly Components for Adaptable Fixing Bracket (AFB)

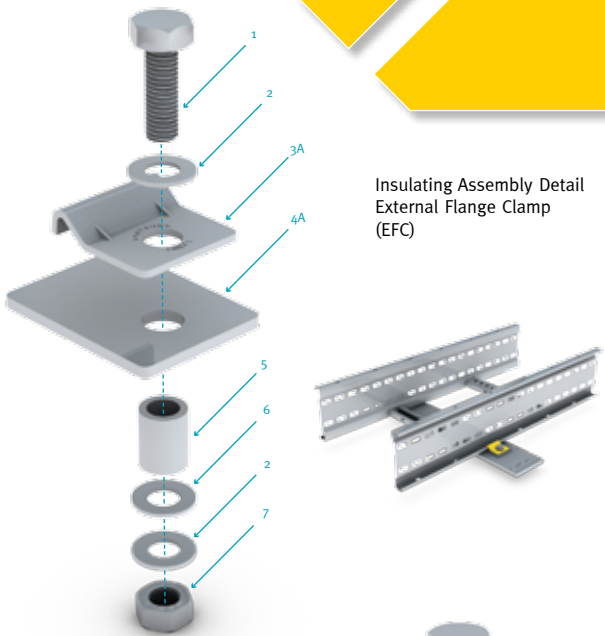
Part Number	Item	Description
SSM10X□HS	1	M10 Hex Head Set Screw Stainless Steel - Length = □
SSM10FW	2	M10 Flat Washer Stainless Steel
SW/AFB/SS	3C	Speedway Adaptable Fixing Bracket (AFB)
315AN12	4C	Nylon Pad (66.5 x 50 x 4mm)
315AN01-##	5	Nylon Bush - Length = ##
NYM10FW	6	M10 Flat Washer Nylon
SSM10HN	7	M10 Hex Nut Stainless Steel

Order details are as follows:
SW/AFB/SS-INS/##

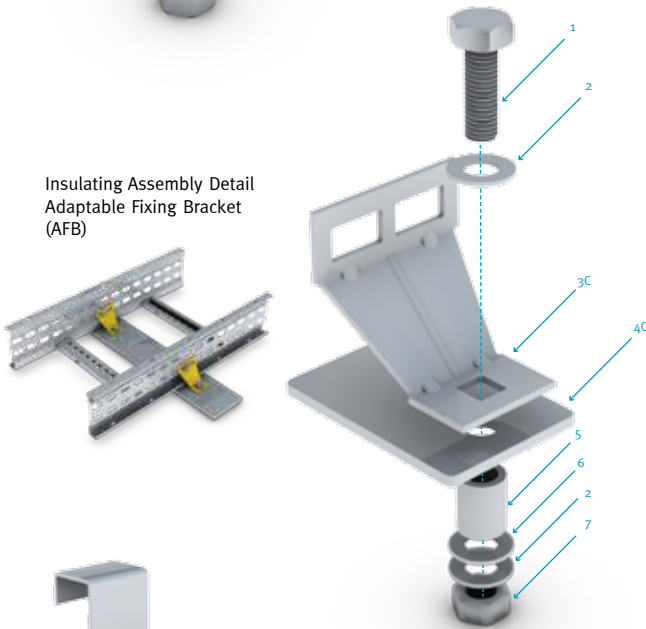
Insulating Assembly Components for Hold Down Bracket (HDB)

Part Number	Item	Description
SSM10X□HS	1	M10 Hex Head Set Screw Stainless Steel - Length = □
SSM10FW	2	M10 Flat Washer Stainless Steel
SW/HDB/SS	3B	Speedway Hold Down Bracket Stainless Steel
315AN15	4B	Nylon Pad (75 x 50 x 4mm)
315AN01-##	5	Nylon Bush - Length = ##
NYM10FW	6	M10 Flat Washer Nylon
SSM10HN	7	M10 Hex Nut Stainless Steel

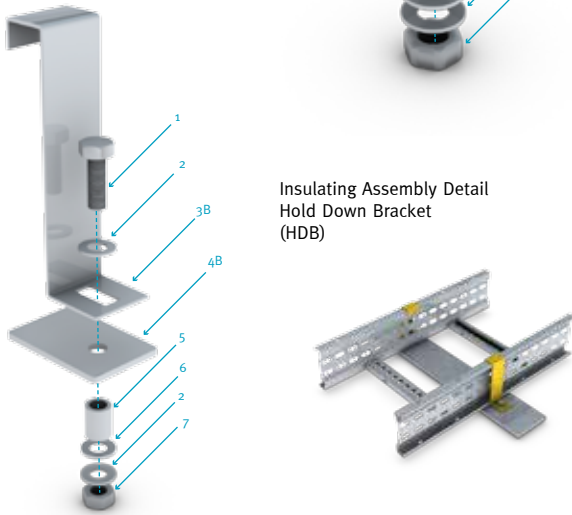
Order details are as follows:
SW/HDB/SS-INS/##



Insulating Assembly Detail
External Flange Clamp
(EFC)



Insulating Assembly Detail
Adaptable Fixing Bracket
(AFB)



Insulating Assembly Detail
Hold Down Bracket
(HDB)



Structural Connector Bracket

Ref.ASB

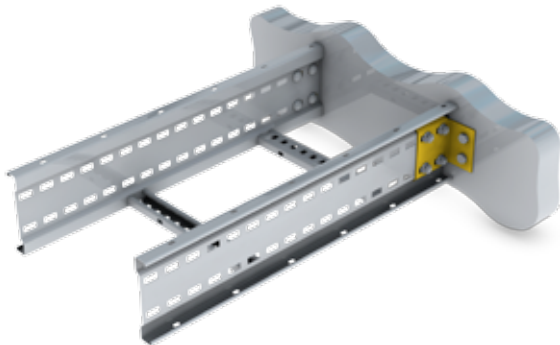
As an alternative to using a vertical adjustable coupler, the Speedway Structural Connector Bracket (SCB) is specifically designed for connecting Speedway Cable Ladder runs to walls and floors.

The Structural Connector Bracket has two 11mm diameter (M10 clearance) fixing holes and is supplied complete with all necessary ladder fixing sets.

Supplied with ladder fixing sets only



Speedway structural connecting bracket securing horizontal cable ladder to vertical channel support



Speedway structural connector bracket securing a horizontal cable ladder to a wall

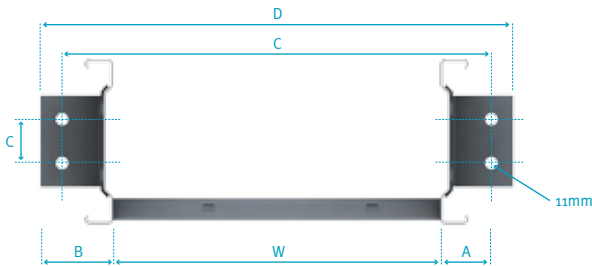
Ladder Type	Dimensions (mm)				
	A	B	C	D	E
Speedway SW4	47	67	W+94	W+134	30
Speedway SW5					
Speedway SW6					

W = Ladder Width

Part Number
SW△/SCB/○



△ = Select a Ladder Type
○ = Select a Finish & Material



Drop Out Bracket

Ref.DOB

The Speedway Drop Out Bracket (DOB) facilitates connection of vertical ladder to horizontal ladder, allowing on-site use to form vertical tee connections. Additional slots in the Drop Out Bracket allow secondary tray and other items to be attached to the cable ladder.

Supplied with ladder fixings sets



Speedway drop out bracket securing a vertical cable tray to a horizontal cable run

Part Number
SW△/DOB/○

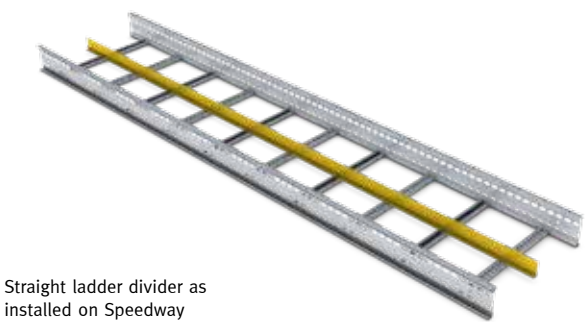


△ = Select a Ladder Type
○ = Select a Finish & Material



Speedway drop out bracket securing a vertical cable ladder to a horizontal cable run

Straight Ladder Divider **Ref.DIV/SL1.5**



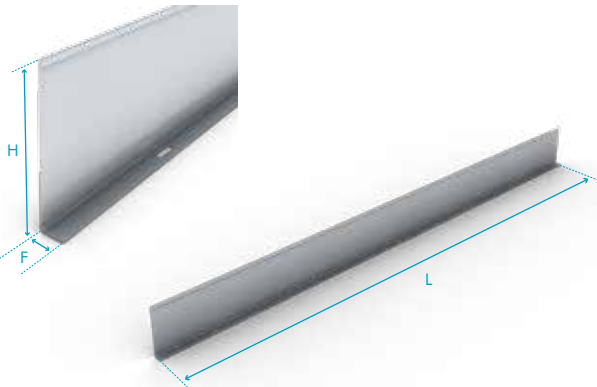
Straight ladder divider as installed on Speedway Straight Cable Ladder

Speedway Straight Ladder Dividers (DIV/SL1.5) are available for cable segregation and separation purposes along the length of a cable run.

Straight Ladder Dividers are available in three heights to suit Speedway SW4, SW5, & SW6 cable ladder and are 1500mm in length Speedway Straight Dividers are supplied with 3 fixing sets per divider:

GA – M6x16 mushroom head bolt c/w short spring channel nut

SS – M6x16 pan head bolt c/w short spring channel nut and flat washer.



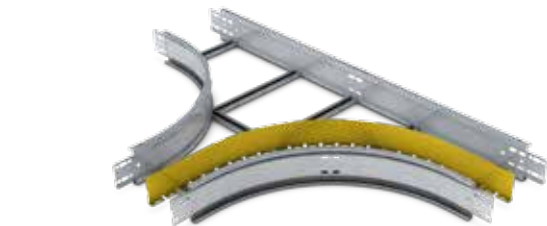
Part Number	Ladder Type	Dimensions (mm)		
		L	H	F
SW4/DIV/SL1.5/O	Speedway SW4	1500	70	20
SW5/DIV/SL1.5/O	Speedway SW5		85	
SW6/DIV/SL1.5/O	Speedway SW6		110	

Hot Dip Galvanized Dividers are manufactured out of 1.2mm Gauge Material



○= Select a Finish & Material

Fitting Divider **Ref.DIV/FL1.5**



Straight ladder divider as installed on Speedway Straight Cable Ladder

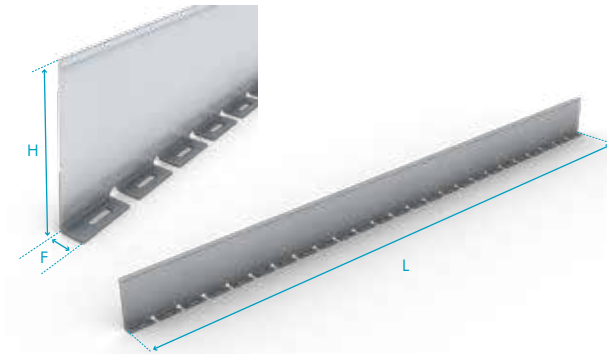
Speedway Fitting Dividers (DIV/FL1.5) are available for cable segregation and separation purposes on fittings. The Speedway Fitting Divider is supplied as a straight length and is notched to allow for forming around flat elbows, tees, crosses & reducers.

Speedway Fitting Dividers are available in three heights to suit Speedway SW4, SW5, & SW6 cable ladder and are 1500mm in length.

Fitting Dividers are supplied with 3 fixing sets per divider:

GA – M6x16 mushroom head bolt c/w short spring channel nut

SS – M6x16 pan head bolt c/w short spring channel nut and flat washer.



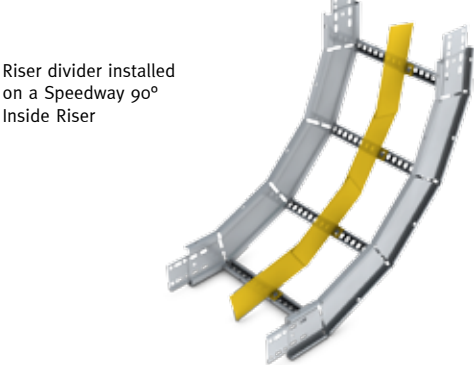
Part Number	Ladder Type	Dimensions (mm)		
		L	H	F
SW4/DIV/FL1.5/O	Speedway SW4	1500	70	20
SW5/DIV/FL1.5/O	Speedway SW5		85	
SW6/DIV/FL1.5/O	Speedway SW6		110	

Hot Dip Galvanized Dividers are manufactured out of 1.2mm Gauge Material



○= Select a Finish & Material

Riser Divider **Ref.DIV/RL0.3**



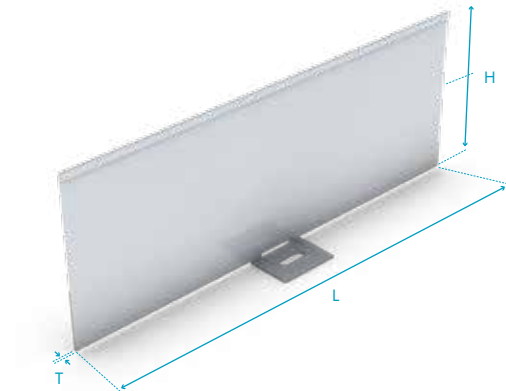
Riser divider installed on a Speedway 90° Inside Riser

Speedway Riser Dividers (DIV/RL0.3) are available for cable segregation and separation purposes on riser fittings. The Speedway Riser Divider is suitable for use on inside and outside risers as well as the articulated riser. Speedway Riser Dividers are available in three heights to suit Speedway SW4, SW5, & SW6 Risers and are 300mm in length.

Speedway Riser Dividers are supplied with 1 fixing set per divider:

GA – M6x16 mushroom head bolt c/w short spring channel nut

SS – M6x16 pan head bolt c/w short spring channel nut and flat washer.



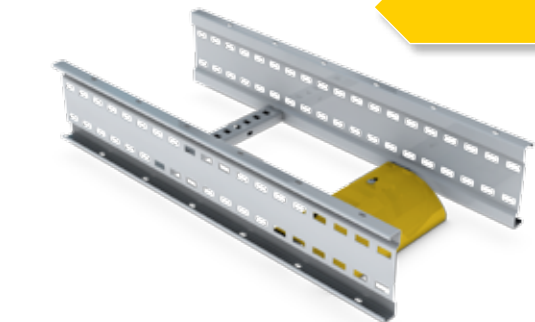
Part Number	Ladder Type	Dimensions (mm)		
		L	H	F
SW4/DIVRL0.3/O	Speedway SW4	300	70	1
SW5/DIV/RL0.3/O	Speedway SW5		85	
SW6/DIV/RL0.3/O	Speedway SW6		110	

Hot Dip Galvanized Dividers are manufactured out of 1.2mm Gauge Material



○= Select a Finish & Material

Cable Drop Out **Ref.CDO**



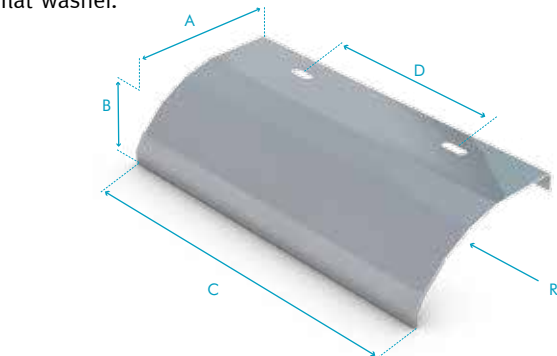
Speedway Cable Drop-Outs (CDO) are designed to provide a smooth transition for cable, particularly those with a small diameter, where these enter and leave the cable ladder.

Cable Drop-Outs are available to suit Speedway Cable Ladder of widths from 150mm to 1050mm as standard and are common to all Speedway Ladder types. Other widths are available – contact our Sales Team for details.

Cable Drop-Outs are supplied with 2 fixing sets*

GA – M6x16 mushroom head bolt c/w short spring channel nut

SS – M6x16 pan head bolt c/w short spring channel nut and flat washer.



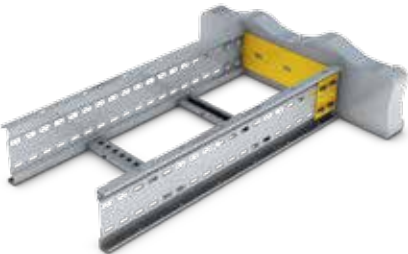
Part Number	Dimensions (mm)				
	A	B	C	D	R
SW/CDO/150/O*	120	60	130	N/A	95
SW/CDO/300/O			280	150	
SW/CDO/450/O			430	300	
SW/CDO/600/O			580	450	
SW/CDO/750/O			730	600	
SW/CDO/900/O			880	750	
SW/CDO/1050/O			1030	900	

*SW/CDO/150 has a single central fixing slot



○= Select a Finish & Material

End Plate **Ref.EP**



End plate shown securing cable ladder to wall (or floor for vertical installation)

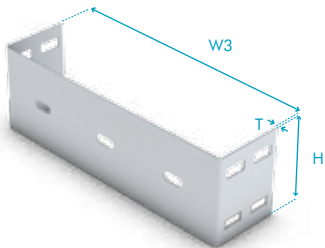
Speedway End Plates (EP) provide a neat termination for open ends of cable ladders.

Speedway End Plates are available in widths from 150mm to 1050mm as standard. Other widths are available – contact our Sales Team for details.

Each Speedway End Plate has 25mm x 11.5mm fixing slots at 100mm centres which allow the end plate to be used for securing the cable ladder to a wall or floor.



End plate shown closing end of cable ladder run



Part Number	Dimensions (mm)		H		T	No. of fixing slots
	Ladder Width	W3	SW4 & SW5	SW6		
SW△/EP/150/○	150	172	80	105	2	2
SW△/EP/300/○	300	322				3
SW△/EP/450/○	450	472				5
SW△/EP/600/○	600	622				6
SW△/EP/750/○	750	772				8
SW△/EP/900/○	900	922				9
SW△/EP/1050/○	1050	1072				11

△= Select a Ladder Type ○= Select a Finish & Material



Earth Bonding Strap **Ref.EBS/01**

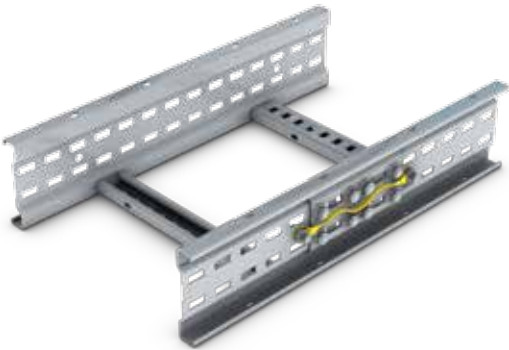


The Speedway Earth Bonding Strap (EBS01) is designed for use in installations where an additional means of earthing or electrical bonding is specified.

The Speedway Earth Bonding Strap comprises of a 16mm² tinned copper braid crimped into M10 tinned copper end connectors.

The Speedway Earth Bonding Strap is common to Speedway SW4, SW5, & SW6.

Pre-punched holes for fixing the earth bonding strap are located at each end of the ladder and fittings.



Speedway Earth Bonding Strap as installed on a Speedway Cable Ladder

Part Number
EBS/01

ACCESSORIES

Speedway Mounting Plate **Ref. SMP**

The Speedway Mounting Plate (SMP) provides a means of attaching junction boxes and other items to the speedway Cable Ladder System. Mounting plates are available to suit all Speedway Cable Ladder widths up to & including 900mm for attachment across the face of the cable ladder. The 300mm Speedway Mounting Plate (SW/SMP/300/#) can also be attached between rungs on all widths of Speedway Cable Ladder and can be mounted either within the cable space or below the cable ladder.

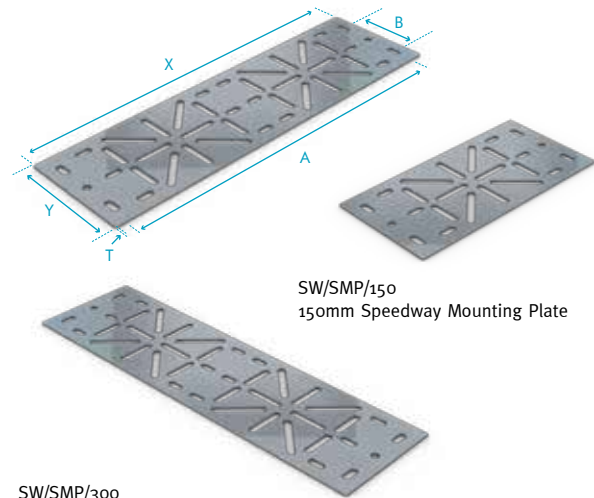
Alternative mounting plate designs can be made to order. Contact our Sales Team for more details.

Recommend Fixings:

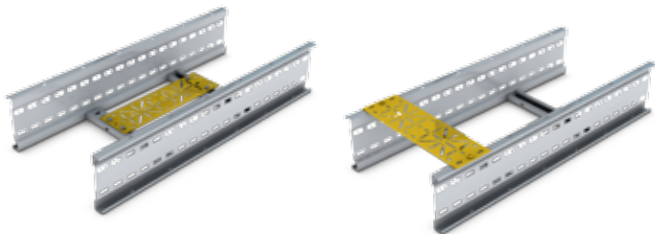
Speedway Rungs: M6 Channel Nut and M6 x 12 Pan Head Screw (& M6 Flat Washer for Stainless Steel)

Across Cable Ladder: M6 x 12 Pan Head Screw and M6 Hex Nut (& M6 Flat Washer for Stainless Steel)

Alternative mounting plate designs can be manufactured to special order - Consult our Design Team for further details.



SW/SMP/300 300mm Speedway Mounting Plate



SW/SMP/300 - 300mm mounting plate shown installed across rungs

SW/SMP/300 - 300mm mounting plate shown installed across the face of 300mm wide cable ladder

Part Number	Dimensions (mm)					
	Ladder Width	X	Y	A	B	T
SW/SMP/150/○	150	200	100	175	60	2
SW/SMP/300/○	300	350		325		
SW/SMP/450/○	450	500		475		
SW/SMP/600/○	600	600		625		
SW/SMP/750/○	750	800		775		
SW/SMP/900/○	900	950		925		



○= Select a Finish & Material

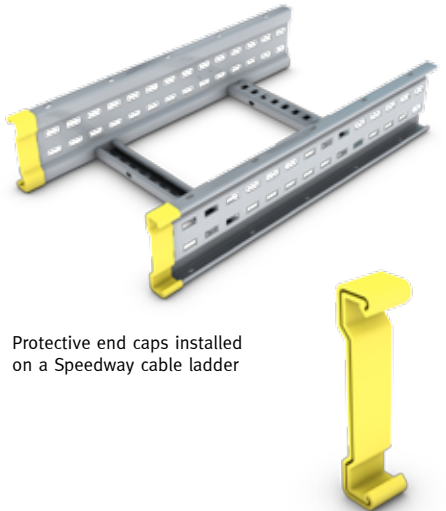
Protective End Caps **Ref.PEC**

Protective End Caps (PEC) are available for Speedway SW5 and SW6 profiles.

Manufactured in flexible yellow PVC material as standard, the protective end cap provides a visible and safe means of identifying & covering the open ends of Speedway Cable Ladder and Fittings.

Low smoke/zero halogen finish – contact our Technical Team for details.

Part Number
PEC



Protective end caps installed on a Speedway cable ladder



Junction Box Plates **Ref. JBP**

Speedway Junction Box Plates (JBP) provide a versatile means of attaching junction boxes, switches and other equipment directly onto Speedway Cable Ladder and Fittings.

Junction Box Plates are available in five standard sizes to suit all secondary equipment mounting requirements.

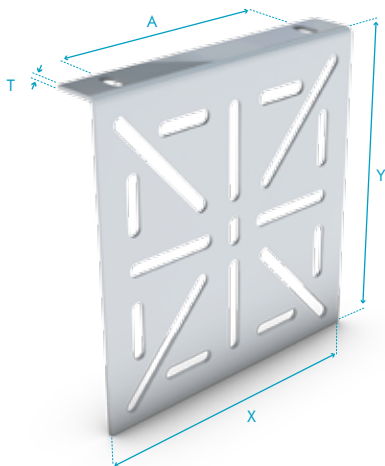
Junction Box Plates are not supplied with ladder fixings.

Recommended Fixings:

For attachment to Speedway cable ladder - M6 x 12 Pan head screw and M6 nut (&M6 Flat Washer for stainless steel). Consult our sales Team for further details.

Part Number	Dimensions (mm)				No. of Fixings
	X	Y	A	T	
SW/JBP01/O	160	165	120	2	2
SW/JBP02/O	210	215	120	2	2
SW/JBP03/O	310	315	120	3	3
SW/JBP04/O	65	90	47	2	1
SW/JBP05/O	150	110	120	2	2

O= Select a Finish & Material



JBP01
Junction Box Plate



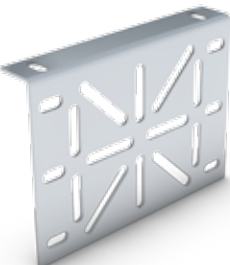
JBP02
Junction Box Plate



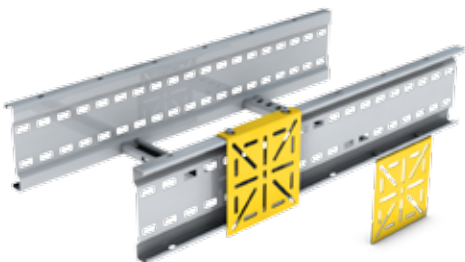
JBP03
Junction Box Plate



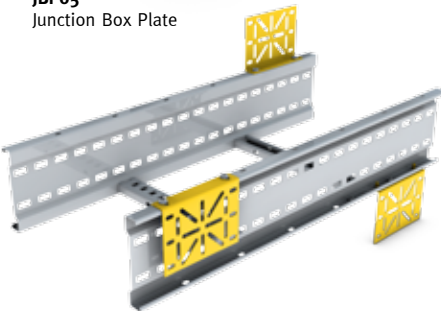
JBP04
Junction Box Plate



JBP05
Junction Box Plate



Junction Box Plate JBP01 shown mounted in two possible orientations on Speedway cable ladder



Junction Box Plate JBP05 shown mounted in three possible orientations on Speedway cable ladder

ACCESSORIES

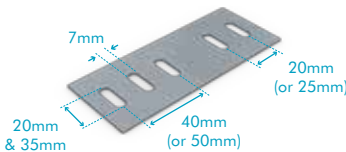
Tube Clamp Plates **Ref. TCP**

Speedway Tube Clamp Plates (TCP) are specifically designed for use with tubing clamp systems which require 7mm wide fixing slots at 20mm or 40mm slot centres.

The tube clamp plates will allow easy and convenient routing of both instrumentation tubing and cables on the same Speedway Cable Ladder run.

Speedway Tube Clamp Plates are also available with fixing slots at 25mm or 50mm slot centres (to order these items replace the 'o' in the part number with '5'). The slots in the tube clamp plates are either 20mm x 7mm (TCP01, TCP02, & TCP03) or 35mm x 7mm (TCP04, & TCP05).

Part Number	Slots (mm)
SW/TCP01/O	20 x 7
SW/TCP02/O	20 x 7
SW/TCP03/O	20 x 7
SW/TCP04/O	35 x 7
SW/TCP07/O	35 x 7

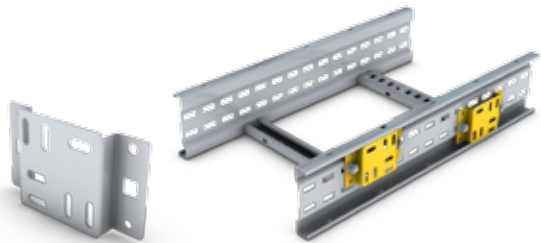


O= Select a Finish & Material

Tube Clamp Plate 01

Ref.SW/TCP01

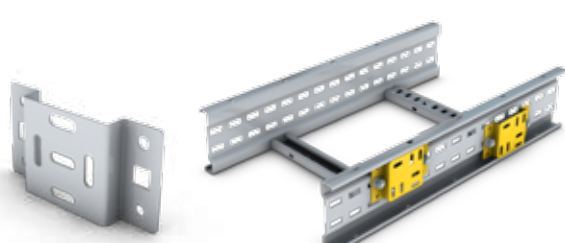
Speedway Tube Clamp Plate TCP01 is used for direct fixing or for use with Speedway SW4, SW5 & SW6.



Tube Clamp Plate 02

Ref.SW/TCP02

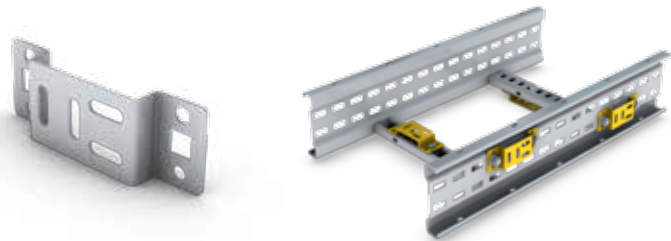
Speedway Tube Clamp Plate TCP02 is used for direct fixing or for use with Speedway SW4, SW5 & SW6.



Tube Clamp Plate 03

Ref.SW/TCP03

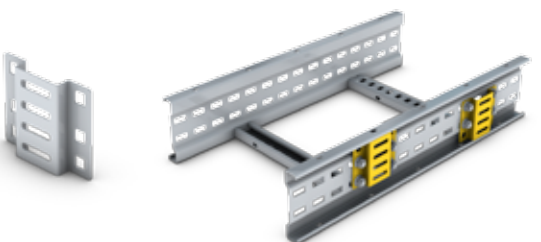
Speedway Tube Clamp Plate TCP03 is suitable for direct fixing and for use with the Speedway Cable Ladder System. The TCP03 is also suitable for the attachment to the Speedway Channel rung and will allow routing of instrumentation tubing with the cable space or along the underside of the Speedway Cable Ladder.



Tube Clamp Plate 04

Ref.SW/TCP04

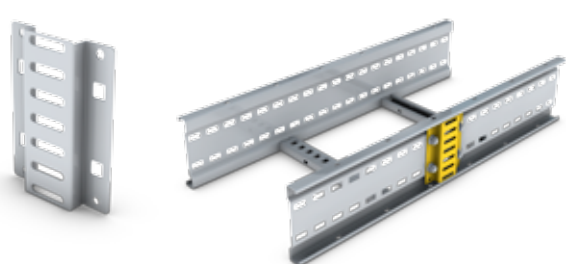
Speedway Tube Clamp Plate TCP04 is used for direct fixing or for use with Speedway SW4, SW5 & SW6.



Tube Clamp Plate 05

Ref.SW/TCP05

Speedway Tube Clamp Plate TCP05 is used for direct fixing or for use with Speedway SW6 only.

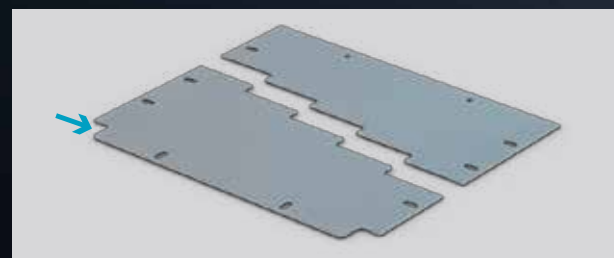


COVERS

Speedway Covers provide mechanical and environmental protection for cables on the cable ladder. Speedway Covers can be supplied in either closed or louvered configurations.

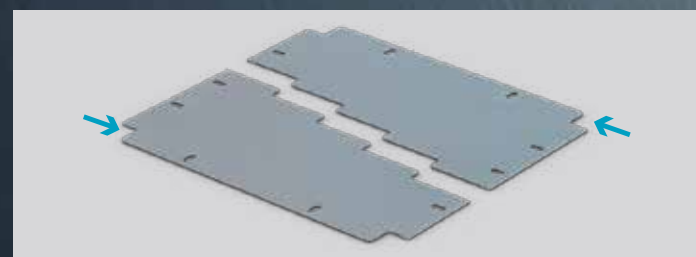
Speedway straight ladder covers are supplied in 1.5m lengths for ease of handling during installation and are 'handed' (i.e. the cover has a different slot and fixing arrangement at each end) but can be installed in either direction as the design of cable ladder fittings covers allow for connection to either end of the straight ladder covers.

Speedway straight ladder covers have an integral joint strip at one end to facilitate connection to abutting straight cable ladder or cable ladder fitting covers. Pre-formed M6 threads are provided at the opposite end of the cover to allow for ease of installation using M6 threaded bolts. The integral joint strip is fully slotted to allow for adjustment during installation.



Integral Joint Strip Detail - Straight Ladder
Covers for straight ladder have an integral joint strip on one end

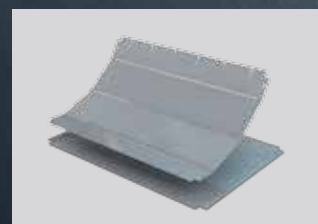
Speedway Cable Ladder fittings covers are dimensioned to be an exact fit to the Speedway Cable Ladder fitting and are fitted with integral joint strips on all ends of the cover. Covers for risers will be supplied with easi-bend slots to allow the cover to be formed on site for attachment to the riser fitting.



Integral Joint Strip Detail - Fittings Covers for
fittings have an integral joint strip on each end



600mm Wide 300mm Radius
Flat Elbow Closed Cover



Riser Closed Cover
Supplied flat for forming on site

Covers are supplied as standard in the gauges given in the following table. Other gauges up to and including 2mm are available to order.

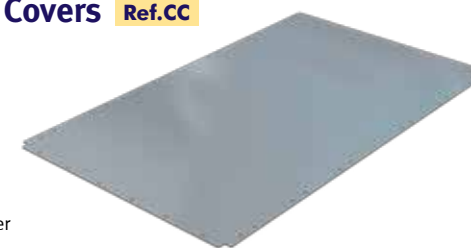
Finish & Material	Gauge
Stainless Steel	1.0mm
Hot Dipped Galvanised Mild Steel	1.2mm
Hot Dip Galvanised Silicon Rich Structural Steel	1.5mm
Deep Galvanised Silicon Rich Steel	1.5mm

ACCREDITED TO THE
FOLLOWING STANDARD



COVERS

Closed Covers **Ref.CC**



Straight Ladder
Closed Cover

Closed covers fit directly onto the side walls of the Speedway Ladder & fittings to provide mechanical protection and shielding for cables and other equipment within the cable space.

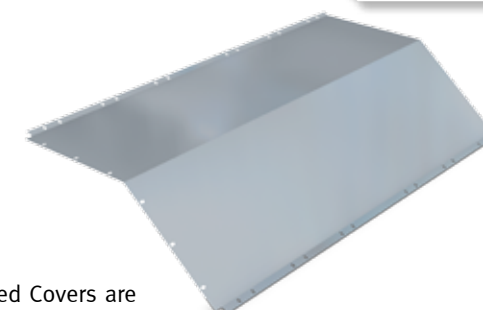
Closed covers of widths of 450mm and above are supplied with Bracing Kits (CBK) (see Bracing Kit Section). Closed Covers are punched with centreline slots to provide for water drainage.

Finishes & Materials:



Peaked Cover **Ref.CP**

Ref.CP



Peaked Covers are closed covers which are formed into a peak with an overall height of 50mm to shed sand, snow, water etc.

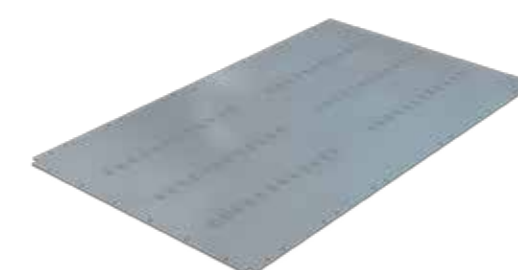
Finishes & Materials:



Louvered Covers **Ref.CL**

Louvered Covers are similar to closed covers but with the addition of louvres for improved air flow through the cable space. Louvered covers are particularly useful where heavy duty power cables are being used. Most traditional cable management systems offer a raised cover for ventilation.

Conventional raised covers have a number of considerations to be taken into account before installing them. First of which is that the cover will be susceptible to being lifted off in excessive winds, also the extra brackets and fixings will add to the installation time of each cover. Raised covers loading performance is far less than the loading performance of a close fitting louvered cover and due to the cover only being supported locally at the fixing point the raised cover is susceptible to sagging which will allow water and debris to build up. Louvered Covers of widths of 450mm and above are supplied with Bracing Kits (CBK) (see Bracing Kit Section).



Straight Ladder Louvre Cover

Finishes & Materials:



Fitting to Fitting Cover **Ref.CC/FFC or CL/FFC**

When joining two abutting cable ladder fittings with a Fitting to Fitting Coupler (FFC) a 200mm gap is created in the cover span. To ensure complete mechanical and environmental protection of the cables, a Fitting to Fitting Cover is required. Fitting to Fitting Covers will be fixed directly to the adjoining covers and will ensure complete protection of cables within the span.

Finishes & Materials:



Cover Fixing Kits **Ref.VCF**

Speedway covers are supplied complete with the required number of cover fixing kits (VCF3). The cover fixing kits are common to closed, louvered and peaked covers. The covers are secured to the ladder using pre-punched slots which are incorporated into the flanges of all Speedway ladder and fittings.

VCF3/G Cover Fixing Kit



- GAM6x12BN - M6x12mm Roofing Bolt & Nut
- GAM6SW - M6 Internal Shake Proof Washer
- SSM6x12PH - M6x12mm Pan Head Screw

VCF3/S Cover Fixing Kit



- SSM6x12PH - M6x12mm Pan Head Screw
- SSM6FW - M6 Flat Washer
- SSM6SW - M6 Internal Shake Proof Washer
- SSM6HN - M6 Hex Nut

VCF8/S Cover Fixing Kit



- SSM6x12PH - M6x12mm Pan Head Screw
- SSM6SW - M6 Flat Washer
- SSM6FW - M6 Internal Shake Proof Washer

It is recommended that additional cover kits are ordered to suit contingency requirements during installation (5% is suggested).

The number of fixing kits supplied with each type of cover is given in the following table:

Ladder & Fitting Type	Number
Straight Ladder	8
30° Flat Elbows	4
45° Flat Elbows	5
60° Flat Elbows	5
90° Flat Elbows	5
Inside & Outside Risers	1 per facet* with a minimum of 4
Equal & Unequal Tees	7
Crosses	8
Reducers	4

* N° of facets = N° of rungs plus 1. See Risers for details.



VCF3/SS Cover fixing kit shown securing cover to Speedway cable ladder

COVERS

Bracing Kits

Bracing kits are provided for additional strengthening of closed and louvered covers for all widths of 450mm and above. Bracing kits are not required for covers of widths less than 300mm.

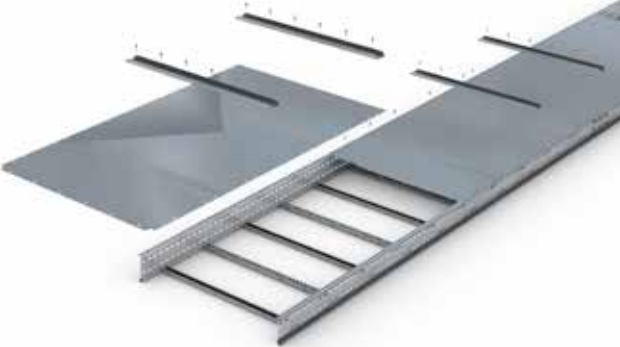
All closed and louvered covers of widths 450mm and above have pre-formed M6 threaded fixing holes as standard to accept the fixings for the bracing kits.

It is recommended that additional bracing fixing kits are ordered to suit contingency requirements during installation (10% is suggested).



When supplied as part of a cover assembly, the Speedway cover bracing kit will utilise the fixings supplied with the cover to cover connections.

Speedway Cover Bracing Kit
Comprising of a channel section and all necessary fixings



Installation details for Speedway cover bracing kits showing assembly positions at the cover joint and at the cover mid point

The following table gives the number of bracing kits supplied for each type of ladder & fitting cover:

Ladder & Fitting Type	Number of Bracing Kits		
	Widths ≥ 450mm	Radius ≤ 600mm	Radius > 600mm
Straight ladder	2 per 1.5m cover		
30° Flat Elbows	Widths ≥ 450mm	Radius ≤ 600mm	2 per cover
	Widths ≥ 450mm	Radius > 600mm	2 per cover
45° Flat Elbows	Widths ≥ 450mm	Radius ≤ 600mm	2 per cover
	Widths ≥ 450mm	Radius > 600mm	2 per cover
60° Flat Elbows	Widths ≥ 450mm	Radius ≤ 600mm	2 per cover
	Widths ≥ 450mm	Radius > 600mm	4 per cover
90° Flat Elbows	Widths ≥ 450mm	Radius ≤ 600mm	2 per cover
	Widths ≥ 450mm	Radius > 600mm	4 per cover
Inside Risers	Not Required		
Outside Risers	Not Required		
Equal & Unequal Tees	All Widths ≥ 450mm	Radius ≤ 600mm	2 for Main Branch 1 for Side Branch
		Radius > 600mm	4 for Main Branch 2 for Side Branch
Crosses	All Widths ≥ 450mm	Radius ≤ 600mm	4 per cover
Reducers		Radius > 600mm	8 per cover
	Not Required		

It is recommended that additional bracing kits are ordered to suit contingency requirements during installation (5% is suggested).



SPEEDWAY TECHNICAL DATA

This compilation of technical information is intended to supply essential details relating to the Speedway Cable Ladder System. This will ensure that the specified cable ladder installation has suitable strength & rigidity to provide reliable support at minimum installed cost.

Our Design Team is available to answer any questions relating to particular site requirements which may not be answered in the following sections.

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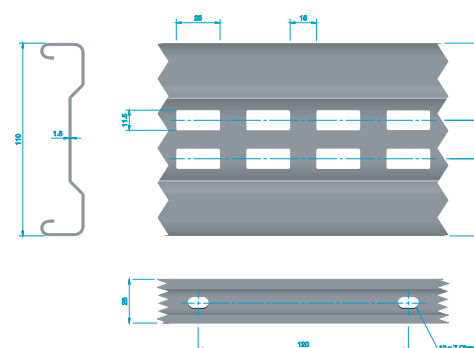
TECHNICAL DATA

1. GENERAL INFORMATION

1.1 Slot Patterns

Details of the slot patterns for the Speedway cable ladder system are given in the following diagrams. These slot patterns are common for each Speedway cable ladder type, irrespective of material gauge.

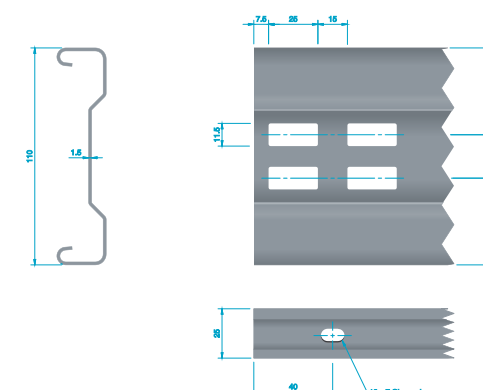
Speedway SW4 Straight Ladder



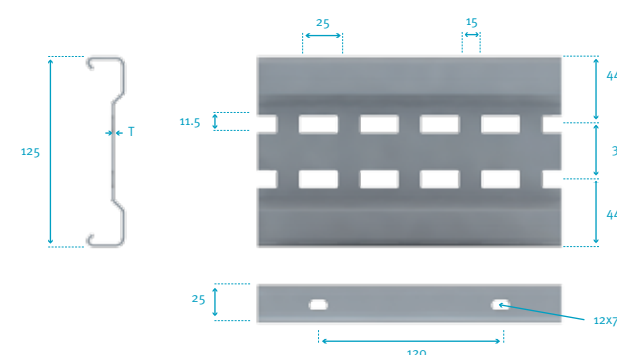
T = Side Wall Gauge (See section 1.2 for details).

Speedway SW4 Fittings

The slot pattern for the Speedway SW4 fittings is repeated at each end of the fitting side wall and centrally on radial side walls (elbows, tees & crosses).



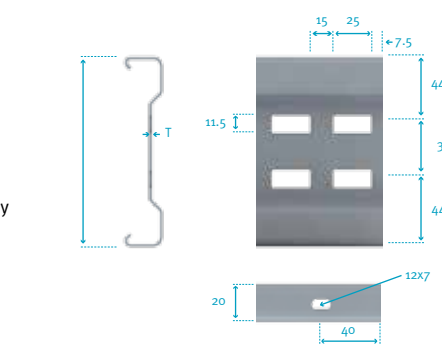
Speedway SW5 Straight Ladder



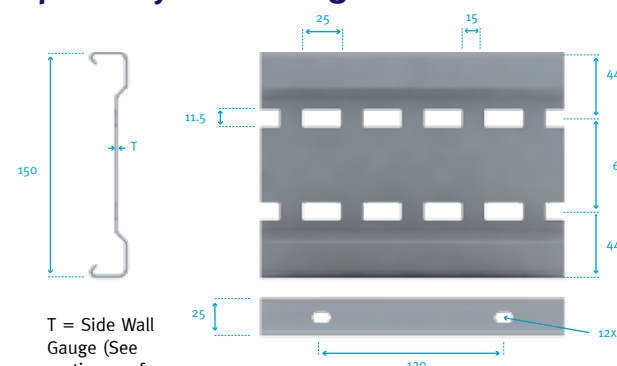
T = Side Wall Gauge (See section 1.2 for details).

Speedway SW5 Fittings

The slot pattern for the Speedway SW5 fittings is repeated at each end of the fitting side wall and centrally on radial side walls (elbows, tees & crosses).



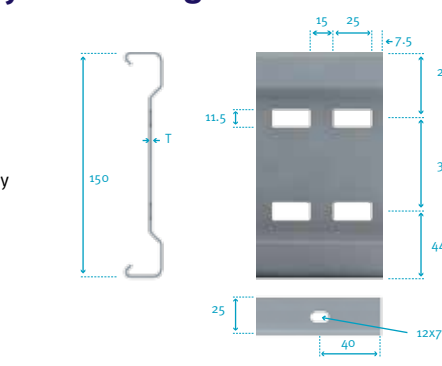
Speedway SW6 Straight Ladder



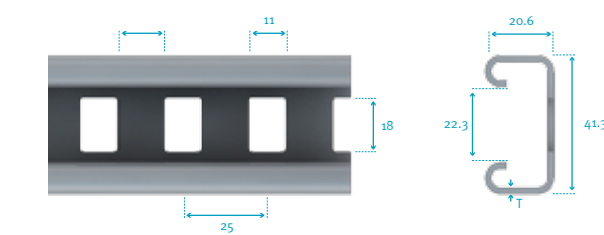
T = Side Wall Gauge (See section 1.2 for details).

Speedway SW6 Fittings

The slot pattern for the Speedway SW6 fittings is repeated at each end of the fitting side wall and centrally on radial side walls (elbows, tees & crosses).



Speedway Rung



T = Rung Gauge (1.5mm, 2.0mm or 2.5mm)

> 1.2 Standard Material Gauges

The gauges for the standard Speedway cable ladder & fittings have been determined by providing the most cost effective and efficient combination of material gauges for the side walls and rungs to suit the designed application of each type of Speedway cable ladder system.

The following table shows the standard material gauges for the Speedway cable ladder system in mild steel/hot dip galvanized finish (GA). These gauges are supplied as standard unless otherwise specified.

Standard Material Gauges

Ladder Type	Material & Finish	Side Wall Gauge	Rung Gauge						
			150 mm	300 mm	450 mm	600 mm	750 mm	900 mm	1050 mm
Speedway SW4	GA	1.5mm	1.5mm						
Speedway SW5		2mm	1.5mm						
Speedway SW6		2mm	2mm						

The Speedway cable ladder system is also available in a combination of side wall and rung gauge combinations from 1.5mm to 2.5mm to suit specific installation requirements.

Consult our Design Team for guidance on the correct selection of material gauge combinations.

Weights, where provided are for the Hot Dipped Galvanized Mild Steel item. The following correction factor should be used to determine the approximate weight

for the corresponding item in an alternative Finish and Material. For exact weights please contact our Technical Team.

Material Correction Factor		
Hot Dipped Galvanized Silicon Rich Steel		Stainless Steel
1.06		1.05

> 1.3 Free Base Area

Speedway straight cable ladder has the following free base area (FBA):

Ladder Type	Free Base Area	Classification to BS EN ISO 61537
Speedway SW4	86.5%	Y
Speedway SW5		
Speedway SW6		

> 1.4 Cross Sectional Area

Speedway cable ladder has the following cross-sectional area (CSA):

Speedway SW4 Ladder	CSA mm2	Speedway SW5 Ladder	CSA mm2	Speedway SW6 Ladder	CSA mm2
SW4/SL3/150/#	13780	SW5/SL/150/#	15975	SW6/SL/150/#	20075
SW4/SL3/300/#	26740	SW5/SL/300/#	30975	SW6/SL/300/#	38825
SW4/SL3/450/#	39700	SW5/SL/450/#	45975	SW6/SL/450/#	57575
SW4/SL3/600/#	52660	SW5/SL/600/#	60975	SW6/SL/600/#	76325
SW4/SL3/750/#	65620	SW5/SL/750/#	75975	SW6/SL/750/#	95075
SW4/SL3/900/#	78580	SW5/SL/900/#	75975	SW6/SL/900/#	113825
		SW5/SL/1050/#	105975	SW6/SL/1050/#	132575

Add Finish & Material.

TECHNICAL DATA

> 1.5 Specification

The following is a typical specification for a cable ladder system which embodies the key features of the Speedway cable ladder system.

- The cable ladder system shall be based on two longitudinal outward facing side members with returned edge flanges to improve safety during handling, installation and cablepulling activities. The longitudinal side members shall form the main structural elements of the cable ladder system and shall be longitudinally ribbed for enhanced stiffness and rigidity.
- The profile of the side members shall remain constant for the straight cable ladder and the cable ladder fittings.
- The profile of the side members shall present a smooth surface to allow for easier cable pulling and to minimise the opportunities for damage to the cable insulation.
- The longitudinal side members shall have a height of:
 - 104mm and a flange width of 20mm (for Speedway SW4)
 - 125mm and a flange width of 25mm (for Speedway SW5)
 - 150mm and a flange width of 25mm (for Speedway SW6).
- The longitudinal side member shall have a wall thickness of:
 - 1.5mm* (for Speedway SW4).
 - 2.0mm* (for Speedway SW5 1.5 & 2.0 Speedway SW6).* or required side wall thickness – see 1.2 for details.
- The side members of the straight cable ladder shall be fully slotted to minimise weight. The slot pattern in the side members shall allow for cutting of the straight cable ladder at any point along the length without the need to drill the side member when connecting to adjacent straight cable ladder and cable ladder fittings using the standard means of coupling.
- The two longitudinal side members shall be connected by individual transverse members (rungs) which shall be welded at low level to the inside face of the side members to give a loading depth of:
 - 78mm for Speedway SW4
 - 100mm for Speedway SW5 &
 - 125mm for Speedway SW6.
- The transverse members shall be evenly spaced at 300mm centres along the length of the straight cable ladder. The transverse members for horizontal bends (flat elbows) shall be located at either 0° or 7.5° and

multiplies there of around the fitting subject to a maximum spacing of 465mm between adjacent transverse members when measured as a linear distance along the outside face of the horizontal intersection fittings (tees and crosses) shall be evenly spaced at intervals not exceeding 465mm. The transverse members for vertical bends (inside and outside risers) shall be evenly spaced at intervals not exceeding 300mm centres.

- The transverse members shall be of channel profile with a width of 41mm and a height of 21mm. The transverse members shall have a continuous open slot to suit the mounting of cable restraint devices (cleats, etc.) and other equipment using standard channel nuts and fixings. The base of the transverse members shall have slots of size 18mm x 11mm at 25mm centres to suit the use of cable ties and banding.

- The transverse members shall have a wall thickness of:

Hot Dip Galvanised Finish;

1.5mm* for widths up to and including 600mm, and a wall thickness of 2.0mm* for widths above 600mm (for Speedway SW4)
1.5mm* for widths up to and including 600mm, and a wall thickness of 2.0mm* for widths above 600mm (for Speedway SW5)
2.0mm* (for Speedway SW6)

Stainless Steel;

1.5mm* (for Speedway SW4)
2.0mm* (for Speedway SW5)
2.0mm* (for Speedway SW6)

Deep Galvanised Finish;

1.5mm* (for Speedway SW4)
1.5mm* (for Speedway SW5)
2.0mm* (for Speedway SW6)
* or required rung wall thickness – see 1.2 for details.

- The transverse members for straight cable ladder shall be orientated with the continuous slot facing alternately upwards and downwards. The transverse members for cable ladder fittings shall be orientated with the continuous slot facing upwards to allow for the securing of cable restraint devices (cleats, etc.) at every rung position.
- The width of the straight cable ladder and the cable ladder fittings shall be measured relative to the inside

faces of the side members. The widths of the straight cable ladder and cable ladder fittings shall be 150mm, 300mm, 450mm, 600mm, 750mm, 900mm & 1050mm.

- 13 The straight cable ladder shall have a length of 3000mm or 6000mm as specified.
- 14 The cable ladder fittings shall have fixed angles of 90°, 60°, 45° and 30°.
- 15 Radiused cable ladder fittings shall have a radius of 300mm, 450mm, 600mm, 750mm, 900mm, 1050mm & 1200mm. The radius of the fitting shall be measured relative to the inside face on the radiused side wall.
- 16 The cable ladder system shall be manufactured using:

For Mild Steel – Hot Dip Galvanized Finish; mild steel of grade D11 to BS EN 10111 and shall be hot dip galvanized after manufacture to BS EN ISO 1461.

For stainless steel: stainless steel grade 1.4404 (316 marine grade) to BS EN 10088.

For Silicon-rich Steel – Deep Galvanized Finish; silicon-rich steel (generally complying to grade S355 to BS EN 10025) and shall be deep galvanized after manufacture to twice the coating thickness specified by BS EN ISO 1461.

- 17 The couplers shall be profiled to match the profile of the cable ladder. The couplers shall be secured using M10 square-shouldered bolts with rounded heads. The bolts shall be secured with M10 serrated flanged nuts as standard. The couplers shall have a slot pattern which prevents slip between adjacent straight ladder lengths (including cut lengths of straight cable ladder) and between cable ladder fittings. The couplers shall have a slot pattern which allows for easy connection to cut lengths of straight cable ladder without the need for on - site drilling.

2. INSTALLATION RECOMMENDATIONS

2.1 Loads

A correctly designed and specified cable ladder installation should take into account the nature and extent of the loads which will be imposed on the cable ladder system. These loads comprise of dead loads including the self-weight of the cable ladder system, the weight of the cables and secondary equipment attached to the cable ladder, imposed loads which occur during installation of the cable ladder system and during cable pulling operations, and external loads such as wind, snow, & ice.

Cable ladders are often employed in locations where the wind speeds may cause considerable lateral loading and careful consideration must be given to design to ensure a satisfactory installation. An awareness of the worst possible climate conditions is necessary when specifying the correct Speedway cable ladder system.

The load-deflection information given in 3.4 is based on static loading of the Speedway cable ladder installation and does not take into account dynamic effects such as earthquake loading, etc.

In designing a cable ladder installation it is good practice to allow at least a 20% excess capacity in a new installation for future expansion. Such a provision is of great economic advantage when there is a later need for additional cables.

2.2 Support Spacing

The space between the supports of a cable ladder installation is referred to as the span. Supports for cable ladder should, as far as practicable, be spaced so as to create the most economical load/span ratio to suit the capacity of the cable ladder system. This will give the most advantageous solution when considering procurement and installation costs. As a general rule of thumb, the load-carrying capability of the Speedway Cable Ladder system increases as the span decreases, so a lighter duty cable ladder system can be specified for shorter spans. Conversely, a heavier duty Speedway Cable Ladder system will need to be specified for longer spans.

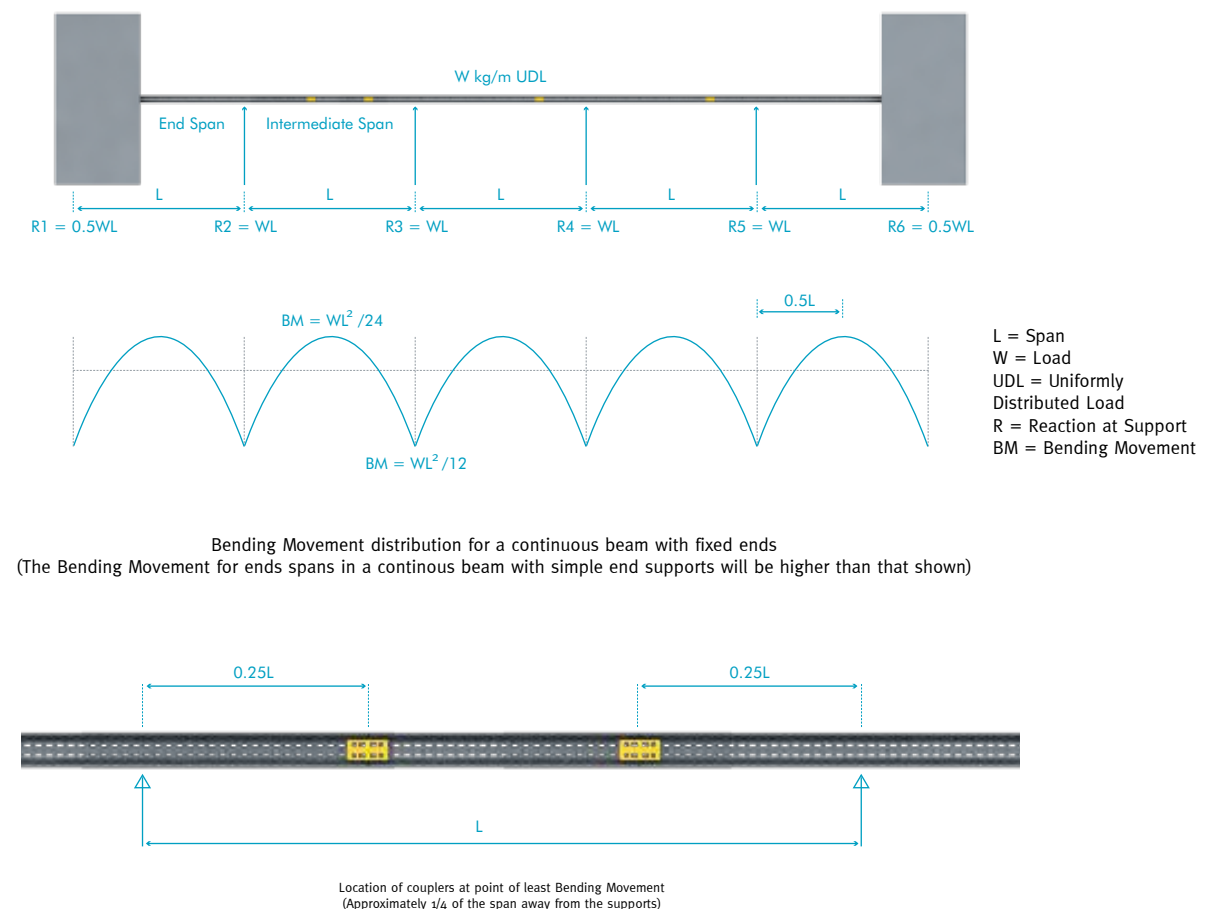
When considering support positions it should be remembered that it is necessary to support accessories when a change of direction takes place i.e. bends, tees, risers etc. This is to ensure that undue 'corner' cantilever reaction is minimised. Recommendations for the location of supports for Speedway Cable Ladder fittings are given in section 2.4.

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2.3 Location of Couplers

The maximum bending moments acting on a cable ladder run occur in the cable ladder side members at the supports and at the mid span position. For this reason it is good practice to avoid locating couplers in a cable ladder run either directly on supports or at the mid span position. It is also good practice to avoid locating couplers in the end span of a continuous beam installation as the bending moments in the end span are, for simple end support installations, much higher than those found in the intermediate spans.

These limitations cannot always be achieved in a cable ladder installation and are not a mandatory requirement for the Speedway coupling system where the loading information given in 3.3 is valid irrespective of the location of the couplers. The ideal positions to locate the connections in a cable ladder run are at approximately a quarter of a span from the supports where the bending moment, and hence the stress, are minimal. Positioning the couplers at the quarter span positions is of benefit during installation, assisting in alignment of the cable ladders and allowing unhindered securing of the cable ladder to the supports.



2.4 Support Locations for Speedway Fittings

The following illustrations show the recommended support positions when installing Speedway cable ladder fittings.

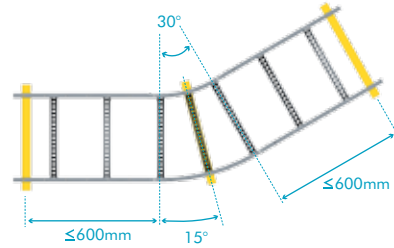
The supports should be fully fixed to provide maximum support for the Speedway cable ladder fitting.

For more specific recommendations relating to particular site installations please contact our Design Team.

› 2.4.1 Speedway Flat Elbows

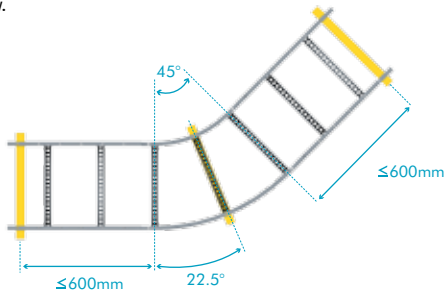
Speedway 30° Flat Elbows

For 30° flat elbows, supports should be placed within 600mm of the end of the flat elbow. For 30° flat elbows with radii of 450mm and above, an intermediate support should be located radially at 15° under the flat elbow.



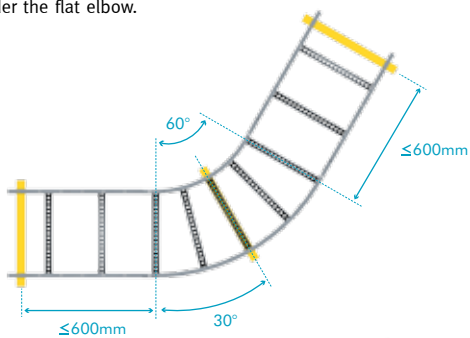
Speedway 45° Flat Elbows

For 45° flat elbows, supports should be placed within 600mm of the end of the flat elbow. For 45° flat elbows with radii of 450mm and above, an intermediate support should be located radially at 22.5° under the flat elbow.



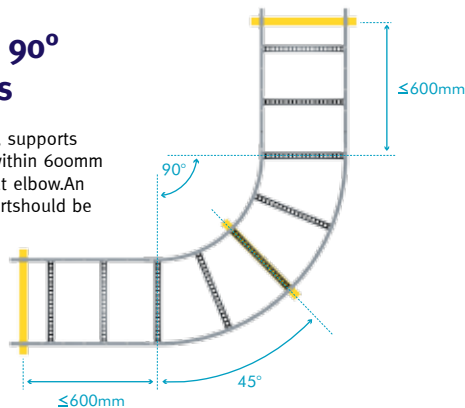
Speedway 60° Flat Elbows

For 60° flat elbows, supports should be placed within 600mm of the end of the flat elbow. An intermediate support should be located radially at 30° under the flat elbow.



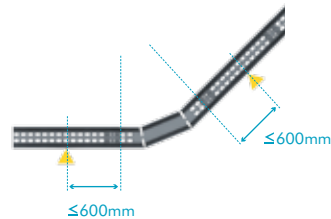
Speedway 90° Flat Elbows

For 90° flat elbows, supports should be placed within 600mm of the end of the flat elbow. An intermediate support should be located radially at 45° under the flat elbow.



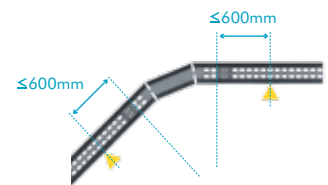
› 2.4.2 Speedway Inside & Outside Risers

Speedway Inside Risers (all angles)



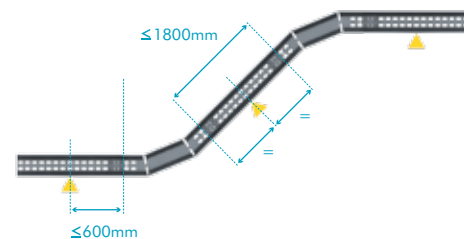
For inside risers (30°, 45°, 60° & 90°) supports should be placed within 600mm of the end of the inside riser.

Speedway Outside Risers (all angles)

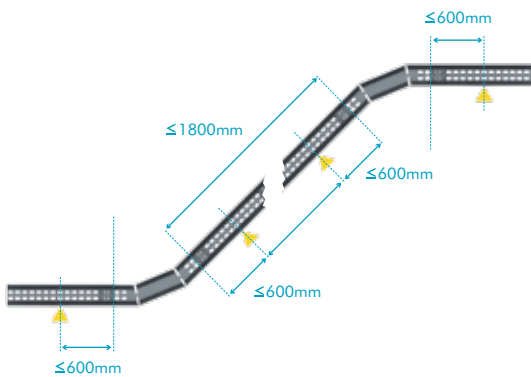


For inside risers (30°, 45°, 60° & 90°) supports should be placed within 600mm of the end of the inside riser.

Speedway Inside & outside Risers in Offset Arrangement



For inside & outside risers (30°, 45°, 60° & 90°) forming an offset of length up to 1800mm, supports should be placed within 600mm of the end of the offset and centrally on the inclined cable ladder.

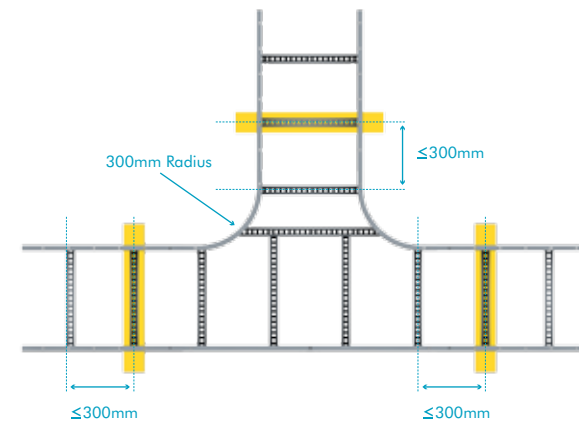


For inside & outside risers (30°, 45°, 60° & 90°) forming an offset of length over 1800mm, supports should be placed within 600mm of the ends of the inside & outside risers. The inclined cable ladder should be supported in accordance with the support recommendations for a straight cable ladder run.

TECHNICAL DATA

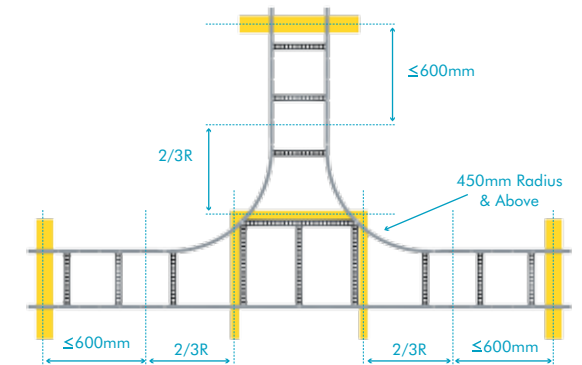
› 2.4.3 Speedway Equal & Unequal Tees

Speedway Equal & Unequal Tees (300mm Radius)



For equal and unequal tees with radii of 300mm, supports should be located within 300mm of the tee on each branch in the cable ladder run.

Speedway Equal & Unequal Tees (450mm Radius & Above)

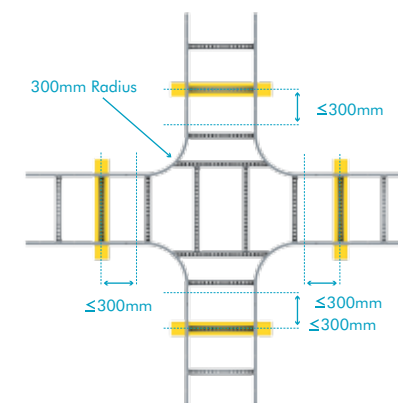


For equal and unequal tees with radii of 450mm and above, supports should be located within 600mm of the tee on each branch in the cable ladder run.

Intermediate supports should be placed at approximately 2/3 of the radius (R) on each branch of the tee as shown.

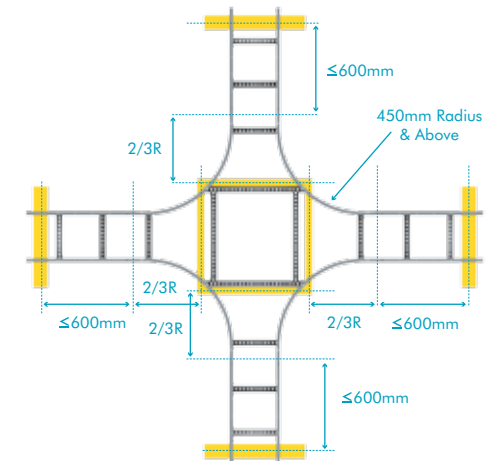
› 2.4.4 Speedway Crosses

Speedway Crosses (300mm Radius)



For crosses with radii of 300mm, supports should be located within 300mm of the cross on each branch in the cable ladder run.

Speedway Crosses (450mm Radius & Above)



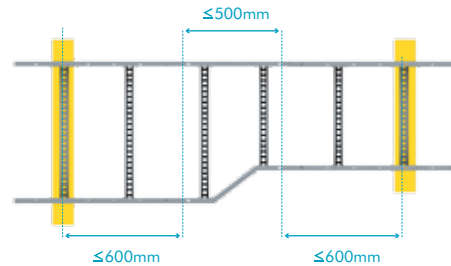
For crosses with radii of 450mm and above, supports should be located within 600mm of the cross on each branch in the cable ladder run.

Intermediate supports should be placed at approximately 2/3 of the radius (R) on each branch of the cross as shown.

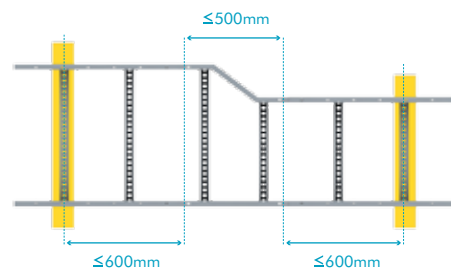
> 2.4.5 Speedway Reducers

For all widths of straight reducer, left-hand reducer, and right-hand reducer, supports should be located on the cable ladder run within 600mm of the reducer as shown.

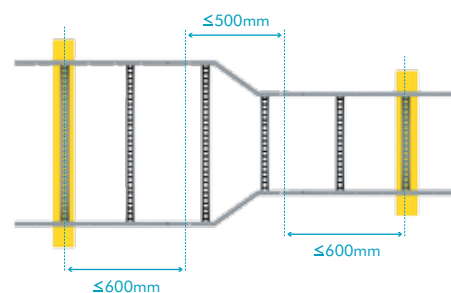
Speedway Right-Hand Reducer



Speedway Left-Hand Reducer



Speedway Straight Reducer



> 2.5 Loading of Supports

It is important that cable ladder and cable ladder supports are loaded in a symmetrical manner such that undue stresses are kept to a minimum.

The safe working load figures for the Speedway cable ladder and the Speedway cantilever type supports is based on a uniform loading within the Speedway cable ladder and on the assumption that the correct length of cantilever is used in each case.

Where cantilevers of additional length are used to support

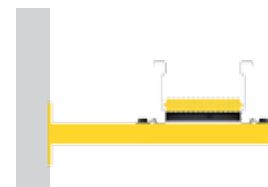
Speedway cable ladder, care should be taken to position the cable ladder as close to the backplate of the cantilever as the installation routing will allow.

Where the Speedway cable ladder is not filled to capacity, or is carrying heavy cables, care should be taken to position the cables as close to the cantilever backplate as the installation routing will allow.

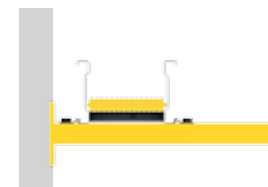
For those installations where the routing of the cable ladder or the position of heavy cable loads cannot be undertaken in accordance with the above, the IC/PROP/Size cantilever arm prop should be used to correctly support the cantilever arm.

More details on the Safe Working Load of Speedway supports can be found in the Supports Section.

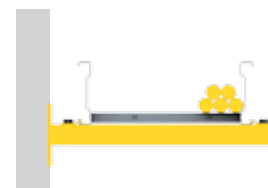
For further information and guidance on the loading of supports please contact our Design Team.



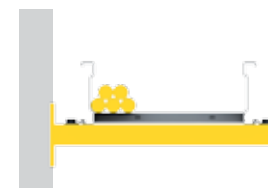
Avoid locating cable ladder on the end of cantilever support



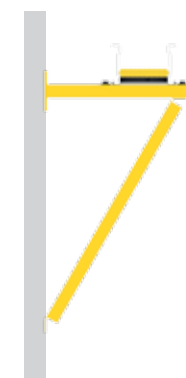
Locate cable ladder close to the cantilever backplate



Avoid placing unsymmetrical cable loads on the extremes of cantilever supports



Locate unsymmetrical cable loads close to the cantilever backplate



Use the cantilever prop (IC/PROP/Size – See page 213) to support offset cable ladder or unsymmetrical cable loads.

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> 2.6 Electrical Continuity Characteristics

In tests conducted to verify the electrical continuity characteristics of the Speedway cable ladder it has been established that the standard Speedway coupling system provides adequate electrical continuity, ensuring equipotential bonding and connection to earth.

The Speedway cable ladder system has been tested for electrical continuity to BS EN 61537 (Section 11.1). Details are given in the following table.

Electrical Continuity to BS EN 61537

Ladder Type	Material & Finish	Impedance across joint	Impedance per metre length
Speedway SW4	Hot Dip Galvanized Stainless Steel	<50mΩ	<5mΩ
Speedway SW5	Hot Dip Galvanized Stainless Steel		
Speedway SW6	Hot Dip Galvanized Stainless Steel		

BS EN 61537 requires a maximum impedance of 50mΩ across the coupled joint and 5mΩ per metre length without a joint

The electrical continuity of the Speedway cable ladder joints has been tested to NEMA VE (Section 5.1). Details are given in the following table.

Electrical Continuity to NEMA VE 1

Ladder Type	Material & Finish	Resistance across joint
Speedway SW4	Hot Dip Galvanized Stainless Steel*	<33mΩ
Speedway SW5	Hot Dip Galvanized Stainless Steel*	
Speedway SW6	Hot Dip Galvanized Stainless Steel	

NEMA VE 1 requires a net resistance of no more than 33mΩ across the coupled joint. * Requires use of earth bonding strap EBS01

Earth continuity bonding straps (part number EBS01) of cross sectional area 16 mm² are available for use with Speedway cable ladder where a non-conductive surface finish i.e. epoxy coated etc, has been specified or where the installation requires an additional means of bonding.

> 2.7 Electromagnetic Compatibility (EMC)

In normal use Speedway cable ladder can be considered to be passive in respect of electromagnetic influences, emission and immunity. When Speedway cable ladder is installed as part of a wiring installation, the installation may emit or may be influenced by electromagnetic signals. The degree of influence will depend on the nature of the installation within its operating environment and the electrical equipment connected by the wiring. As a minimum precaution to minimise the occurrence of electromagnetic influences, power and data/signal cables should be run on separate cable routings or at least separated by means of dividers.

Our Design Team should be consulted for further information on electromagnetic compatibility issues.

> 2.8 Assembly Recommendations

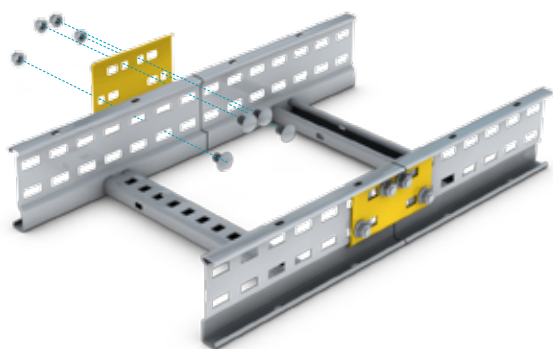
Instructions for the correct assembly of Speedway straight couplers and expansion couplers are given below.

Speedway Straight Couplers

The Speedway straight couplers are supplied with the correct number of fixing sets (4 for Speedway SW4 and 8 for Speedway SW5 & SW6), each comprising of an M10 x 20 square shouldered bolt and an M10 serrated flanged nut.

- 1 Locate the Speedway straight coupler on the outside of the two abutting components of the Speedway cable ladder installation (ladder to ladder) with the profile of the straight coupler aligned to the central ribbed profile on the abutting components.
- 2 Position the Speedway straight coupler over the two components such that a series of square apertures are created by the alignment of the slot patterns in the coupler and the slot patterns in the two abutting components. For joints between uncut Speedway cable ladders, the straight coupler should sit centrally across the joint. For connecting cut sections of Speedway cable ladder it may be necessary to reposition the coupler to create the series of square apertures.

- Insert an M10x16/18 square shouldered bolt into one of the square apertures from the inside of the Speedway cable ladder with the threaded portion of the bolt protruding



- Fit an M10 Serrated Flange Nut onto the threaded portion of the bolt.

- Tighten the fixing assembly by hand.

- Repeat for the remaining fixing sets.

- Fully secure the abutting components to the supporting structure.

- Check the alignment of the Speedway straight coupler and the abutting components and adjust as necessary to give a fair and true alignment.

- Tighten the hex nuts on the Speedway straight coupler to a torque of 46Nm.

Speedway Integral Coupler Assembly

Speedlok Speedway Fittings are supplied with the correct number of fixing sets for that type of fitting, each comprising of an M10 x 20 square shouldered bolt, an M10 serrated flange nut.

- Position the Straight Length of Speedway Cable Ladder on the inside of the Integral Couplers of the Speedway fitting with the Integral Coupler lying over the web of the Speedway profile.
- Position the Speedway Integral Coupler so that a series of square apertures are created by the alignment of the slot patterns in the coupler and the straight ladder.
- Insert an M10 x 20 square shouldered bolt into one of the square apertures from the inside of the Speedway cable ladder with the threaded portion of the bolt protruding through the side wall of the ladder and the Speedway Integral Coupler.

- Fit an M10 Serrated Flange Nut onto the threaded portion of the bolt.

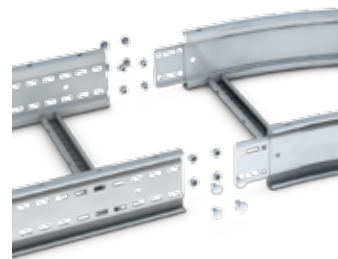
- Tighten the fixing assembly by hand.

- Repeat for the remaining fixing sets.

- Fully secure the abutting components to the supporting structure.

- Check the alignment of the Speedway Integral Coupler and the abutting components and adjust as necessary to give a fair and true alignment.

- Tighten the flange nuts on the Speedway straight coupler to a torque of 46Nm.



Speedway Expansion Couplers

The Speedway expansion couplers are supplied with 8 fixing sets, each comprising of an M10 x 25 square shouldered bolt, an M12 flat washer, an M10 shake-proof washer and an M10 hex nut. Refer to page 247 for details on the spacing between expansion couplers and the required gap setting procedure at the time of installation.

- Locate the Speedway expansion coupler on the outside of the two abutting Speedway cable ladders with the profile of the expansion coupler aligned to the central ribbed profile on the Speedway cable ladders. NOTE: the expansion coupler should not be used to connect cut sections of cable ladder.
- Position the Speedway expansion coupler equally over the two abutting Speedway cable ladders such that a series of square apertures are created by the alignment of the slot pattern in the coupler and the slot pattern in the cable ladders.
- Insert an M10 x 25 square shouldered bolt into one of the square apertures from the inside of the Speedway cable ladder with the threaded portion of the bolt protruding through the Speedway cable ladder and the Speedway expansion coupler.
- Fit a M12 flat washer and a M10 hex nut onto the threaded portion of the M10x25 bolt.
- Tighten the fixing assembly by hand such that it is free to move within the slots of the Speedway cable ladder and the Speedway expansion coupler (some light resistance to movement is preferable).
- Repeat for the remaining fixing sets.
- Check the alignment of the Speedway expansion

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coupler and the Speedway cable ladders and adjust as necessary to give a fair and true alignment.

- Check the setting gap (See page 247)

- Secure the Speedway cable ladders to the supporting structure using external flange clamps (SW/EFC See page 75) and nylon spacer pads (315AN10 See page 236).

- Fit a second M10 hex nut onto each of the hand tightened assemblies. Using a M10 spanner to hold the first M10 hex nut in place, tighten the second M10 hex nut to a torque of 46Nm. Check that the completed

assembly is free to move (some light resistance to movement is preferable).

- Repeat for the remaining fixing sets.

- Check the installed Speedway expansion coupler for freedom of movement (some light resistance to movement is preferable).

Consult our Technical Team for installation instructions for the Speedway full moment expansion coupler.

3. Loading Information

To enable the selection of the most appropriate Speedway cable ladder for a particular installation it is necessary to consider the loads which must be supported and the distance between supports (the span). These loads are broadly classed as dead loads, imposed loads (see page 251) and point loads.

The allowable loading figures given in the tables overleaf include the self weight of the Speedway cable ladder. The weight data for additional installed components (covers, mounting accessories, etc) for the Speedway cable ladder system can be provided on request by our Design Team.

3.2 Point Loads

Point loads are often applied to the cable ladder during installation, cable pulling and in-service inspection.

An allowance can be made for the influence of point loads at the design stage when determining the total load to be carried by the Speedway cable ladder system. Typical point loads are in the order of 75kg to 150kg. When specifying a point load requirement it should be noted that the value of the point load should be kept to a minimum as incorporating the point load will reduce the allowable cable load for the Speedway cable ladder. Loading graphs which include the influence of a mid span point load are available on request.

Speedway cable ladder is not intended to be used as a walkway and on no account should point loads be applied to the rungs. On those occasions where it is necessary to apply a point load care should be taken to apply the load evenly onto the two side members, preferably using a board or similar support to distribute the load over as long a section of the cable ladder as possible.

3.1 Dead Loads

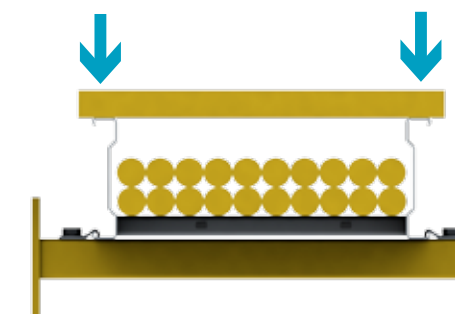
Dead loads include the weight of any cables, pipes and secondary equipment carried on or installed on the cable ladder plus the self weight of the cable ladder and any component of the cable ladder (covers, connectors, accessories, etc.).

Weight data for cables is readily available from the cable manufacturer or supplier and is usually quoted in terms of kilograms per metre (kg/m). The weight per metre from the cables (or pipes, etc) is the sum of the individual cable (or pipe, etc) weights. Weight data for secondary equipment should also be readily available from the equipment manufacturer or supplier and is usually quoted in terms of kilograms (kg). The unit weight for the secondary equipment can be converted into an equivalent weight per metre by using the following formula:

$$\text{Equivalent weight per metre } W_m = \frac{2 \times \text{unit of equipment (kg)}}{\text{Span (m)}} \text{ kg/m}$$

For example, a secondary item of equipment with a weight of 12kg has an equivalent weight per metre W_m of 8kg/m for a span of 3m. This figure should be added to the sum of the individual cable weights (or pipe, etc). When determining the location of secondary items of equipment, care should be taken to either mount these items centrally across the cable ladder using the Speedway mounting plates, or place these items adjacent to, or directly onto, the cable ladder side members and as close to the cable ladder supports as the installation will allow.

Correct application of point load onto Speedway cable ladder using a board to spread the load evenly onto the side members





> 3.3 Load-Deflection Tables

When correctly mounted and secured, cable ladder can be considered to be a ‘continuous beam’. This implies that the cable ladder run is regularly supported and that the cable ladders at the extremities of the run are firmly anchored. The following tables are used to calculate the safe working load and have been verified by testing in accordance to BS EN 61537 .The load bearing capacity of a cable ladder is limited by the lesser of the maximum allowable stress induced in the side members and rungs or the maximum deflection acceptable in the same members. The maximum allowable stress is usually limited by the materials lower yield stress; this gives a safety factor of 1.7 against the ultimate tensile strength.

Maximum deflection, (in the absence of a particular customer need) is not allowed to exceed 1/360th of the distance between supports (span) longitudinally or 1/200th of the rung length (cable ladder width) transversely.

Loading Data - Vantrunk Extreme Steel Hot Dip Galvnaized Finish

Ladder Type	Width w mm	Span & Safe Working Load kg/m									
		2m	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m	
SW4/SL/150/G	150	542	346	239	175	133	-	-	-	-	
SW4/SL/300/G	300	542	345	238	174	132	-	-	-	-	
SW4/SL/450/G	450	541	345	238	173	132	-	-	-	-	
SW4/SL/600/G	600	470	344	237	173	131	-	-	-	-	
SW4/SL/750/G	750	369	343	236	171	130	-	-	-	-	
SW4/SL/900/G	900	254	254	235	171	129	-	-	-	-	
SW4/SL/1050/G	1050	184	184	184	170	128	-	-	-	-	
SW5/SL/150/G	150	-	-	491	359	274	215	173	-	-	
SW5/SL/300/G	300	-	-	491	359	273	214	172	-	-	
SW5/SL/450/G	450	-	-	490	358	273	214	172	-	-	
SW5/SL/600/G	600	-	-	490	358	272	213	171	-	-	
SW5/SL/750/G	750	-	-	367	356	271	212	170	-	-	
SW5/SL/900/G	900	-	-	251	251	251	211	169	-	-	
SW5/SL/1050/G	1050	-	-	181	181	181	181	168	-	-	
SW6/SL/150/G	150	-	-	-	-	357	280	226	185	155	
SW6/SL/300/G	300	-	-	-	-	356	280	225	185	154	
SW6/SL/450/G	450	-	-	-	-	355	279	224	184	153	
SW6/SL/600/G	600	-	-	-	-	354	278	223	183	152	
SW6/SL/750/G	750	-	-	-	-	354	277	223	182	152	
SW6/SL/900/G	900	-	-	-	-	251	251	222	182	151	
SW6/SL/1050/G	1050	-	-	-	-	181	181	181	181	150	

Although unusual, there may be occasions when it is difficult or indeed impossible to anchor the cable ladder securely in position. Under these circumstances the ladder is ‘simply supported’ and its load bearing ability is substantially reduced. As a rough guide maximum loads should be limited to two thirds of those shown in the loading tables and increased deflection values should be accepted for each span.

The data given in the tables is for Vantrunk cable ladder installed as a continuous beam and allows for the weight of the ladder itself. The safe working load values represent a uniformly distributed load and a factor of 1.7 as recommended in the cable ladder European standard. This information is given for guidance only and larger safety factors can be used depending on the installation. The Speedway Cable Ladder system, components and accessories have been tested to BS EN ISO 61537.

Further details are can be provided by our Design Team.

Loading Data - 1.4404 Stainless Steel (316 Marine Grade)

Ladder Type	Width w mm	Span & Safe Working Load kg/m									
		2m	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m	
SW4/SL/150/SS	150	473	301	208	152	115	-	-	-	-	
SW4/SL/300/SS	300	473	301	208	151	115	-	-	-	-	
SW4/SL/450/SS	450	472	300	207	151	114	-	-	-	-	
SW4/SL/600/SS	600	445	300	207	150	114	-	-	-	-	
SW4/SL/750/SS	750	282	282	206	150	113	-	-	-	-	
SW4/SL/900/SS	900	194	194	194	149	113	-	-	-	-	
SW4/SL/1050/SS	1050	140	140	140	140	112	-	-	-	-	
SW5/SL/150/SS	150	-	-	429	314	239	188	152	-	-	
SW5/SL/300/SS	300	-	-	429	313	239	188	151	-	-	
SW5/SL/450/SS	450	-	-	428	313	238	187	150	-	-	
SW5/SL/600/SS	600	-	-	427	312	237	186	149	-	-	
SW5/SL/750/SS	750	-	-	350	312	238	186	150	-	-	
SW5/SL/900/SS	900	-	-	240	240	237	186	149	-	-	
SW5/SL/1050/SS	1050	-	-	174	174	174	174	149	-	-	
SW6/SL/300/SS	300	-	-	-	-	311	244	196	161	134	
SW6/SL/450/SS	450	-	-	-	-	310	243	196	160	134	
SW6/SL/600/SS	600	-	-	-	-	309	243	195	160	133	
SW6/SL/750/SS	750	-	-	-	-	308	242	194	159	132	
SW6/SL/900/SS	900	-	-	-	-	308	241	194	158	131	
SW6/SL/1050/SS	1050	-	-	-	-	237	237	193	158	131	
SW6/SL3/1050/G	1050	-	-	-	-	171	171	171	157	130	

TECHNICAL DATA

Loading Data - Silicon-rich Steel Deep Galvanized Finish

Ladder Type	Width w mm	Span & Safe Working Load kg/m									
		2m	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m	
SW4/SL/150/GX	150	681	435	301	220	167	-	-	-	-	
SW4/SL/300/GX	300	681	434	300	219	167	-	-	-	-	
SW4/SL/450/GX	450	680	433	299	219	166	-	-	-	-	
SW4/SL/600/GX	600	456	433	299	218	166	-	-	-	-	
SW4/SL/750/GX	750	288	288	288	216	164	-	-	-	-	
SW4/SL/900/GX	900	197	197	197	197	163	-	-	-	-	
SW4/SL/1050/GX	1050	142	142	142	142	142	-	-	-	-	
SW5/SL/150/GX	150	-	-	619	453	346	272	219	-	-	
SW5/SL/300/GX	300	-	-	618	452	345	271	219	-	-	
SW5/SL/450/GX	450	-	-	617	452	344	271	218	-	-	
SW5/SL/600/GX	600	-	-	454	451	344	270	217	-	-	
SW5/SL/750/GX	750	-	-	287	287	287	269	216	-	-	
SW5/SL/900/GX	900	-	-	196	196	196	196	196	-	-	
SW5/SL/1050/GX	1050	-	-	141	141	141	141	141	-	-	
SW6/SL/450/GX	450	-	-	-	-	449	353	285	234	195	
SW6/SL/600/GX	600	-	-	-	-	448	352	284	233	195	
SW6/SL/750/GX	750	-	-	-	-	447	351	283	232	194	
SW6/SL/900/GX	900	-	-	-	-	446	351	282	232	193	
SW6/SL/1050/GX	1050	-	-	-	-	355	350	281	231	192	
SW6/SL3/900/GX	900	-	-	-	-	242	242	242	230	191	
SW6/SL3/1050/GX	1050	-	-	-	-	174	174	174	174	174	



GASCO/IGD/ LPG STORAGE TANKS

LOCATION: RUWAIS, ABU DHABI

PROJECT DESCRIPTION:

The new storage tanks will be added to the existing storage tanks to increase storage capacity for propane, butane and paraffinic naphtha products.

The new tanks will be interconnected with the Train 1, 2 and 3 product rundown, loading and shipping network so that the contents of any tank can be shipped from any of the berths. There will be 3 refrigerated Propane Tanks and 3 refrigerated Butane Tanks.

OPERATOR:

Abu Dhabi Gas Industries Limited (GASCO), a subsidiary of the Abu Dhabi National Oil Company (ADNOC)

CONTRACTOR:

CB&I (Supplied through Eutex International)

PRODUCTS SUPPLIED:

- > Speedway Cable Ladder (SW4 & SW6)
- > Vantrunk Cable Tray (HR)

FINISHES & MATERIALS:

Structural grade carbon steel with a deep hot dipped galvanised finish.

SPECIAL FEATURES:

The use of a specialised steel enabled an enhanced galvanising coating which will prolong the time to first maintenance and the overall lifespan of the product.



VANTRUNK CABLE-TRAY

THE FASTEST CABLE TRAY SYSTEM

A FULL RANGE OF PERFORATED CABLE TRAY PRODUCTS MANUFACTURED TO THE HIGHEST STANDARDS, OFFERING TIME SAVING AND ADAPTABLE DESIGNS, PRACTICAL SLOT PATTERNS AND VERSATILE ACCESSORIES.



Flexible
Solutions



Rapid
Installation
Systems



Withstands
extreme
temperatures
(-50° to +50°C)

CODE SYSTEM EXPLAINED

The information given on these pages should be used as a guide when ordering cable tray, fittings, covers and accessories. For more detailed information and examples refer to the relevant page within the catalogue.

Straight Cable Tray

System Type	Tray Type	Width	Finish & Material
eg. HR	SL3	50	GA

Cable Tray Fittings (Include the Radius detail if a non-standard radius fitting is required)

System Type	Fitting Type	Width(s)	Radius	Finish & Material
eg. HR	FE60	50	Omit the radius detail if the standard radius fitting is required	GA

Cable Tray Accessories

System Type	Accessory Type	Length	Finish & Material
eg. HR	DIV	150	GA

Straight Cable Tray Covers

System Type	Cover Type	Tray Type	Width	Finish & Material
eg. HR	CC	SL3	50	GA

Cable Tray Fitting Covers (Include the Radius detail if a non-standard radius fitting is required)

System Type	Cover Type	Fitting Type	Width(s)	Radius	Finish & Material
eg. HR	CC	FE60	50	Omit the radius detail if the standard radius fitting is required	GA

Couplers

System Type	Coupler Type	Finish & Material
eg. HR	SC	GA

Finishes and Materials (●)

Details on the full range of standard Finishes and Materials are given in the Finish and Materials section (page 26) and Technical Section (page 246).



HOT DIPPED
GALVANIZED
VANTRUNK
MILD STEEL



HOT DIPPED
GALVANIZED
VANTRUNK SILICON
RICH STRUCTURAL
STEEL



DEEP
GALVANIZED
VANTRUNK
SILICON RICH
STRUCTURAL
STEEL



MARINE GRADE
STAINLESS
STEEL



Tray Type

Tray Type	Page
MR Medium duty return flange cable tray	115
HR Heavy duty return flange cable tray	115

For HR cable tray with side wall heights other than 50mm, suffix the standard HR part number with the required side wall height in mm (30mm to 150mm in 5mm increments).

Straight Tray Type

Straight Tray Type	Page
SL3 Straight tray length, 3m.	115

Tray Fitting Type

Tray Fitting Type	Page
FE90 Flat elbow 90°	118
FE60 Flat elbow 60°	118
FE45 Flat elbow 45°	117
FE30 Flat elbow 30°	117
IR Inside (internal) riser (add 30°, 45°, 60° and 90° as required)	121
OR Outside (external) riser (add 30°, 45°, 60° and 90° as required)	121
VR Variable riser	121
ET Equal tee	123
UT Unequal tee (quote main width Wm & branch width Wb)	124
EC Equal cross	127
RS Straight Reducer (quote primary width Wp & secondary width Ws)	129
RL Reducer left (quote primary width Wp & secondary width Ws)	130
RR Reducer right (quote primary width Wp & secondary width Ws)	131

Width

50: 50mm	300: 300mm
75: 75mm	450: 450mm
100: 100mm	600: 600mm
150: 150mm	750: 750mm
225: 225mm	900: 900mm

Cover Type

Cover Type	Page
CC Closed cover (plain close-fitting cover)	146
CV Ventilated cover (plain raised cover)	146
CL Louvered cover (louvered close-fitting cover)	146

Radius

The radius is not required for the standard cable tray fitting and cover. The following radii are available to order only.

150: 150mm*
300: 300mm
450: 450mm
600: 600mm

*Only available for the standard fitting with a 75mm radius.

Coupler Type

Coupler Type	Page
SC Straight coupler (wrap-over type)	133
AC Adjustable coupler (wrap-over type)	134
FP Fish Plate Coupler (add width & omit cable tray type)	135

Accessory Type

Accessory Type	Page
HDB Hold down bracket	137
TR/TOP Conduit take-off plate (add size 20=20mm or 25=25mm)	140
DIV/SL3 Straight tray divider	141
DIV/FLo.6 Tray fitting divider	141
DIV/VR Tray riser divider	142
EP End plate	140
EBS/05 Earth bonding strap	137

Omit cable tray type & width details as necessary.

Further Guidance

Please contact our Sales Team for further advice and guidance on the correct ordering details for the full range of Vantrunk cable tray, fittings and accessories.

Code Sample: Choose finish



STRAIGHT LENGTHS

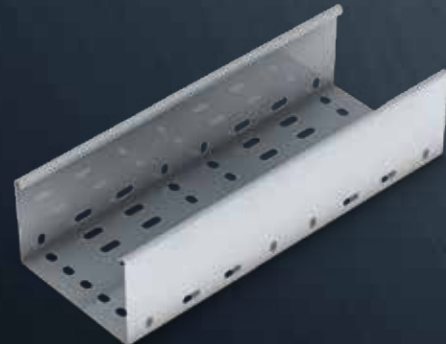
The Vantrunk Cable Tray System is manufactured in two profiles as standard based around two different side wall heights, each of which gives the cable tray its specific load carrying capabilities.

Medium Duty Return Flange
Cable tray system has a side wall height of 25mm.

Heavy Duty Return Flange
Cable tray system has a side wall height of 50mm as standard.



Other sidewall heights from 30mm to 150mm are available to order – consult our Sales Team for details.



For further details on sidewall heights refer to the 'Cable Tray Technical Data' section (page 246) within this catalogue.

ACCREDITED TO THE FOLLOWING STANDARD



LENGTHS

STRAIGHT TRAY

Vantrunk cable tray is available in widths from 50mm, to 900mm. The width is measured internally between the side walls.

Vantrunk straight cable tray is available in standard lengths of 3m.

The Vantrunk Cable Tray features a slot pattern which is standard across the range of cable trays. Based on a repeating pattern of 12mm by 8mm width wise slots and 20mm by 8mm length wise, the Vantrunk Cable Tray slot pattern suits cable ties, banding and cable cleats with M6 fixings. See the Cable Tray Technical Section for details

Vantrunk Medium Duty return flange cable tray is suitable for applications where medium duty cable loads are to be supported over short to medium spans.

Vantrunk Heavy Duty return flange cable tray is suitable for applications where heavy duty cable loads are to be supported over longer spans.

Medium Duty Return Flange Straight Tray

Ref. MR/SL3

Gauge & weights are given for the hot dip galvanized mild steel cable tray. Refer to 'Technical Data' for other materials and gauges.

Part Number	Tray Width mm	W mm	W1 mm	H mm	T mm	Weight (kg)
MR/SL3/50/O	50	50	51.8	25	0.9	2.48
MR/SL3/75/O	75	75	76.8			3.00
MR/SL3/100/O	100	100	101.8			3.52
MR/SL3/150/O	150	150	151.8			4.56
MR/SL3/200/O	200	200	201.8			5.60
MR/SL3/225/O	225	225	226.8	300	1.2	6.12
MR/SL3/300/O	300	300	302.4			10.24

O = Select a Finish & Material



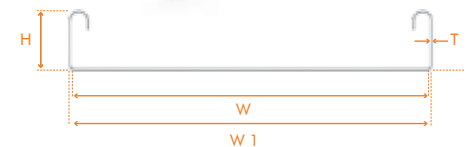
Heavy Duty Return Flange Straight Tray

Ref. HR/SL3

Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.

Part Number	Tray Width mm	W mm	W1 mm	H mm	T mm	Weight kg
HR/SL3/50/O	50	50	51.8	50	0.9	3.61
HR/SL3/75/O	75	75	76.8			4.13
HR/SL3/100/O	100	100	101.8			4.65
HR/SL3/150/O	150	150	151.8			5.69
HR/SL3/200/O	200	200	202.4			8.97
HR/SL3/225/O	225	225	227.4	300	1.2	9.67
HR/SL3/300/O	300	300	302.4			11.74

O = Select a Finish & Material



FITTINGS

The Vantrunk cable tray system comprises of a full range of perforated cable tray fittings that provide changes in direction, changes in width and to create intersections between straight runs. Vantrunk cable tray fittings feature an integral coupler.

The range of cable tray fittings includes flat elbows, risers, equal & unequal tees, crosses and reducers. Cable Tray fittings are available in all corresponding widths and Medium Duty and all Heavy Duty sections.

CABLE TRAY FLAT ELBOWS

Flat Elbows are used to create fixed angular changes in direction in the same plane, between horizontal cable tray runs when the cable tray is installed in the horizontal plane and between vertical cable tray runs when the cable tray is installed in the vertical plane.

Vantrunk cable tray flat elbows are available in widths of 50mm to 900mm. The width is measured externally between the side walls to facilitate the use of the integral coupler.

The Vantrunk Medium Duty Return Flange flat elbow has a sidewall height of 25mm. The standard Vantrunk Heavy Duty Return Flange flat elbow has a sidewall height of 50mm. Other heavy duty sidewall heights from 30mm to 150mm are available to order.

Vantrunk cable tray flat elbows are available in fixed angles of 30°, 45°, 60° and 90° as standard.

Vantrunk return flange cable tray flat elbows have a nominal internal radius of 75mm for widths up to and including 150mm and a nominal internal radius of 150mm for widths of 200mm and above. Other radii are available to order.

Information shown is for Heavy Duty Return Flange flat elbows, data for other sidewall heights available on request.

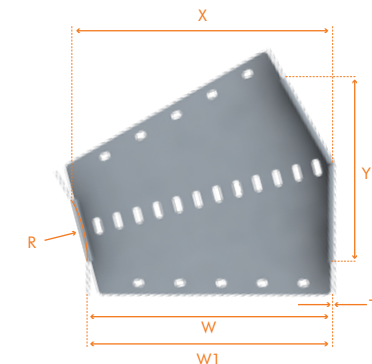
ACCREDITED TO THE
FOLLOWING STANDARD



ELBOWS

Heavy Duty Return Flange 30° Flat Elbow

Ref. HR/FE30



Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight (kg)
HR/FE30/50/O	50	48.2	50	0.9	75	60	53	0.12
HR/FE30/75/O	75	73.2	75			85	75	0.16
HR/FE30/100/O	100	98.2	100			110	88	0.20
HR/FE30/150/O	150	148.2	150	1.2	150	160	112	0.28
HR/FE30/200/O	200	197.6	200			220	175	0.63
HR/FE30/225/O	225	222.6	225			245	188	0.69
HR/FE30/300/O	300	297.6	300			320	225	0.94

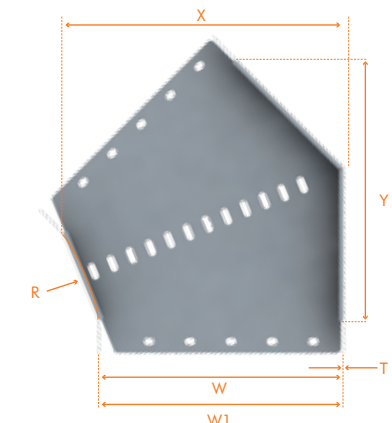
O= Select a Finish & Material



Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.

Heavy Duty 45° Flat Elbow

Ref. HR/FE45



Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight kg
HR/FE45/50/O	50	48.2	50	0.9	75	72	89	0.16
HR/FE45/75/O	75	73.2	75			97	106	0.20
HR/FE45/100/O	100	98.2	100			122	124	0.25
HR/FE45/150/O	150	148.2	150	1.2	150	172	159	0.35
HR/FE45/200/O	200	197.6	200			224	248	0.87
HR/FE45/225/O	225	222.6	225			269	265	0.93
HR/FE45/300/O	300	297.6	300			344	318	1.26

O= Select a Finish & Material



Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



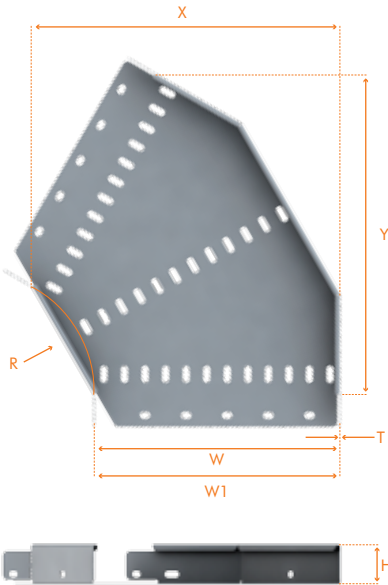
Heavy Duty 60° Flat Elbow

Ref. HR/FE60



Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight kg
HR/FE60/50/O	50	48.2	50	0.9	75	60	63	0.12
HR/FE60/75/O	75	73.2	75			85	75	0.16
HR/FE60/100/O	100	98.2	100			110	88	0.20
HR/FE60/150/O	150	148.2	150			160	113	0.28
HR/FE60/200/O	200	197.6	200	1.2	150	275	303	1.05
HR/FE60/225/O	225	222.6	225			245	188	0.69
HR/FE60/300/O	300	297.6	300			320	225	0.94

O= Select a Finish & Material



Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



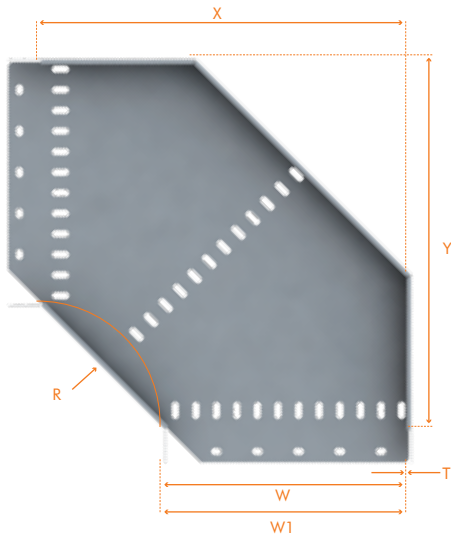
Heavy Duty 90° Flat Elbow

Ref. HR/FE90



Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight kg
HR/FE90/50/O	50	48.2	50	0.9	75	125	125	0.26
HR/FE90/75/O	75	73.2	75			150	150	0.35
HR/FE90/100/O	100	98.2	100			175	175	0.44
HR/FE90/150/O	150	148.2	150			225	225	0.62
HR/FE90/200/O	200	197.6	200	1.2	150	350	350	1.57
HR/FE90/225/O	225	222.6	225			375	375	1.75
HR/FE90/300/O	300	297.6	300			450	450	2.39

O= Select a Finish & Material



Gauge & weights are given for the hot dip galvanized mild steel cable tray. With a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



GET THE PERFECT FIT WITH THE CABLE TRAY INTEGRAL COUPLER



CABLE TRAY FEATURES:

Vantrunk cable tray fittings in medium and heavy duty range include integrated couplings, that give the following benefits:

- Eliminate the need for any additional couplers when joining a fitting to a straight length.
- Reduces the number of fixings required and saves installation time and money.
- Each fitting gives full support, not only to the fitting sides but also along the base due to the integral fish plate style coupler.
- An integral Fish plate coupling on the fitting to the cable tray base overlaps and provides a smooth connection to help eliminate any cable damage.
- Improves earth continuity

For more information on the Cable Tray Integral Coupler visit vantrunk.com



CABLE TRAY RISERS

Risers are used to create angular changes in direction between cable tray runs in different planes and can be used in both the horizontal and vertical orientations.

Vantrunk cable tray risers are available in widths of 50mm to 900mm. The width is measured externally between the side walls to facilitate the use of the integral coupler.

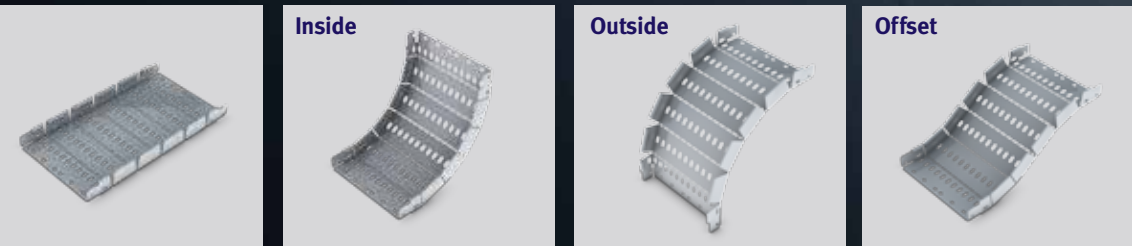
The Vantrunk Medium Duty Return Flange riser has a sidewall height of 25mm. The standard Vantrunk Heavy Duty Return Flange riser has a side wall height of 50mm. Other heavy duty sidewall heights from 30mm to 150mm are available to order.

For widths up to and including 600mm, the Vantrunk cable tray risers are supplied as variable risers for forming to either an inside (internal) riser, outside (external) riser or offset riser as required. The variable riser can be formed from 0° to over 90° as both an inside (internal) or outside (external) riser. The variable riser can also be used to create offsets to suit particular site installation requirements.

For widths above 600mm, the Vantrunk cable tray riser is supplied as a pre-formed inside or outside riser with fixed angles of 30°, 45°, 60° and 90° as standard.

When formed to 90°, Vantrunk Medium Duty Return Flange cable tray risers have a nominal radius of 150mm for widths up to and including 300mm, and a nominal radius of 300mm for widths of 450mm and above. When formed to 90°, Vantrunk Heavy Duty Return Flange cable tray risers have a nominal radius of 300mm for all widths. Other radii are available to order.

Information shown is for Heavy Duty Return Flange risers, data for other sidewall heights available on request.



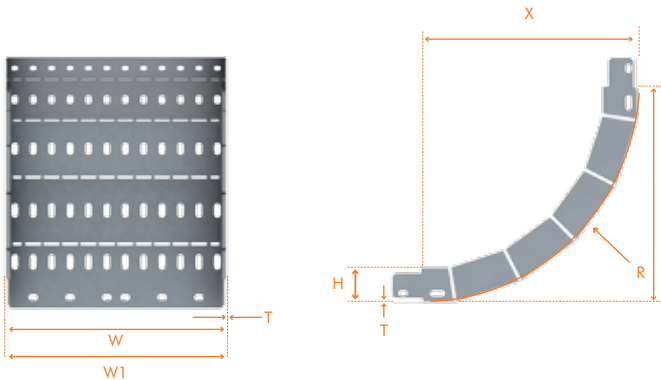
Vantrunk Heavy Duty Return Flange Cable Tray Variable Riser used to create an inside, outside or offset risers. (Widths 50mm to 600mm)

ACCREDITED TO THE FOLLOWING STANDARD



Heavy Duty Variable Riser

Ref. HR/VR



Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight (kg)
Variable Risers as 30° Inside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	401	212	0.60
HR/VR/75/○	75	73.2	75			401	212	0.69
HR/VR/100/○	100	98.2	100			401	212	0.77
HR/VR/150/○	150	148.2	150			401	212	0.96
HR/VR/200/○	200	197.6	200			401	212	1.53
HR/VR/225/○	225	222.6	225	1.2	300	401	212	1.67
HR/VR/300/○	300	297.6	300			401	212	2.04
Variable Risers as 45° Inside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	380	238	0.60
HR/VR/75/○	75	73.2	75			380	238	0.69
HR/VR/100/○	100	98.2	100			380	238	0.77
HR/VR/150/○	150	148.2	150			380	238	0.96
HR/VR/200/○	200	197.6	200			380	238	1.53
HR/VR/225/○	225	222.6	225	1.2	300	380	238	1.67
HR/VR/300/○	300	297.6	300			380	238	2.04
Variable Risers as 60° Inside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	356	362	0.596
HR/VR/75/○	75	73.2	75			356	362	0.69
HR/VR/100/○	100	98.2	100			356	362	0.77
HR/VR/150/○	150	148.2	150			356	362	0.96
HR/VR/200/○	200	197.6	200			356	362	1.53
HR/VR/225/○	225	222.6	225	1.2	300	356	362	1.67
HR/VR/300/○	300	297.6	300			356	362	2.04
Variable Risers as 90° Inside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	301	301	0.60
HR/VR/75/○	75	73.2	75			301	301	0.69
HR/VR/100/○	100	98.2	100			301	301	0.77
HR/VR/150/○	150	148.2	150			301	301	0.96
HR/VR/200/○	200	197.6	200			301	301	1.53
HR/VR/225/○	225	222.6	225	1.2	300	301	301	1.67
HR/VR/300/○	300	297.6	300			301	301	2.04



○= Select a Finish & Material

Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight (kg)
Variable Risers as 30° Outside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	448	170	0.60
HR/VR/75/○	75	73.2	75			448	170	0.69
HR/VR/100/○	100	98.2	100			448	170	0.77
HR/VR/150/○	150	148.2	150			448	170	0.96
HR/VR/200/○	200	197.6	200			448	170	1.53
HR/VR/225/○	225	222.6	225	1.2		448	170	1.67
HR/VR/300/○	300	297.6	300			448	170	2.04
Variable Risers as 45° Outside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	461	225	0.60
HR/VR/75/○	75	73.2	75			461	225	0.69
HR/VR/100/○	100	98.2	100			461	225	0.77
HR/VR/150/○	150	148.2	150			461	225	0.96
HR/VR/200/○	200	197.6	200			461	225	1.53
HR/VR/225/○	225	222.6	225	1.2		461	225	1.67
HR/VR/300/○	300	297.6	300			461	225	2.04
Variable Risers as 60° Outside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	433	275	0.60
HR/VR/75/○	75	73.2	75			433	275	0.69
HR/VR/100/○	100	98.2	100			433	275	0.77
HR/VR/150/○	150	148.2	150			433	275	0.96
HR/VR/200/○	200	197.6	200			433	275	1.53
HR/VR/225/○	225	222.6	225	1.2		433	275	1.67
HR/VR/300/○	300	297.6	300			433	275	2.04
Variable Risers as 90° Outside Risers								
HR/VR/50/○	50	48.2	50	0.9	300	348	348	0.60
HR/VR/75/○	75	73.2	75			348	348	0.69
HR/VR/100/○	100	98.2	100			348	348	0.77
HR/VR/150/○	150	148.2	150			348	348	0.96
HR/VR/200/○	200	197.6	200			348	348	1.53
HR/VR/225/○	225	222.6	225	1.2		348	348	1.67
HR/VR/300/○	300	297.6	300			348	348	2.04

Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.

CABLE TRAY TEES

Tees are used to create right angle connections in the same plane, between horizontal cable tray runs when the cable tray is installed in the horizontal plane and between vertical cable tray runs when the cable tray is installed in the vertical plane.

Vantrunk cable tray tees are available in combinations of widths of 50mm to 900mm. Tees with the same main & branch width are called equal tees. Tees which have a different main width to the branch width are called unequal tees. The width is measured externally between the side walls to facilitate the use of the integral coupler.

The Vantrunk Medium Duty Return Flange tee has a sidewall height of 25mm. The standard Vantrunk Heavy Duty Return Flange tee has a side wall height of 50mm. Other heavy duty side wall heights from 30mm to 150mm are available to order.

Unequal/unequal tees, where all three exits are different, are available to order. Consult our Sales Team for further details.

Vantrunk cable tray equal tees and unequal tees have a nominal internal radius of 75mm for widths up to and including 150mm, and a nominal internal radius of 150mm for widths of 200mm and above. Other radii are available to order.

Information shown is for Heavy Duty Return Flange tees, data for other sidewall heights available on request.

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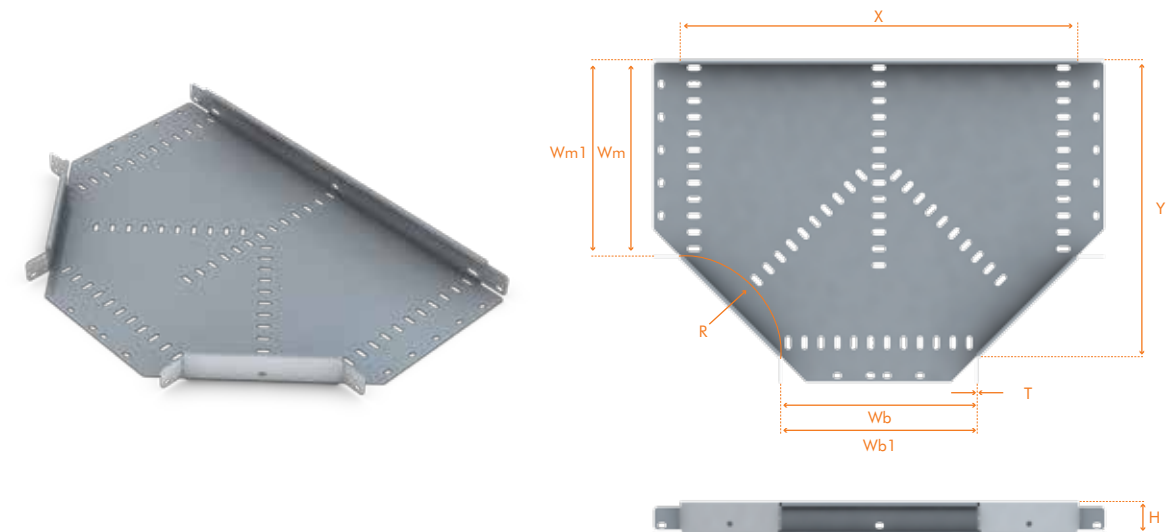


TEES

Heavy Duty Equal Tees

Ref. HR/ET

Vantrunk Heavy Duty Return Flange cable tray equal tees have a main width Wm and a branch width Wb which are identical.



Part Number	Tray Fitting		Wm mm	Wm1 mm	Wb mm	Wb1 mm	T mm	R mm	X mm	Y mm	Weight (kg)
	Main width mm	Branch Width mm									
HR/ET/50/O	50		48.2	50	48.2	50	0.9	75	204	127	0.40
HR/ET/75/O	75		73.2	75	73.2	75			229	152	0.52
HR/ET/100/O	100		98.2	100	98.2	100			254	177	0.63
HR/ET/150/O	150		148.2	150	148.2	150			304	227	0.87
HR/ET/200/O	200		197.6	200	197.6	200	1.2	150	504	352	2.39
HR/ET/225/O	225		222.6	225	222.6	225			530	377	2.61
HR/ET/300/O	300		297.6	300	297.6	300			605	452	3.30

O= Select a Finish & Material



Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



Heavy Duty Unequal Tees

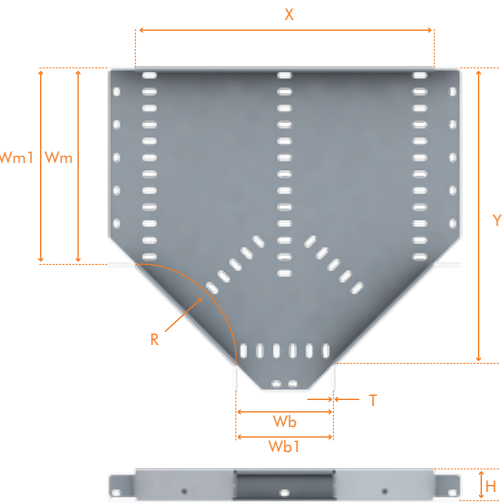
Ref. HR/UT

Vantrunk Heavy Duty Return Flange cable tray equal tees have a main width Wm and a branch width Wb which are different.

Part Number	Tray Fitting		Wm mm	Wm1 mm	Wb mm	Wb1 mm	T mm	R mm	X mm	Y mm	Weight (kg)
	Main width mm	Branch Width mm									
HR/UT/50/75/O	50	75	48.2	50	73.2	75			229	127	0.47
HR/UT/50/100/O	50	100	48.2	50	98.2	100	0.9	75	254	127	0.51
HR/UT/50/150/O	50	150	48.2	50	148.2	150			304	127	0.59
HR/UT/50/200/O	50	200	47.6	50	197.6	200			504	202	1.51
HR/UT/50/225/O	50	225	47.6	50	222.6	225	1.2	150	530	202	1.59
HR/UT/50/300/O	50	300	47.6	50	297.6	300			605	202	1.82
HR/UT/75/50/O	75	50	73.2	75	48.2	50			204	152	0.48
HR/UT/75/100/O	75	100	73.2	75	98.2	100	0.9	75	254	152	0.57
HR/UT/75/150/O	75	150	73.2	75	148.2	150			304	152	0.66
HR/UT/75/200/O	75	200	72.6	75	197.6	200			504	227	1.65
HR/UT/75/225/O	75	225	72.6	75	222.6	225	1.2	150	530	227	1.74
HR/UT/75/300/O	75	300	72.6	75	297.6	300			355	227	1.98
HR/UT/100/50/O	100	50	98.2	100	48.2	50			229	177	0.53
HR/UT/100/75/O	100	75	98.2	100	73.2	75	0.9	75	254	177	0.58
HR/UT/100/150/O	100	150	98.2	100	148.2	150			304	177	0.73
HR/UT/100/200/O	100	200	97.6	100	197.6	200			504	252	1.80
HR/UT/100/225/O	100	225	97.6	100	222.6	225	1.2	150	530	252	1.88
HR/UT/100/300/O	100	300	97.6	100	297.6	300			605	252	2.14
HR/UT/150/50/O	150	50	148.2	150	48.2	50			204	227	0.63
HR/UT/150/75/O	150	75	148.2	150	73.2	75	0.9	75	254	227	0.68
HR/UT/150/100/O	150	100	148.2	150	98.2	100			304	227	0.74
HR/UT/150/200/O	150	200	147.6	150	197.6	200			504	302	2.09
HR/UT/150/225/O	150	225	147.6	150	222.6	225	1.2	150	530	302	2.18
HR/UT/150/300/O	150	300	147.6	150	297.6	300			605	302	2.47
HR/UT/200/50/O	200	50	197.6	200	47.6	50			354	352	0.95
HR/UT/200/75/O	200	75	197.6	200	72.6	75			379	352	1.80
HR/UT/200/100/O	200	100	197.6	200	97.6	100	1.2	150	404	352	1.94
HR/UT/200/150/O	200	150	197.6	200	147.6	150			454	352	2.17
HR/UT/200/225/O	200	225	197.6	200	222.6	225			529	352	3.12
HR/UT/200/300/O	200	300	197.6	200	297.6	300			604	352	2.85
HR/UT/225/50/O	225	50	222.6	225	47.6	50			356	377	1.80
HR/UT/225/75/O	225	75	222.6	225	72.6	75			380	377	1.91
HR/UT/225/100/O	225	100	222.6	225	97.6	100	1.2	150	405	377	2.03
HR/UT/225/150/O	225	150	222.6	225	147.6	150			455	377	2.27
HR/UT/225/200/O	225	200	222.6	225	197.6	200			504	377	2.49
HR/UT/225/300/O	225	300	222.6	225	297.6	300			605	377	2.96
HR/UT/300/50/O	300	50	297.6	300	47.6	50			356	452	2.11
HR/UT/300/75/O	300	75	297.6	300	72.6	75			380	452	2.24
HR/UT/300/100/O	300	100	297.6	300	97.6	100	1.2	150	405	452	2.41
HR/UT/300/150/O	300	150	297.6	300	147.6	150			455	452	2.65
HR/UT/300/200/O	300	200	297.6	300	197.6	200			504	452	2.93
HR/UT/300/225/O	300	225	297.6	300	222.6	225			530	452	3.05

O= Select a Finish & Material

Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



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CROSSES

Crosses are used to create right angle intersections in the same plane, between horizontal cable tray runs when the cable tray is installed in the horizontal plane and between vertical cable tray runs when the cable tray is installed in the vertical plane.

Vantrunk heavy Duty Return Flange cable tray crosses are available in widths of 50mm to 900mm. The width is measured externally between the side walls to facilitate the use of the integral coupler.

The Vantrunk Medium Duty Return Flange cross has a sidewall height of 25mm. The standard Vantrunk Heavy Duty Return Flange cross has a side wall height of 50mm. Other heavy duty side wall heights from 30mm to 150mm are available to order.

Vantrunk Medium Duty Return Flange crosses have a nominal internal radius of 75mm for widths up to and including 150mm and a nominal internal radius of 150mm for widths of 200mm and above. Other radii are available to order.

Information shown is for Heavy Duty Return Flange crosses, data for other sidewall heights available on request.

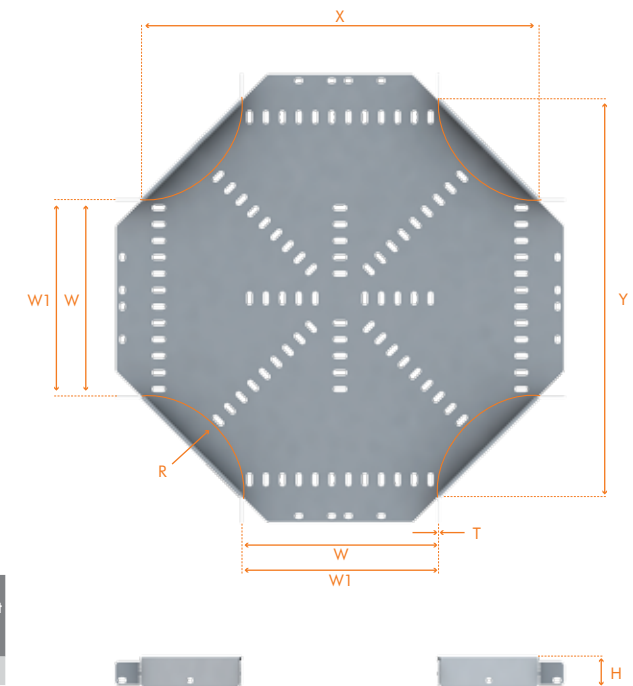
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CROSSES

Heavy Duty Crosses

Ref. HR/EC



Part Number	Fitting Width mm	W mm	W1 mm	T mm	R mm	X mm	Y mm	Weight (kg)
HR/EC/50/O	50	48.2	50	0.9	75	210	210	0.48
HR/EC/75/O	75	73.2	75			235	235	0.62
HR/EC/100/O	100	98.2	100			260	260	0.73
HR/EC/150/O	150	148.2	150	1.2	150	310	310	0.98
HR/EC/200/O	200	197.6	200			511	511	2.88
HR/EC/225/O	225	222.6	225			536	536	3.17
HR/EC/300/O	300	297.6	300			611	617	4.10

O= Select a Finish & Material

Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



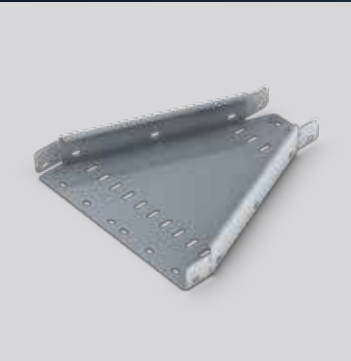
REDUCERS

Reducers are used to create a reduction in width along the cable tray run.

Straight reducers (RS) are used to create a concentric reduction, having an equal width reduction along both sides. Left hand reducers (RL) and right hand reducers (RR) are used to create offset reductions to suit particular site installation requirements.

Left hand reducers have the width reduction on the left when viewed from the primary width. Right hand reducers have the width reduction on the right when viewed from the primary width.

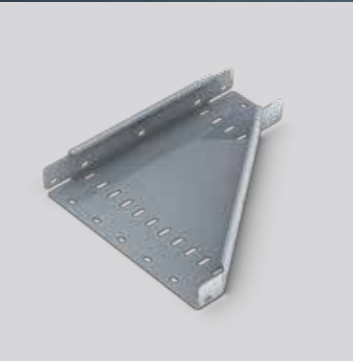
The Vantrunk Medium Duty Return Flange reducers have a sidewall height of 25mm. The standard Vantrunk Heavy Duty Return Flange reducers have a side wall height of 50mm. Other heavy duty side wall heights from 30mm to 150mm are available to order.



Vantrunk Heavy Duty Return Flange Cable Tray Straight Reducers



Vantrunk Heavy Duty Return Flange Cable Tray Left Hand Reducers



Vantrunk Heavy Duty Return Flange Cable Tray Right Hand Reducers

Vantrunk cable tray reducers are available in any combination widths from 900mm to 450mm and from 450mm to 50mm as standard. Other width combinations are available to order. The width is measured externally between the side walls to facilitate the use of the integral coupler.

Vantrunk cable tray reducers have a standard length of 250mm.

Information shown is for Heavy Duty Return Flange reducers, data for other sidewall heights available on request.

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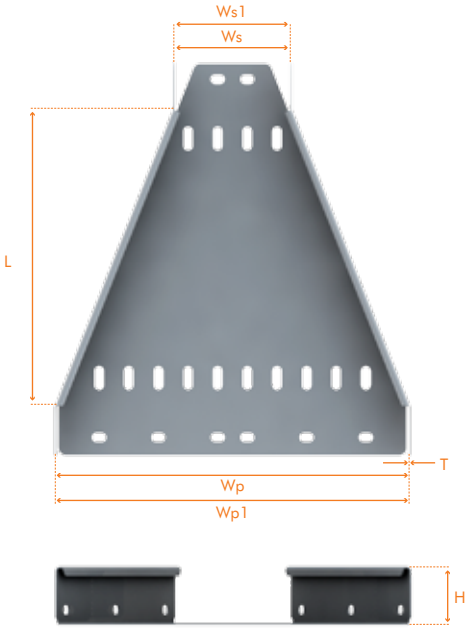


REDUCERS

Heavy Duty Straight Reducer

Ref. HR/RS

Straight reducers (RS) are used to create a concentric reduction, having an equal width reduction along both sides.



Part Number	Tray Fitting		Wp mm	Wp1 mm	Ws mm	Ws1 mm	T mm	L mm	Weight (kg)
	Primary width mm	Secondary Width mm							
HR/RS/75/50/○	75	50	73.2	75	48.2	50	0.9	250	0.40
HR/RS/100/50/○	100	50	98.2	100	48.2	50	0.9	250	0.43
HR/RS/100/50/○	100	75	98.2	100	73.2	75			0.49
HR/RS/150/50/○	150	50	148.2	150	48.2	50			0.50
HR/RS/150/75/○	150	75	148.2	150	73.2	75	0.9	250	0.56
HR/RS/150/100/○	150	100	148.2	150	98.2	100			0.58
HR/RS/200/50/○	200	50	197.6	200	47.6	50			0.55
HR/RS/200/75/○	200	75	197.6	200	72.6	75	1.2	250	0.61
HR/RS/200/100/○	200	100	197.6	200	97.6	100			0.64
HR/RS/200/150/○	200	150	197.6	200	147.6	150			0.70
HR/RS/225/50/○	225	50	223.2	225	48.2	48.2			0.59
HR/RS/225/75/○	225	75	223.2	225	73.2	73.2	0.9	250	0.65
HR/RS/225/100/○	225	100	223.2	225	98.2	98.2			0.68
HR/RS/225/150/○	225	150	223.2	225	148.2	148.2			0.73
HR/RS/225/200/○	225	200	222.6	225	197.6	200	1.2		0.78
HR/RS/300/50/○	300	50	298.2	300	48.2	50			0.70
HR/RS/300/75/○	300	75	298.2	300	73.2	75	0.9	250	0.75
HR/RS/300/100/○	300	100	298.2	300	98.2	100			0.78
HR/RS/300/150/○	300	150	298.2	300	148.2	150			0.84
HR/RS/300/200/○	300	200	297.6	300	197.6	200			0.88
HR/RS/300/225/○	300	225	297.6	300	222.6	225	1.2		1.21

○= Select a Finish & Material

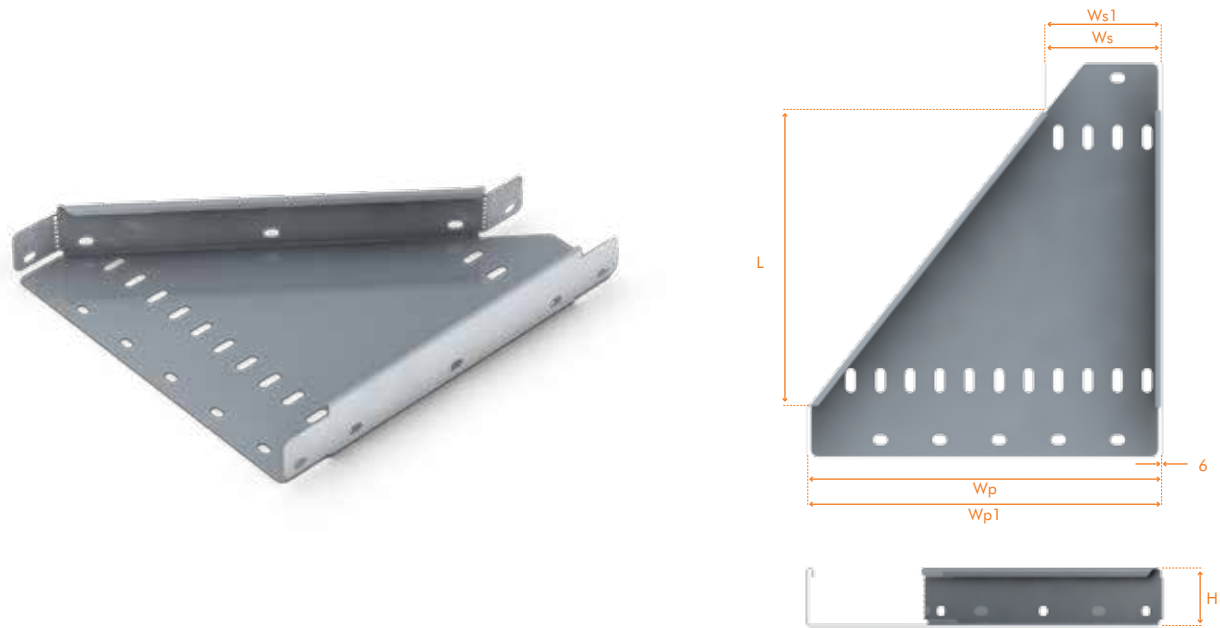
Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



Heavy Duty Left Hand Reducer

Ref. HR/RL

Left hand reducers are used to create offset reductions to suit particular site installation requirements. Left hand reducers have the width reduction on the left when viewed from the primary width.



Part Number	Tray Fitting		Wp mm	Wp1 mm	Ws mm	Ws1 mm	T mm	L mm	Weight (kg)
	Primary width mm	Secondary Width mm							
HR/RL/75/50/O	75	50	73.2	75	48.2	50	0.9	250	0.40
HR/RL/100/50/O	100	50	98.2	100	48.2	50	0.9	250	0.43
HR/RL/100/50/O	100	75	98.2	100	73.2	75			0.49
HR/RL/150/50/O	150	50	148.2	150	48.2	50			0.50
HR/RL/150/75/O	150	75	148.2	150	73.2	75	0.9	250	0.56
HR/RL/150/100/O	150	100	148.2	150	98.2	100			0.58
HR/RL/200/50/O	200	50	197.6	200	47.6	50			0.56
HR/RL/200/75/O	200	75	197.6	200	72.6	75			0.62
HR/RL/200/100/O	200	100	197.6	200	97.6	100	1.2	250	0.64
HR/RL/200/150/O	200	150	197.6	200	147.6	150			0.70
HR/RL/225/50/O	225	50	223.2	225	48.2	50			0.61
HR/RL/225/75/O	225	75	223.2	225	73.2	75			0.66
HR/RL/225/100/O	225	100	223.2	225	98.2	100	0.9	250	0.68
HR/RL/225/150/O	225	150	223.2	225	148.2	150			0.74
HR/RL/225/200/O	225	200	222.6	225	197.6	200	1.2		0.78
HR/RL/300/50/O	300	50	298.2	300	48.2	50			0.72
HR/RL/300/75/O	300	75	298.2	300	73.2	75			0.77
HR/RL/300/100/O	300	100	298.2	300	98.2	100	0.9	250	0.80
HR/RL/300/150/O	300	150	298.2	300	148.2	150			0.84
HR/RL/300/200/O	300	200	297.6	300	197.6	200			0.88
HR/RL/300/225/O	300	225	297.6	300	222.6	225	1.2		1.20

O= Select a Finish & Material

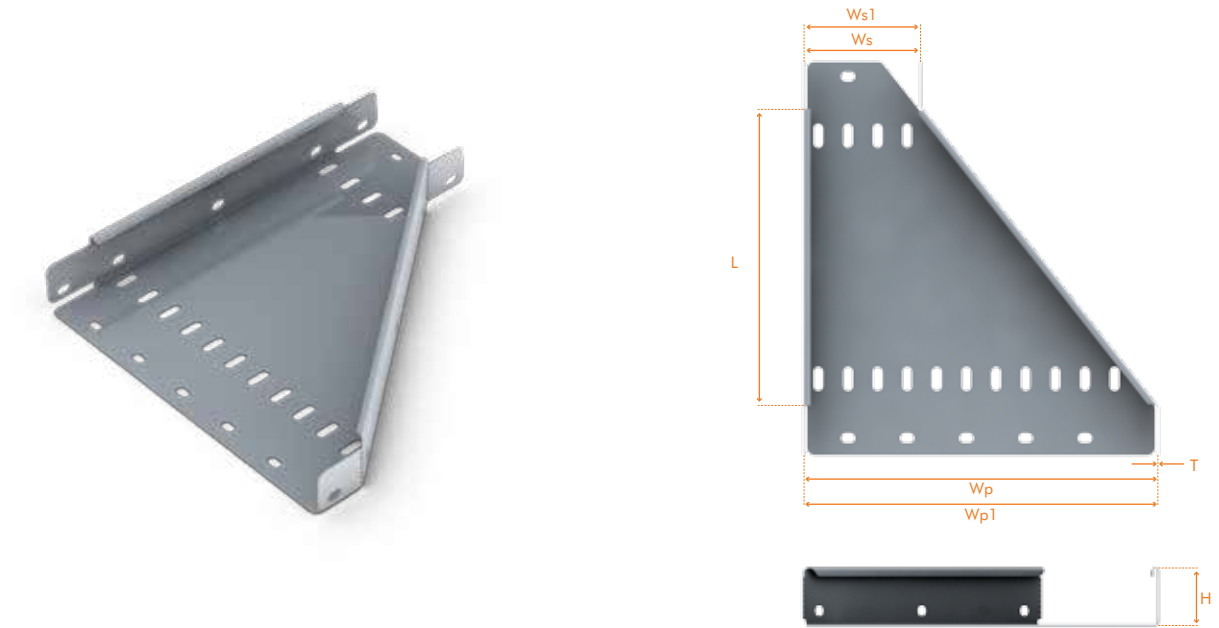
Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



Heavy Duty Right Hand Reducer

Ref. HR/RR

Right hand reducers (RR) are used to create offset reductions to suit particular site installation requirements. Right hand reducers have the width reduction on the right when viewed from the primary width.



Part Number	Tray Fitting		Wp mm	Wp1 mm	Ws mm	Ws1 mm	T mm	L mm	Weight (kg)
	Primary width mm	Secondary Width mm							
HR/RR/75/50/O	75	50	73.2	75	48.2	50	0.9	250	0.40
HR/RR/100/50/O	100	50	98.2	100	48.2	50	0.9	250	0.43
HR/RR/100/75/O	100	75	98.2	100	73.2	75			0.49
HR/RR/150/50/O	150	50	148.2	150	48.2	50			0.50
HR/RR/150/75/O	150	75	148.2	150	73.2	75	0.9	250	0.56
HR/RR/150/100/O	150	100	148.2	150	98.2	100			0.58
HR/RR/200/50/O	200	50	197.6	200	47.6	50			0.56
HR/RR/200/75/O	200	75	197.6	200	72.6	75			0.62
HR/RR/200/100/O	200	100	197.6	200	97.6	100	1.2	250	0.64
HR/RR/200/150/O	200	150	197.6	200	147.6	150			0.70
HR/RR/225/50/O	225	50	223.2	225	48.2	50			0.61
HR/RR/225/75/O	225	75	223.2	225	73.2	75	0.9	250	0.66
HR/RR/225/100/O	225	100	223.2	225	98.2	100			0.68
HR/RR/225/150/O	225	150	223.2	225	148.2	150			0.74
HR/RR/225/200/O	225	200	222.6	225	197.6	200	1.2		0.78
HR/RR/300/50/O	300	50	298.2	300	48.2	50			0.72
HR/RR/300/75/O	300	75	298.2	300	73.2	75			0.77
HR/RR/300/100/O	300	100	298.2	300	98.2	100	0.9	250	0.80
HR/RR/300/150/O	300	150	298.2	300	148.2	150			0.84
HR/RR/300/200/O	300	200	297.6	300	197.6	200			0.88
HR/RR/300/225/O	300	225	297.6	300	222.6	225	1.2		1.20

O= Select a Finish & Material

Gauge & weights are given for the hot dip galvanized mild steel cable tray, with a standard side wall height of 50mm. Refer to 'Cable Tray Technical Data' for other materials and gauges.



COUPLERS

A full range of couplers are available for the Vantrunk Cable Tray system, providing a secure and versatile means of connecting straight cable tray lengths.

Vantrunk supply two alternative methods of coupling straight lengths of tray together that both ensure a safe straight joint. Unless otherwise stated, the Flat Bar Coupler will be supplied as standard.

Vantrunk also supply a range of additional couplers including horizontal & vertical adjustable couplers which allow offsets to be made in cable tray runs to suit specific site installation requirements.

Information shown is for Heavy Duty Return Flange couplers, data for other sidewall heights is available on request.

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COUPLERS

Heavy Duty Flat Bar Coupler

Ref. HR/FBC

The Vantrunk Heavy Duty Return Flange cable tray flat bar coupler is the standard means of connecting straight lengths of cable tray and is available in the full range of side wall heights to match that of the cable tray range. Unless otherwise specified, the flat bar coupler will be supplied as standard.

Flat Bar Couplers are supplied individually and with fixings.



Part Number
HR/FBC/O

Finishes & Materials: GA SS GX GK

Supplied with: x4

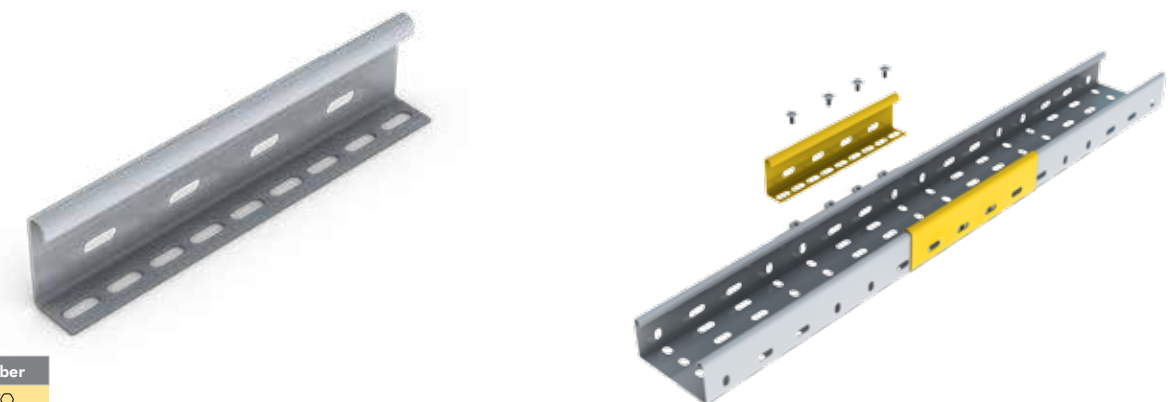
O= Select a Finish & Material

Heavy Duty Straight Coupler

Ref. HR/SC

The Vantrunk heavy duty return flange cable tray straight coupler provides an effective means of connection between heavy duty return flange straight cable tray lengths.

Straight Couplers are supplied as pairs and with fixings.



Part Number
HR/SC/O

Finishes & Materials: GA SS GX GK

Supplied with: x8

O= Select a Finish & Material



Heavy Duty Horizontal Adjustable Coupler

Ref. HR/HAC

The Vantrunk Heavy Duty Return Flange cable tray horizontal adjustable coupler allows horizontal adjustment between adjacent lengths of cable tray and is available in the full range of side wall heights to match that of the Heavy Duty cable tray.

Horizontal Adjustable Couplers are supplied individually and with fixings.



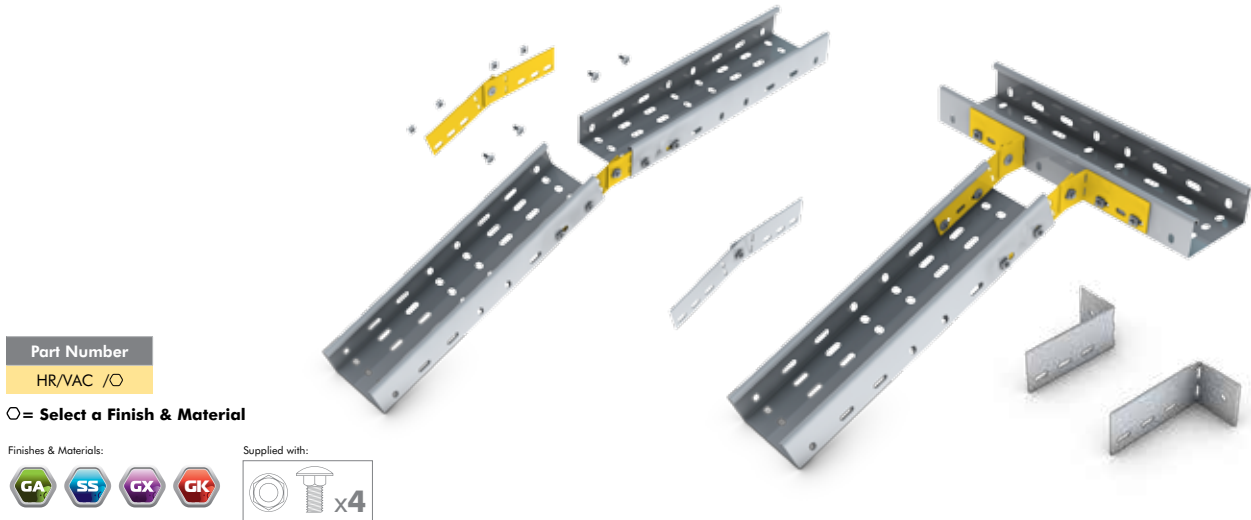
Heavy Duty Vertical Adjustable Coupler

Ref. HR/VAC

The Vantrunk Heavy Duty Return Flange cable tray vertical adjustable coupler is the standard means of allowing vertical adjustment between adjacent lengths of cable tray and is available in the full range of side wall heights to match that of the Heavy Duty cable tray.

The vertical adjustable coupler features easi-bend slots which allow the couplers to be adjusted on site to create combined horizontal & vertical offset connections, tray connections onto the side of a cable tray run to form tee connections, or connections directly to a wall or floor.

Vertical Adjustable Couplers are supplied individually and with fixings.

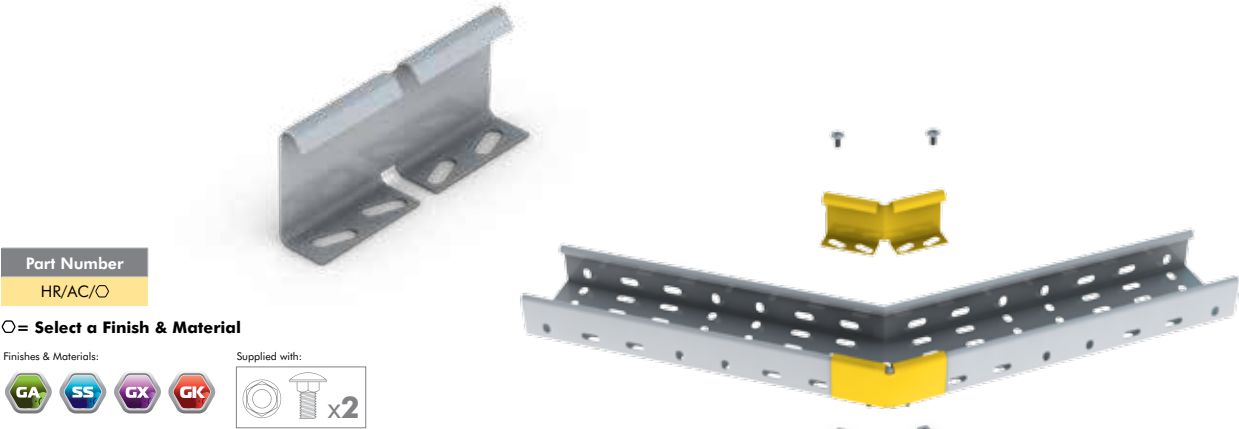


Heavy Duty Adjustable Coupler

Ref. HR/AC

The Vantrunk Heavy Duty Return Flange cable tray adjustable coupler allows horizontal adjustment between adjacent lengths of cable tray.

Adjustable Couplers are supplied as pairs and with fixings.



Fish Plate Coupler

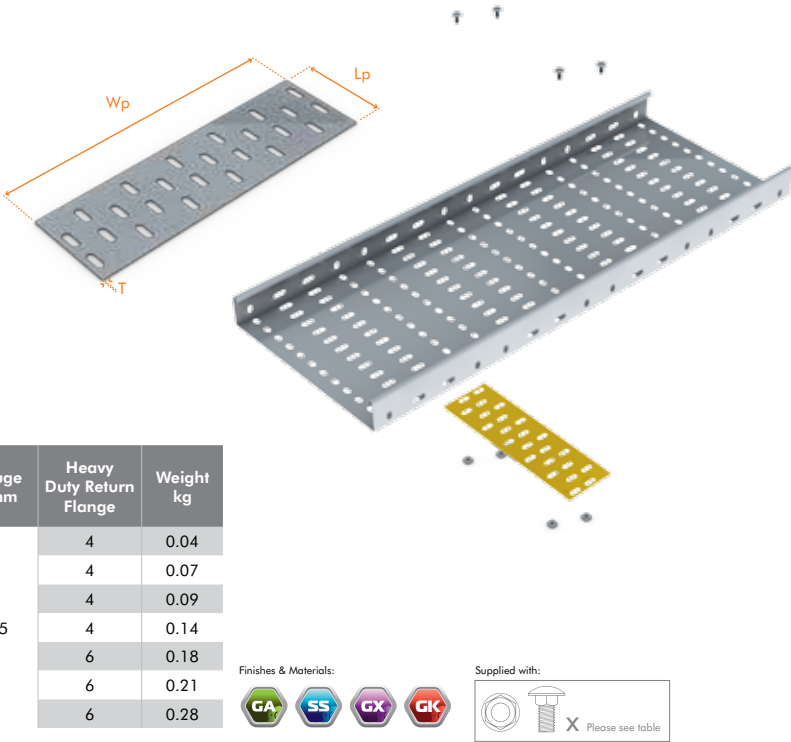
Ref. TR/FPC

The Vantrunk fish plate coupler gives support across the base of the cable tray and is available to suit cable tray of widths 50mm to 900mm. Fish plate couplers are recommended for connecting straight cable trays which are heavily loaded.

Part Number	Tray Width mm	Wp mm	Lp mm	Gauge T mm	Heavy Duty Return Flange	Weight kg
TR/FPC/50/O	50	42	88	1.5	4	0.04
TR/FPC/75/O	75	67			4	0.07
TR/FPC/100/O	100	92			4	0.09
TR/FPC/150/O	150	142			4	0.14
TR/FPC/200/O	200	192			6	0.18
TR/FPC/225/O	225	217			6	0.21
TR/FPC/300/O	300	292			6	0.28

○= Select a Finish & Material

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel & Corten A weight please refer to the technical section of our catalogue.



ACCESSORIES

The Vantrunk cable tray system is complemented by a range of accessories designed to aid installation and to add additional functionality & flexibility to the cable tray installation.

Where required the information shown is for Heavy Duty Return Flange accessories, data for other sidewall heights is available on request.

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ACCESSORIES

Tray Earth Bonding Strap

Ref. EBS/05

The tray earth bonding strap for cable tray (EBS/05) is designed for use in electrical installations where an additional means of earthing or electrical bonding is specified. The earth bonding strap comprises of a 4mm² 100mm long tinned copper braid with M6 tinned copper end connectors. The earth bonding strap is suitable for use with all types of Vantrunk cable tray.



Earth bonding straps are not supplied with fixings. Recommended fixings – two M6 x 12 pan head screws and M6 nuts (plus M6 flat washers for stainless steel). Consult our Sales Team for details.

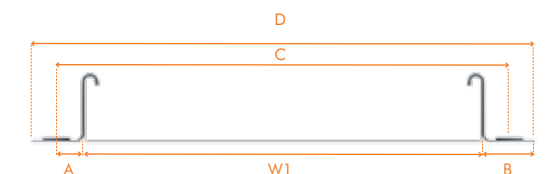
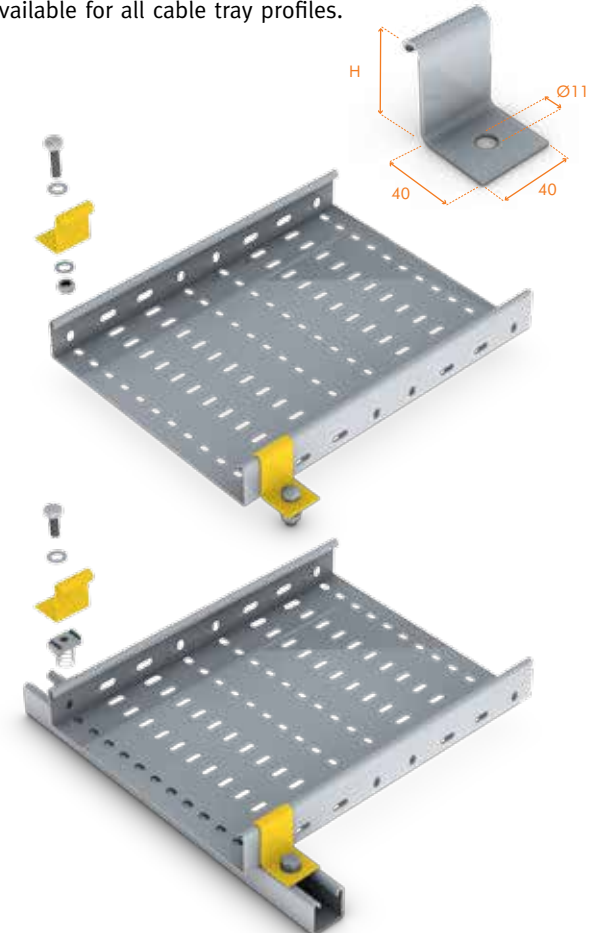
Part Number	Supplied with:
EBS/05	x0

○ = Select a Finish & Material

Hold Down Bracket

Ref. HDB

Hold-down brackets provide an alternative means of securing cable tray to the support structure, particularly where the slots in the base of the cable tray do not coincide with the supports. Ideal for use with Intelok Channel type support systems, the hold-down bracket is available for all cable tray profiles.



Tray Type	Dimensions mm				
	H	A	B	C	D
Heavy Duty HR	52	23	40	W1 + 46	W1 + 80

Part Number
HR/HDB/○

○ = Select a Finish & Material





Tray Insulating Assemblies

A comprehensive range of nylon insulating assemblies are available to suit those applications where there is a requirement to prevent bi-metallic corrosion occurring in either the Vantrunk cable tray system or the support structure. A typical example is a stainless steel Vantrunk cable tray system mounted on galvanized or painted steel supports.

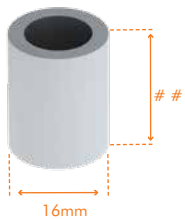
The insulating assembly is based on nylon base pads, nylon bushes and nylon washers which when used totally encapsulate the fixings and provide electrical separation between the Vantrunk cable tray system and the supporting structure.

M10 Nylon Bush

Part No. NYM10X##B

Nylon Bush Length ## = Steel Thickness (mm)

The length of the nylon bush is equal to the thickness of the supporting steelwork (##). The M10 nylon bush requires a 17mm diameter hole in the supporting steelwork.

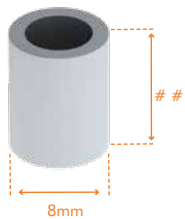


M6 Nylon Bush

Part No. NYM6##BU

Nylon Bush Length ## = Steel Thickness (mm)

The length of the nylon bush is equal to the thickness of the supporting steelwork (##). The M6 nylon bush requires a minimal 9mm diameter hole in the supporting steelwork.



M10 Fixing Bolt

Part No. SSM10X□HS

Minimum Thread Length □ = 22 + ##

The minimum thread length for the fixing bolt is 22mm plus the thickness of the supporting steelwork. Refer to the table below for details of the fixing bolts.

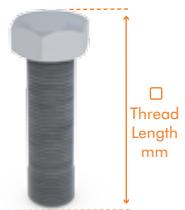


M6 Fixing Bolt

Part No. SSM6X□PH

Minimum Thread Length □ = 22 + ##

The minimum thread length for the fixing bolt is 22mm plus the thickness of the supporting steelwork. Refer to the table below for details of the fixing bolts.



SSM10X□HS Fixing Bolt Details

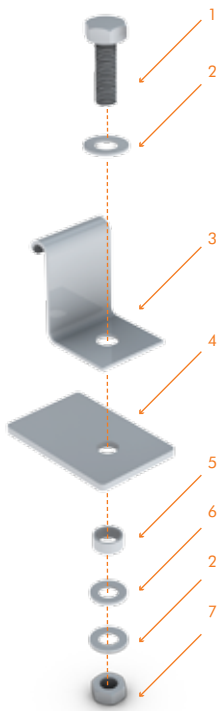
Part Number	Thread Length	Description
SSM10X25HS	25mm	M10 x 25 Hex Head Set Screw Stainless Steel
SSM10X30HS	30mm	M10 x 30 Hex Head Set Screw Stainless Steel
SSM10X35HS	35mm	M10 x 35 Hex Head Set Screw Stainless Steel
SSM10X40HS	40mm	M10 x 40 Hex Head Set Screw Stainless Steel

\$\$ - Fixing Bolt Tread Length (See table below)
- Thickness of supporting steelwork in mm.

For Example:

If the tray is to be mounted to the steelwork without a HDB, order: TR/INS12/SS. If the thickness of the Steelwork = 12mm. The length of the Nylon Bush is also 12mm = NYM6x12BU. This means that the Minimum Thread Length of the Fixing Bolt = 22 + 12 = 34mm. Rounding this figure up to the nearest standard bolt length of 35mm, the supplied bolt = SSM6x35PH

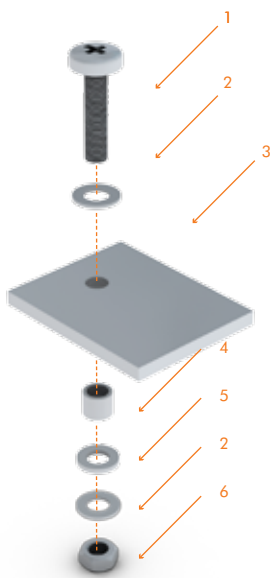
Insulating Assembly Components for Hold Down Bracket



Part Number	Item	Description
SSM10X□HS	1	M10 Hex Head Set Screw Stainless Steel - Length = □
SSM10FW	2	M10 Flat Washer Stainless Steel
HR/HDB/SS	3	Heavy Duty Cable Tray Hold Down Bracket, Stainless Steel
315AN15	4	Nylon Pad (75 x 50 x 4mm)
315AN01-##	5	Nylon Bush - Length = ##
M10FW/NYL	6	M10 Flat Washer Nylon
SSM10HN	7	M10 Hex Nut Stainless Steel

\$\$ - Fixing Bolt Tread Length (See table below)
- Thickness of supporting steelwork in mm.

Insulating Assembly Components for Tray only insulation



Part Number	Item	Description
SSM6X□PH	1	M6 Pan Head Screw Stainless Steel - Length = □
SSM6FW	2	M6 Flat Washer Stainless Steel
315AN11	3	Nylon Pad (50 x 40 x 4mm)
315AN25-##	4	Nylon Bush - Length = ##
M6FW/NYL	5	Nylon Bush - Length = ##
M6FW/NYL	6	M6 Flat Washer Nylon

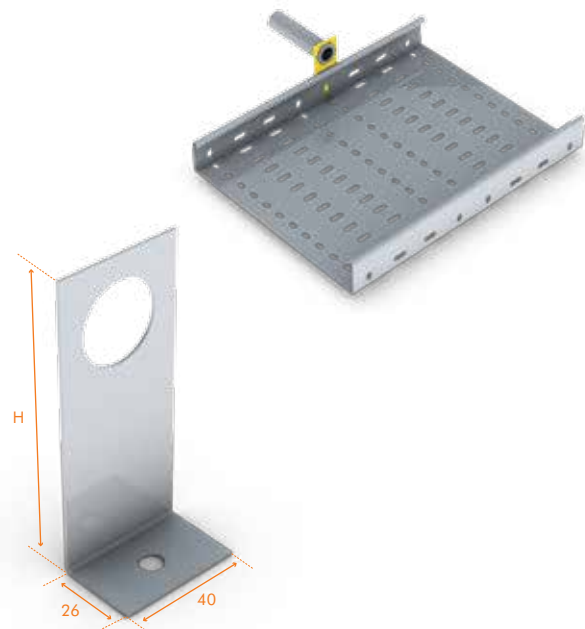
\$\$ - Fixing Bolt Tread Length (See table below)
- Thickness of supporting steelwork in mm.



Conduit Take-off Plate

Ref. TOP

Conduit take-off plates are suitable for use with all types of Vantrunk cable tray and are available with clearance holes to suit either 20mm or 25mm conduit fittings.



Part Number	Dimensions mm	
	Size	H
TR/TOP/20/O	20	94
TR/TOP/25/O	25	94

O= Select a Finish & Material



To specify a conduit take-off plate for Vantrunk heavy duty return flange cable tray with a side wall height above 50mm, suffix the 'HR' designation with the required side wall height in millimetres.

Ordering example:

TR/TOP/25/SS Vantrunk Cable Tray Conduit Take-off Plate, 25mm, Stainless Steel (316 Grade)

To specify a conduit take-off plate for Vantrunk heavy duty return flange cable tray with a side wall height above 50mm, suffix the 'HR' designation with the required side wall height in millimetres.

Ordering example:

HR75/TOP/20/GA Vantrunk Heavy Duty Cable Tray, 75mm High, Conduit Take-off Plate, 20mm, Hot Dipped Galvanized Mild Steel.

Conduit Take-off Plates are not supplied with fixings.

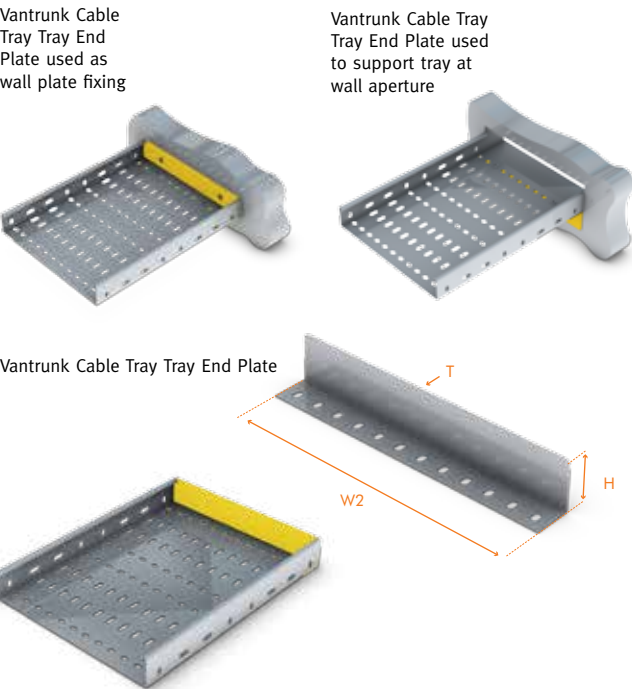
Recommended fixings – M6 x 12 pan head screw and M6 nut (plus M6 flat washer for stainless steel). Consult our Sales Team for details.

Tray End Plate

Ref. EP

Vantrunk cable tray end plates provide an effective termination for open ends of cable trays.

Cable tray end plates are available in widths from 50mm to 900mm as standard. Each end plate has 20mm x 7mm fixing slots at 50mm centres which allow use for securing the cable tray to a wall or floor.



Part Number	Dimensions mm				No of Fixing Slots
	Tray Width W	W2	H	T	
HR/EP/50/O	50	46	Heavy Duty = 50	1.0	1
HR/EP/100/O	100	96			2
HR/EP/150/O	150	146			2
HR/EP/200/O	200	196	Heavy Duty = 50	1.5	3
HR/EP/225/O	225	221			3
HR/EP/300/O	300	296			5

O= Select a Finish & Material



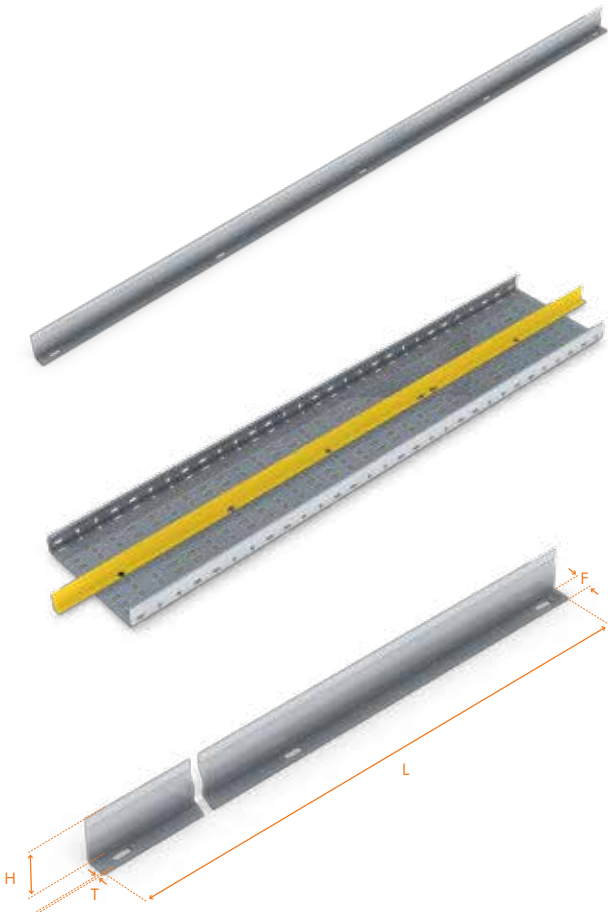
Tray end plates are not supplied with fixings.

Recommended fixings – M6 x 12 pan head screw and M6 nut (plus M6 flat washer for stainless steel). Consult our Sales Team for details.

Straight Tray Divider

Ref. DIV/SL3

Straight tray dividers are available for cable segregation and separation purposes along the length of the cable run. Straight tray dividers are available to suit all cable tray sections and are available in 3m lengths as standard.



Part Number	Dimensions mm			
	L	H	F	T
HR/DIV/SL3/O	3000	47	20	1

O= Select a Finish & Material



Straight tray dividers are not supplied with fixings (3 fixings required per straight divider).

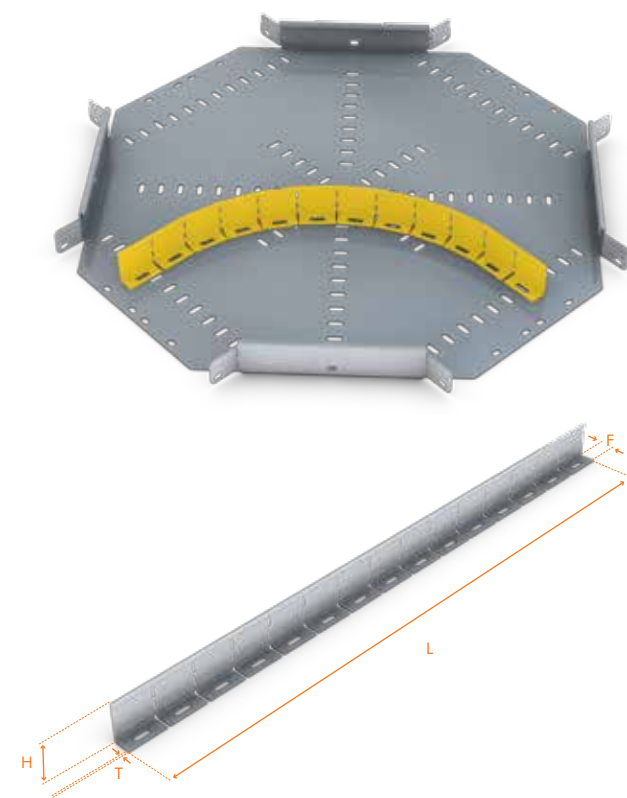
Recommended fixings – M6 x 12 pan head screw and M6 nut (plus M6 flat washer for stainless steel). Consult our Sales Team for details.

Subject to order requirements, straight tray dividers may be supplied in 1.5m lengths to suit delivery & shipping needs.

Tray Fitting Divider

Ref. DIV/FLO.6

Tray fitting dividers are available for cable segregation and separation purposes on fittings. The tray fitting divider is supplied as a 600mm straight length and is notched to allow for forming around flat bends, tees, crosses & reducers. Tray fitting dividers are available to suit all cable tray sections.



Part Number	Dimensions mm			
	L	H	F	T
HR/DIV/FLO.6/O	600	47	20	1

O= Select a Finish & Material



Tray fitting dividers are not supplied with fixings (3 fixings required per fitting divider).

Recommended fixings – M6 x 12 pan head screw and M6 nut (plus M6 flat washer for stainless steel). Consult our Sales Team for details.

Tray Riser Divider

Ref. DIV/VR

Tray riser dividers are available for cable segregation and separation purposes on risers. Tray riser dividers are available to suit all cable tray sections and are supplied as variable riser dividers to suit both inside and outside riser fittings.

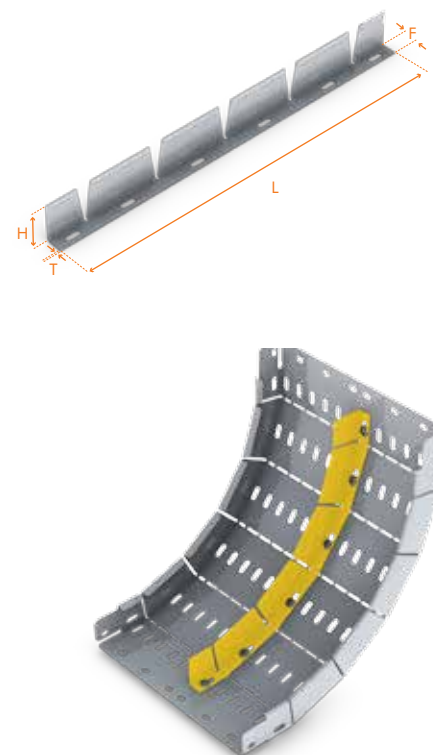
Part Number	Dimensions mm			
	L	H	F	T
HR/DIV/VR/O	465	47	20	1

○ = Select a Finish & Material



Tray riser dividers are not supplied with fixings (3 fixings required per fitting divider).

Recommended fixings – M6 x 12 pan head screw and M6 nut (plus M6 flat washer for stainless steel). Consult our Sales Team for details.



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COVERS

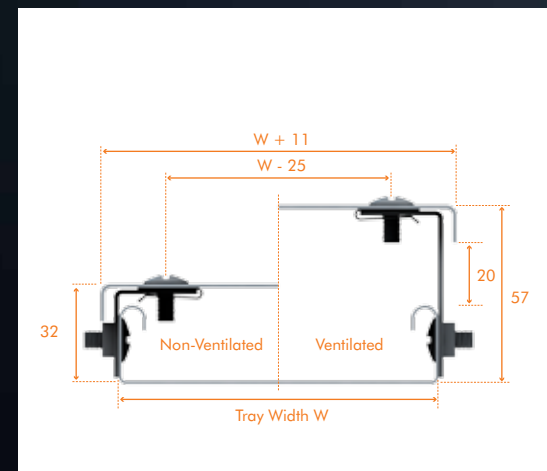
The Vantrunk cable tray range is complemented by an extensive range of covers. Covers are available to suit the Vantrunk medium duty return flange and Vantrunk heavy duty return flange cable tray systems.

Covers are used with cable tray to provide mechanical and environmental protection for cables and other items installed on the cable tray.

Covers can be installed as either closed (non-ventilated, plain, close-fitting) or ventilated (plain raised cover) depending on the type of cover fixing kit supplied with each cover.

Covers for straight cable tray are available in non-standard gauges to suit particular site installation requirements. Consult our Sales Team for details. Ventilated covers for Vantrunk medium duty return flange cable tray have a ventilation gap of 21mm. Ventilated covers for Vantrunk heavy duty return flange cable tray have a ventilation gap of 24mm.

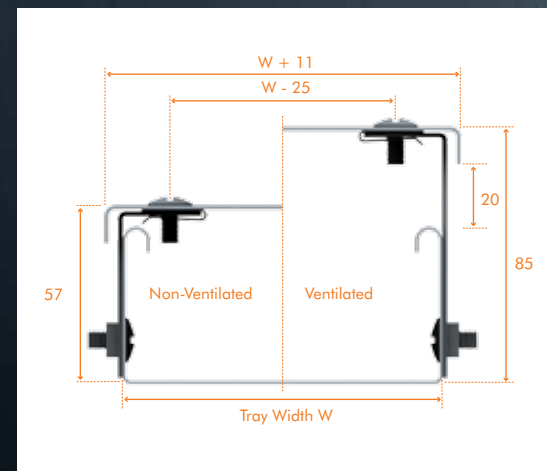
Medium Duty Cable Tray Covers



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Heavy Duty Cable Tray Covers

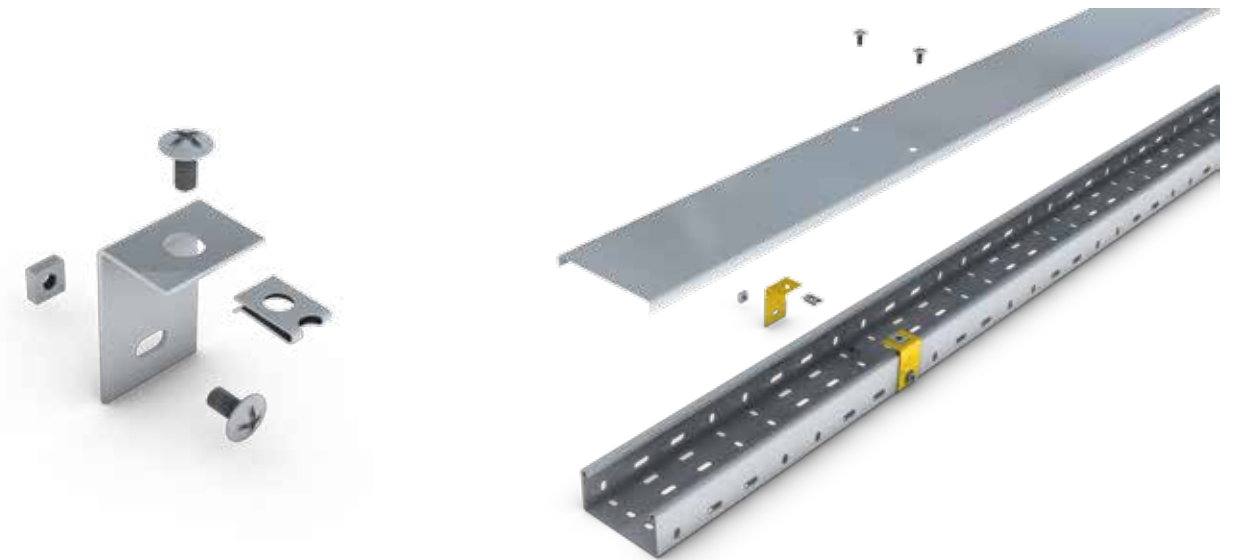


COVERS

Cover Fixing Kits

Vantrunk cable tray covers are supplied complete with all necessary fixing kits. Each fixing kit comprises of a preformed mounting bracket, a corrosion resistant M6 spire nut, two M6 screws and one M6 nut.

The general method of assembly for the Vantrunk cable tray cover is shown in the following image. This method is common to both medium and heavy duty cable trays and to cable tray fittings.

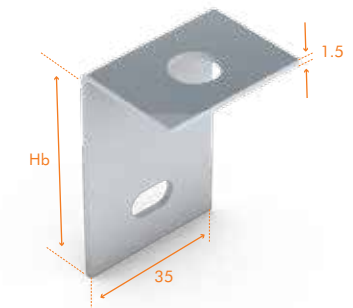


Covers for straight cable tray and cable tray fittings are supplied with the appropriate number of cover fixing kits as follows:

Tray & Fitting Type	Width	
	50mm to 150mm	200mm to 300mm
Straight Tray	6	6
90° Flat Elbows	3	4
60° Flat Elbows	3	4
45° Flat Elbows	3	3
30° Flat Elbows	3	3
Inside Risers	4	4
Outside Risers	4	4
Equal Tees	3	4
Unequal Tees *	3	4
Equal Crosses	4	4
Reducers	4	4

* Stainless Steel and Silicon Rich Steel weight conversion factors please refer to the Cable Tray Technical Section.

Each cover fixing kit is supplied with the appropriate cover mounting bracket for either a non-ventilated cover or ventilated cover based on the part number ordered. Dimensions for the cover mounting brackets are as follows:



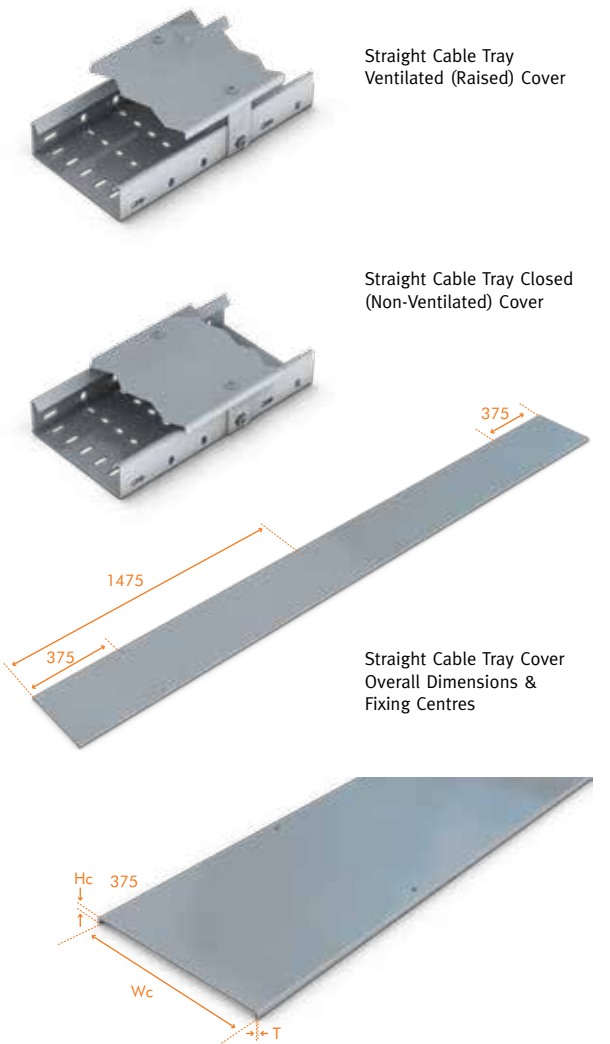
Cover Type	Bracket Height Hb mm
Medium duty closed covers	28
Medium duty ventilated covers	53
Heavy duty closed covers	53
Heavy duty ventilated covers	78



Straight Tray Covers

Ref. CC/SL3 or CL/SL3

Vantrunk straight tray covers are 3m in length and are available in widths of 50mm to 900mm as standard. Covers are common for both closed and ventilated applications.



Tray Width mm	Cover Width Wc mm	Height Hc mm	Gauge T mm	Weight kg
50	61	11.9	0.9	2.51
75	86	11.9	0.9	3.17
100	111	11.9	0.9	3.92
150	161	11.9	0.9	5.43
200	211	11.9	0.9	6.74
225	236	11.9	0.9	7.70
300	311	12.2	0.9	9.96

Weights shown are for standard hot dip galvanised finish only, for Stainless Steel & Silicon Rich Steel weight conversion factors please refer to the Cable Tray technical section.

Cable Tray Fitting Covers

Ref. CC/Fitting Type or CC/Fitting Type

Vantrunk cable tray fitting covers are available in widths of 50mm to 900mm as standard. Covers are common for both closed and ventilated applications.



Order details for all fittings except risers are as follows:

Tray Type / Cover Type / Tray Fitting Type / Width / (Radius) / Finish & Material.

Omit the radius detail if the standard radius fitting is required.

Order example:

HR/CV/FE30/300/GA Vantrunk Heavy Duty Return Flange Cable Tray Ventilated Cover, 30° Flat Elbow, 300mm Wide, c/w Cover Fixing Kits, Hot Dip Galvanized Mild Steel.

Include the radius detail if a non-standard radius fitting is required.

Order example:

HR/CC/FE90/750/300/SS Vantrunk Heavy Duty Return Flange Cable Tray Closed Cover, 90° Flat Elbow, 750mm Wide, 300mm Radius, c/w Cover Fixing Kits, Stainless Steel (316 Grade).

Covers for inside and outside riser fittings are supplied pre-formed to angles of 30°, 45°, 60° or 90° to match the angle of the riser.

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All Vantrunk cable tray fittings are available to order with radii of 300mm, 450mm & 600mm. Those cable tray fittings which have a standard radius of 75mm are also available to order with a radius of 150mm. Consult our Sales Team for details.

> 1.5 Material Gauges

The standard range of material gauges for the Vantrunk cable tray & fittings have been determined by providing the most cost effective and efficient gauge for each material type to suit the designed application of each of Vantrunk cable tray system types.

The following table shows the standard material gauges for each width and type of Vantrunk cable tray system in a number of finishes. Consult our Design Team for gauge details for other materials & finishes.

Material Gauges

Tray Type	Width	Hot Dip Galvanized Mild Steel (GA)	Stainless Steel (SS)	Hot Dip Galvanized Silicon Rich Steel (GX)
MR	50	0.9	0.9	1.5
	75			
	100			
	150			
	200			
	225	1.2		
	300			
	450	1.5	1.2	
	600			
	750			
900	1.5			
Covers	50	0.9	0.9	1.5
	75			
	100			
	150			
	200			
	225	1.2	1.2	
	300			
	450	1.5	1.5	
	600			
	750			
900				
HR	50	0.9	0.9	1.5
	75			
	100			
	150			
	200			
	225	1.2	1.0	
	300			
	450	1.5	1.2	
	600			
	750			
900	2.0	1.5		

The standard material gauges are supplied for each tray and fitting type & width unless otherwise specified. To order a non-standard gauge, suffix the part number with the required gauge in millimeters.

Consult our Design Team for guidance on the appropriate selection of non-standard material gauge combinations. Weights, where quoted in the catalogue, are for the standard gauge mild steel/hot dip galvanized item. The following correction factor should be used to determine the weight for the corresponding item in an alternative gauge and finish.

As an example:

A heavy duty return flange cable 90° flat bend, 600mm wide, hot dip galvanized finish in standard 2.0mm gauge weights 9.56kg. Equivalent weight of the stainless steel item in 2.0mm gauge = 9.56kg x 0.96 = 9.18kg.

Material & Gauge Correction Factor

Standard Gauge	Required Gauge	Hot Dip Galvanized Mild Steel (GA)	Stainless Steel (SS)	Hot Dip Galvanized Silicon Rich Steel (GX)
0.9	0.9	0.92	0.94	1.08
	1.0	1.02	1.04	1.20
	1.2	1.24	1.26	1.42
	1.5	1.58	1.60	1.76
	2.0	2.10	2.13	2.35
1.0	0.9	0.83	0.84	1.08
	1.0	0.92	0.94	1.20
	1.2	1.12	1.14	1.42
	1.5	1.42	1.44	1.76
	2.0	1.89	1.92	2.35
1.2	0.9	0.69	0.70	0.81
	1.0	0.77	0.78	0.90
	1.2	0.93	0.95	1.07
	1.5	1.18	1.20	1.32
	2.0	1.57	1.60	1.76
1.5	0.9	0.55	0.56	0.65
	1.0	0.61	0.62	0.72
	1.2	0.75	0.76	0.85
	1.5	0.95	0.96	1.05
	2.0	1.26	1.28	1.41
2.0	0.9	0.41	0.42	0.49
	1.0	0.46	0.47	0.54
	1.2	0.56	0.57	0.64
	1.5	0.71	0.72	0.79
	2.0	0.94	0.96	1.06

Consult our Technical Team for other material & gauge combinations.

> 1.6 Recommended number of fixings of cable tray fittings

Vantrunk cable tray fittings have integral jointing strips for connecting to straight lengths and for connecting cable tray fittings to cable tray fittings. The cable tray fixing set comprises of an M6 x 12 screw and an M6 nut (plus an M6 flat washer for stainless steel fixings).

Cable Tray Fixing Sets

Part Number	Description	
Hot Dip Galvanized Cable Tray		
M6x12RNB	M6 x 12 Mushroom Head Bolt M6 Square Nut	
Stainless Steel		
SSM6x12PNW	M6 x 12 Pan Head Screw M6 Flat Washer M6 Hex Nut	

The following table gives the recommended number of fixings for each type of cable tray straight length, fish plate coupler & cable tray fitting.

Recommended Number of Fixings for Cable Tray

Item	Width mm	Tray Type	
		Medium Duty Return Flange	Heavy Duty Return Flange
Straight Lengths	50 to 150	Fixings included with couplers	Fixings included with couplers
	200		
	225		
	300		
	450		
	600		
	750		
Fish Plate Couplers	900		
	50 to 150	4	4
	200	6	6
	225	6	6
	300	6	6
	450	8	8
	600	10	10
Flat Elbows Variable Risers Inside/Outside	750	12	12
	900	16	16
	50	4	4
	200	5	5
	225	5	5
	300	5	5
	450	6	6
Equal Tees Unequal* Tees	600	7	7
	750	8	8
	900	10	10
	50 to 150	8	8
	225	10	10
	225	10	10
	300	10	10
Crosses	450	12	12
	600	14	14
	750	16	16
	900	20	20
	50 to 150	12	12
	200	15	15
	225	15	15
Reducers*	300	15	15
	450	18	18
	600	21	21
	750	24	24
	900	30	30
	75 to 150	4	4
	200	5	5
	225	5	5
	300	5	5
	450	6	6
	600	7	7
	750	8	8
	900	10	10

*Use largest width to determine the required number of fixings



> 1.7 Perforation Base Area

Vantrunk straight cable tray has the following perforation base area:

Perforation Base Area for Vantrunk Cable Tray

Tray Type	Perforation Base Area	Classification to BS EN 61537
Medium Duty Return Flange	9.14%	B
Heavy Duty Return Flange	9.14%	B

Consult our Design Team for perforation base area classifications for Vantrunk cable tray fittings.

> 1.8 Cross-sectional Area

The Vantrunk cable tray has the following cross-sectional areas (CSA):

Cross-sectional Area for Vantrunk Cable Tray

Tray Type	Width	CSA mm²
Medium Duty Return Flange	50	1040
	75	1628
	100	2215
	150	3390
	200	4565
	225	5153
	300	6915
	450	10440
Heavy Duty Return Flange	600	13965
	750	17490
	900	21015
	50	2290
	75	3503
	100	4715
	150	7140
	200	9565
	225	10778
	300	14415
	450	21690
	600	28965
	750	36240
	900	43515

CSA information is based on standard gauges in a hot dip galvanized finish. Consult our Design Team for other gauges and materials.

The cross sectional areas given in the table above exclude return flanges where appropriate – see the following illustration for the cross section which is included as part of the area calculation.



Consult our Design Team for cross-sectional area information for Vantrunk cable tray fittings.

> 1.9 Vantrunk Cable Tray Specification

The following is a typical specification for a cable tray system which incorporates the key features of the Vantrunk cable tray system.

- 1

The cable tray system shall comprise a perforated base with longitudinal upward facing side walls. Medium duty and heavy duty cable tray shall have returned flanges on the side walls for improved strength.
- 2

The profile of the cable tray straight lengths shall remain constant for the straight cable tray and shall be compatible with that of the matching cable tray fittings.
- 3

The inside of the cable tray shall present a smooth surface to allow for easier cable pulling and to minimise the opportunities for damage to the cable insulation.
- 4

The cable tray side walls shall have an overall height of:

For medium duty return flange cable tray:

25mm for all tray widths.

For heavy duty return flange cable tray:

50mm (or required side wall height) for all tray widths.
- 5

The cable tray shall have a width of 50mm, 75mm 100mm, 150mm, 225mm, 300mm, 450mm, 600mm, 750mm and 900mm as required. The width shall be measured internally between the side walls.

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- 6

The cable tray shall have a minimum thickness as follows for hot dip galvanized finish, other finishes consult our sales team:

For medium duty return flange cable tray:

0.9mm for tray of widths 50mm to 225mm, 1.2mm for tray of width 300mm (1.0mm for pre-galvanized and stainless steel) 1.5mm for tray of widths 450mm to 900mm.

For heavy duty return flange cable tray:

0.9mm for tray of widths 50mm to 150mm, 1.2mm for tray of widths 225mm and 300mm 1.5mm for tray of width 450mm 2.0mm for tray of widths 600mm to 900mm (1.5mm for width of 600mm in pre-galvanized and stainless steel).

For silicon rich, deep galvanized tray – all types:

1.5mm for tray of width 50mm to 450mm 2.0mm for tray of widths 600mm to 900mm.
- 7

Straight cable tray shall be fully slotted with longitudinal slots of size 20mm x 8mm and transverse slots of size 12mm x 8mm. The slots shall be pitched at 25mm centres across the width of the cable tray and at 50mm centres along the length of the cable tray.
- 8

Straight cable tray shall have a length of 3000mm.
- 9

Cable tray fittings shall be suitable slotted to match the slot pattern in the straight cable tray and shall have integral joints to facilitate connection to straight tray lengths and to other cable tray fittings.
- 10

Cable tray flat bends shall have fixed angles of 90°, 60°, 45° and 30°.
- 11

Cable tray fittings (except risers) shall have a radius of 75mm for widths up to & including 150mm, & a radius of 150mm for widths of 225mm and above. Cable tray risers shall have a radius of 150mm for widths up to & including 150mm, & a radius of 300mm for widths of 225mm & above.
- 12

Cable tray risers shall be of a variable angle type to facilitate on-site adjustment from 0° to a minimum of 90° for widths up to & including 600mm, and shall be pre-formed to fixed angles of 90°, 60°, 45° and 30° for widths of 750mm and above.
- 13

The cable tray system shall be manufactured using:

For mild steel, hot dip galvanized finish:

mild steel grade DD11 to BS EN 10111 and shall be hot dip galvanized after manufacture to BS EN ISO 1461.

- For stainless steel :

stainless steel grade 1.4404 (316 marine grade) to BS EN 10088.

For silicon rich, deep galvanized finish:

silicon-rich steel and shall be deep galvanized after manufacture to twice the coating thickness specified by BS EN ISO 1461.

- 14

Couplers for the cable tray system shall be either of flat bar type or profiled to match the profile of the cable tray. Couplers shall be secured using M6 x 12 fixings with smooth heads to minimise possible damage to cables.

2. INSTALLATION RECOMMENDATIONS

2.1 Loads

A correctly designed and specified cable tray installation should take into account the nature and extent of the loads which will be imposed on the cable tray system. These loads comprise of dead loads including the self-weight of the cable tray system, the weight of the cables and secondary equipment attached to the cable tray, imposed loads which occur during installation of the cable tray system and during cable pulling operations, and external loads such as wind, snow & ice.

Cable trays are often employed in locations where the wind speeds may cause considerable lateral loading and careful consideration must be given to design to ensure a satisfactory installation. An awareness of the worst possible climate conditions is necessary when specifying the correct Vantrunk cable tray system.

The load-deflection information given in 3.4 is based on static loading of the Vantrunk cable tray installation. This information does not take into account dynamic effects such as vibration, earthquake loading, etc.

In designing a cable tray installation it is good practice to allow at least a 20% excess capacity in a new installation for future expansion. Such a provision is of great economic advantage when there is a later need for additional cables.

2.2 Support Spacing

The space between the supports of a cable tray installation is referred to as the span. Supports for cable tray should, as far is practicable, be spaced so as to create the most economical load/span ratio to suit the capacity of the cable tray system.

This will give the most advantageous solution when considering procurement and installation costs. As a general rule of thumb, the load-carrying capability of the Vantrunk cable tray system increases as the span decreases, so a lighter duty cable tray system can be specified for shorter spans. Conversely, a heavier duty Vantrunk cable tray system will need to be specified as the span increases.

Vantrunk cable tray can provide cost-effective support for cable loads at spans of 0.5m to 3m depending on the type of cable tray system selected. For longer spans, or for carrying significantly increased cable loads, the Speedway cable ladder system should be used. When considering support positions it should be

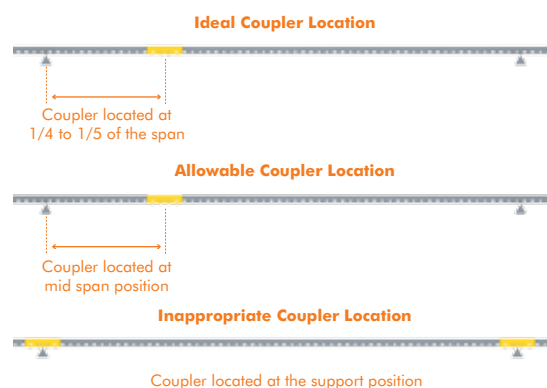
remembered that it is necessary to support accessories when a change of direction takes place i.e. bends, tees, risers etc. This is to ensure that undue 'corner' cantilever reaction is minimised.

Recommendations for the location of supports for Vantrunk cable tray fittings are given in section 2.4.

2.3 Location of Couplers

The maximum bending moments acting on a cable tray run occur in the cable tray at the supports and at the mid span position. For this reason it is good practice to avoid locating couplers in a cable tray run either directly on supports or at the mid span position. It is also good practice to avoid locating couplers in the end span of a continuous beam installation as the bending moments in the end span are, for simple end support installations, much higher than those found in the intermediate spans. These limitations cannot always be achieved in a cable tray installation and are not a mandatory requirement for the Vantrunk cable tray coupling system where the loading information given in 3.3 is valid irrespective of the location of the couplers.

The ideal positions to locate the connections in a cable tray run are at approximately one fifth to one quarter of a span from the supports where the bending moments, and hence the stresses, are minimal. Positioning the couplers at the one fifth to one quarter span positions is of benefit during installation, assisting in alignment of the cable trays and allowing unhindered securing of the cable tray to the supports.



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2.4 Support Locations for Cable Tray Fittings

It is also important to consider support locations for cable tray fittings which are used as part of a cable tray installation to change direction, change width or create intersections.

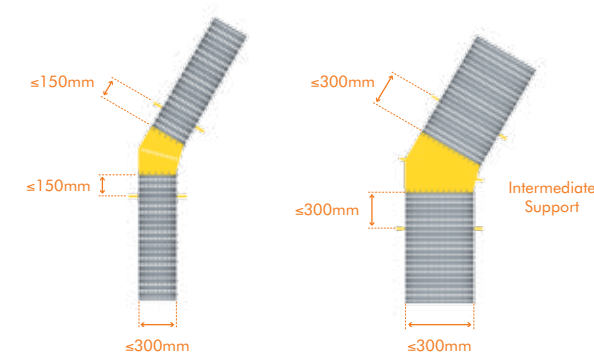
Vantrunk cable tray fittings are designed to carry loads comparable to that for the straight cable tray but will require local support to avoid undue stresses being applied to the fittings.

The following illustrations show the recommended support positions when installing Vantrunk cable tray fittings. The supports should be fully fixed to provide maximum support for the Vantrunk cable tray fitting.

2.4.1 Flat Elbows

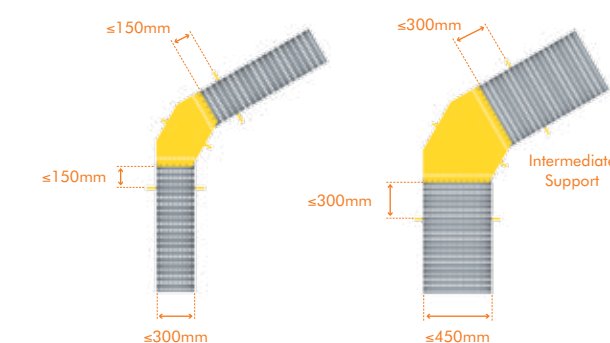
30° Flat Elbow

For 30° flat elbows, supports should be placed within 150mm of the fitting for widths up to 300mm. For fittings of width 450mm and above, supports should be placed within 300mm of the fitting and an intermediate support should be located radially at 15° across the centre of the fitting.



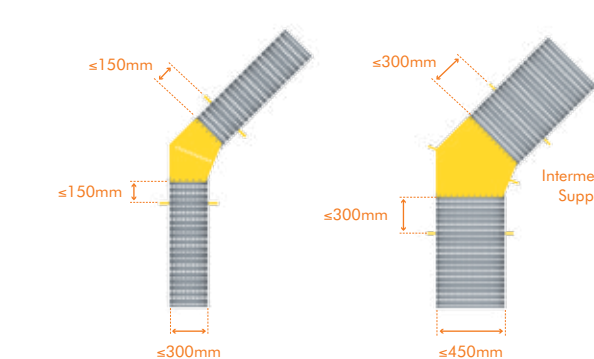
60° Flat Elbow

For 60° flat elbows, supports should be placed within 150mm of the fitting for widths up to 300mm. For fittings of width 450mm and above, supports should be placed within 300mm of the fitting and an intermediate support should be located radially at 30° across the centre of the fitting.



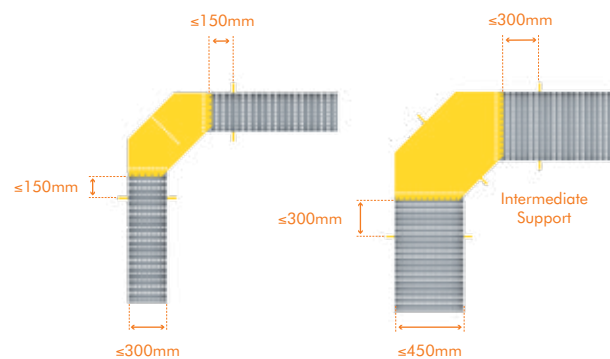
45° Flat Elbow

For 45° flat elbows, supports should be placed within 150mm of the fitting for widths up to 300mm. For fittings of width 450mm and above, supports should be placed within 300mm of the fitting and an intermediate support should be located radially at 22.5° across the centre of the fitting.



90° Flat Elbow

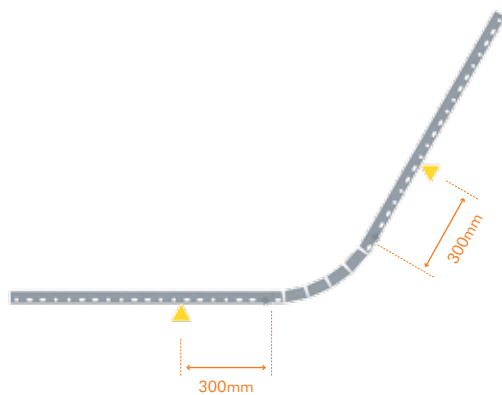
For 90° flat elbows, supports should be placed within 150mm of the fitting for widths up to 300mm. For fittings of width 450mm and above, supports should be placed within 300mm of the fitting and an intermediate support should be located radially at 45° across the centre of the fitting.



> 2.4.2 Internal & External Risers

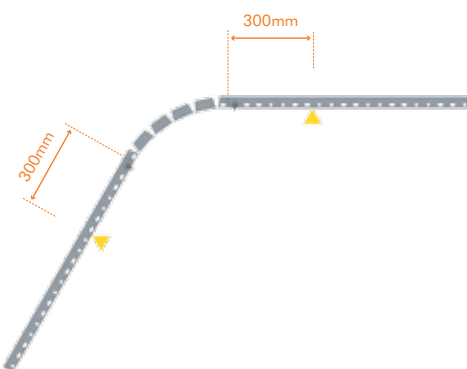
Internal Risers

For all widths of internal risers, supports should be placed within 300mm of the fitting.



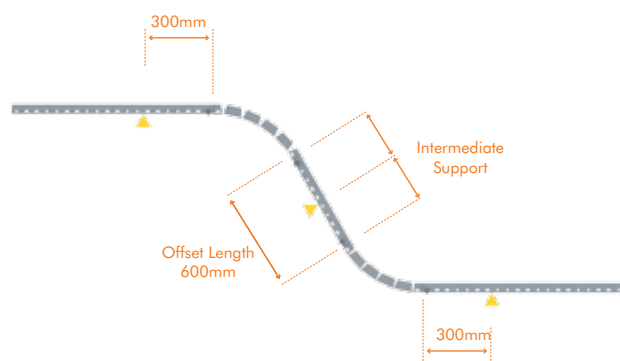
External Risers

For all widths of external risers, supports should be placed within 300mm of the fitting.

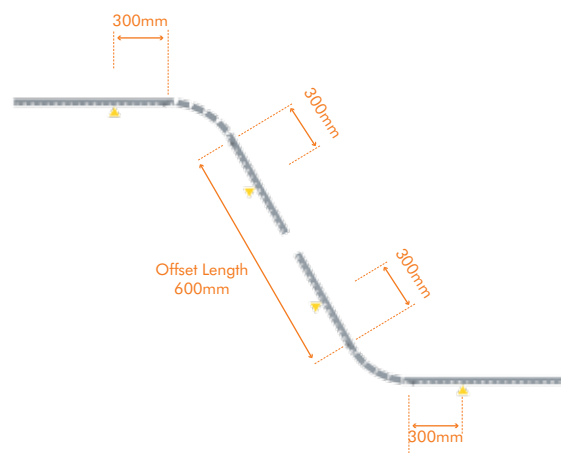


Internal & External Risers Used In Offset Arrangement

For internal & external risers used in an offset arrangement of length up to 600mm, supports should be located within 300mm of each end of the offset and centrally on the inclined cable tray.

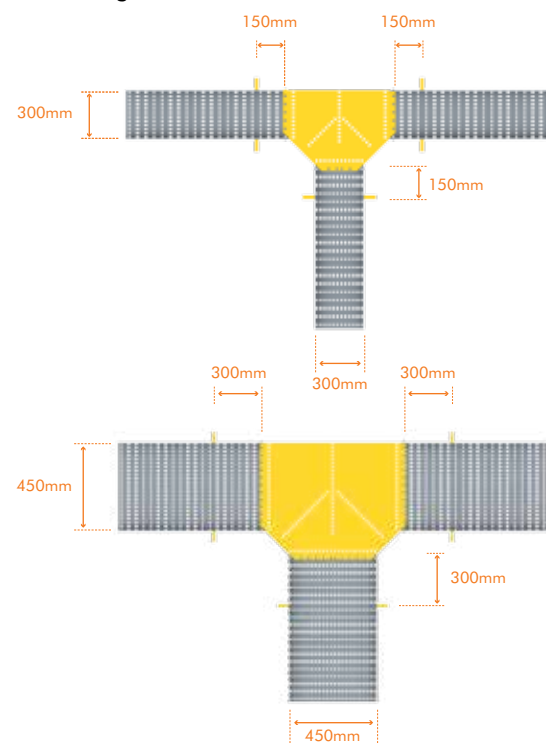


For internal & external risers used in an offset arrangement of length over 600mm, supports should be located within 300mm of each end of the internal & external risers. The inclined cable tray should be supported in accordance with the support recommendations for the straight cable tray run.



> 2.4.3 Equal & Unequal Tees

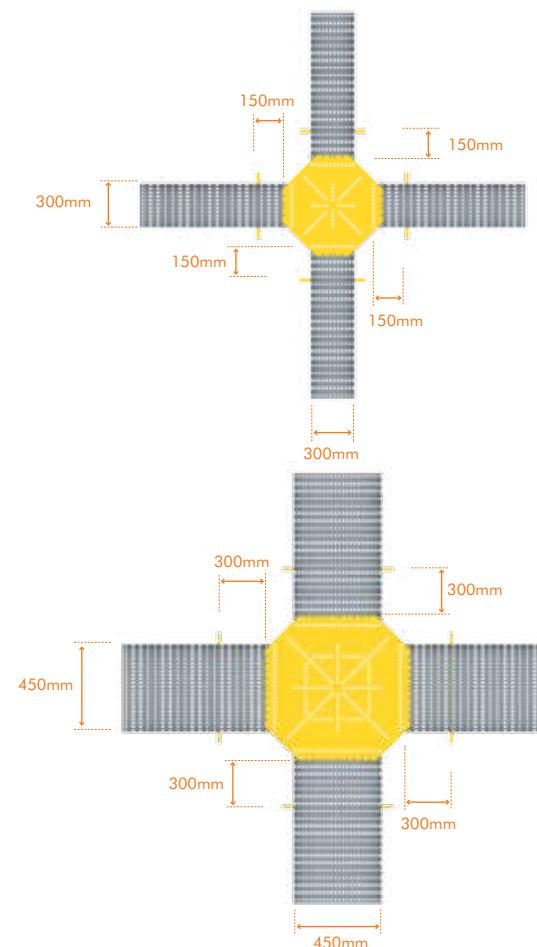
For equal and unequal tees, supports should be placed within 150mm of the fitting for main or branch widths up to 300mm. For fittings of main or branch width 450mm and above, supports should be placed within 300mm of the fitting.



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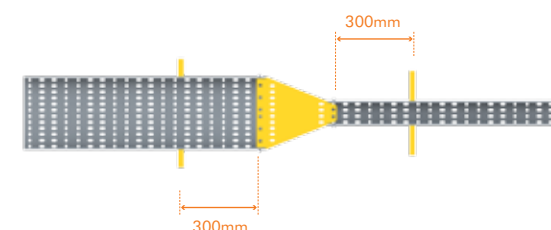
> 2.4.4 Crosses

For crosses, supports should be placed within 150mm of the fitting for main or branch widths up to 300mm. For fittings of main or branch width 450mm and above, supports should be placed within 300mm of the fitting.



> 2.4.5 Reducers

For all widths of reducers (straight, left & right), supports should be placed within 300mm of the fitting.

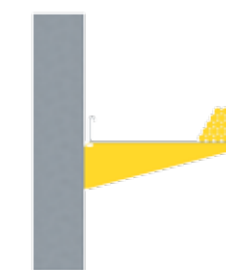


> 2.5 Loading of Vantrunk Cable Tray & Supports

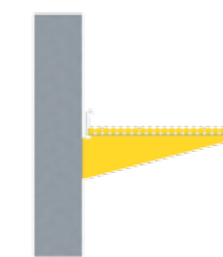
It is important that cable tray and cable tray supports are loaded in a symmetrical manner such that undue stresses in both the cable tray and the supports are kept to a minimum.

The safe working load figures for the Vantrunk cable tray and support accessories are based on a uniform loading within the Vantrunk cable tray and on the assumption that the correct length of support is used in each case.

Wherever possible, cable tray should be loaded in a uniform manner across the full width of the cable tray, particularly when the cable tray is loaded to the recommended load carrying capacity.

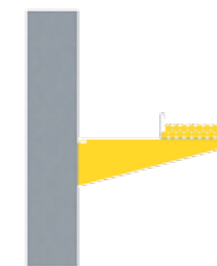


Avoid non-uniform loading

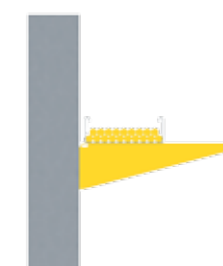


Load uniformly across the width of the cable tray

Where cantilever supports of additional length are used to support cable tray, care should be taken to position the cable tray as close to the backplate of the cantilever as the installation routing will allow.



Avoid unsymmetrical loading on cantilevers



Load cantilevers close to the backplate

Safe working load information for cable tray supports is given in the 'Supports' section of this catalogue.

For further information and guidance on the design and loading of supports please contact our Design Team.



> 2.6 Electrical Continuity

In tests conducted to verify the electrical continuity characteristics of the Vantrunk cable tray it has been established that the standard coupling system provides adequate electrical continuity, ensuring equipotential bonding and connection to earth.

The Vantrunk cable tray system has been tested for electrical continuity to BS EN 61537 (Section 11.1).

Details are given in the following table:

Material & Finish	Impedance across joint	Impedance per metre length
Hot Dip Galvanized (0.9mm)	2mΩ	2mΩ
Hot Dip Galvanized (1.5mm)	2mΩ	2mΩ
Stainless Steel (1.2mm)	2mΩ	2mΩ

BS EN 61357 requires a maximum impedance of 50mΩ across the coupled joint and a 5mΩ per metre length without a joint.

Earth continuity bonding straps (part number EBS/05) of cross sectional area 4 mm2 are available for use with Vantrunk cable tray where a non-conductive surface finish i.e. epoxy coated etc, has been specified or where the installation requires an additional means of bonding. Consult our Technical Team for more details.

> 2.7 Electromagnetic Compatibility (EMC)

In normal use Vantrunk cable tray can be considered to be passive in respect of electromagnetic influences, emission and immunity. When Vantrunk cable tray is installed as part of a wiring installation, the installation may emit or may be influenced by electromagnetic signals. The degree of influence will depend on the nature of the installation within its operating environment and the electrical equipment connected by the wiring. As a minimum precaution to minimise the occurrence of electromagnetic influences, power and data/signal cables should be run on separate cable routings or at least separated by means of dividers.

Our Design Team should be consulted for further information on electromagnetic compatibility issues.

> 2.8 Assembly Recommendations

Instructions for the correct assembly of Vantrunk cable tray straight lengths and fittings are given below.

Cable tray couplers are supplied with the correct number of fixing sets, each comprising of an M6 x 12 screw and an M6 nut (plus an M6 flat washer for stainless steel fixings). Refer to section 1.6 for details on the recommended number of fixings for cable tray fittings.

When utilising the standard flat bar coupler as an expansion coupler it will be necessary to order additional M6 nuts (4 per coupler).

> 2.8.1 Straight Cable Tray to Straight Cable Tray

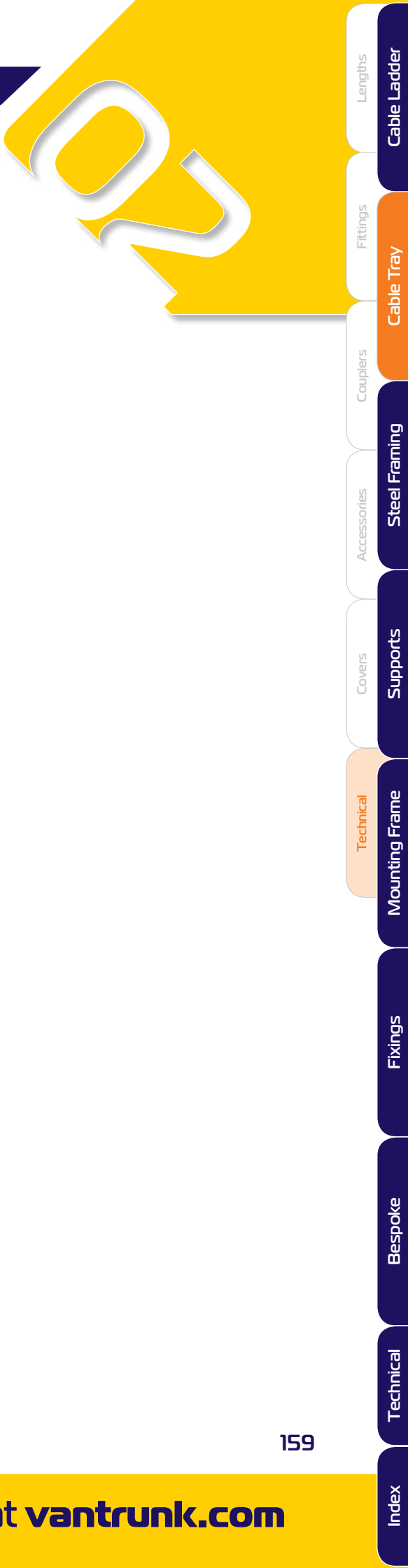
1. Position the two straight cable trays onto the supporting structure.
2. For flat bar couplers, locate the cable tray flat bar coupler on the inside of the two abutting straight cable trays. For wrap over couplers, position the coupler on the outside of the two abutting straight cable trays.
3. Position the coupler across the joint between the two straight lengths. For flat bar couplers, align the slots in the coupler with those in the side wall of the cable tray. For wrap over couplers, align the slots in the coupler with those in the base of the cable tray.
4. From the inside of the cable tray insert the threaded portion of an M6 x 12 screw through one of the aligned slots.
5. Fit an M6 flat washer (where provided) and an M6 hex nut onto the protruding thread of the M6 x 12 screw.
6. Tighten the fixing assembly by hand.
7. Repeat for the remaining fixing sets.
8. Repeat the assembly procedure for the second coupler.
9. Fully secure the straight cable tray lengths to the supporting structure.
10. Check the alignment of the coupler and the abutting straight cable trays. Adjust as necessary to give a fair and true alignment.
11. Tighten the M6 hex nuts to a torque of 12Nm.
12. Where required, fit a fish plate coupler to the underside of the joint between the two straight cable trays.

> 2.8.2 Cable Tray Fitting to Straight Cable Tray

1. Position the straight cable tray and cable tray fitting onto the supporting structure and interlock the cable tray fitting into the straight cable tray.
2. Align the slots on the interlocked straight cable tray and cable tray fitting.
3. From the inside of the cable tray, insert the threaded portion of an M6 x 12 screw through one of the aligned slots.
4. Fit an M6 flat washer (where provided) and an M6 hex nut onto the protruding thread of the M6 x 12 screw.
5. Tighten the fixing assembly by hand.
6. Repeat for the remaining fixing sets.
7. Fully secure the straight cable tray and cable tray fitting to the supporting structure.
8. Check the alignment of the interlocked straight cable tray and cable tray fitting. Adjust as necessary to give a fair and true alignment.
9. Tighten the M6 hex nuts to a torque of 12Nm.

> 2.8.3 Cable Tray Fitting to Cable Tray Fitting

1. Position the two cable tray fittings onto the supporting structure, offsetting and interlocking the integral base & side wall coupling tabs.
2. Align the slots on the two cable tray fittings.
3. From the inside of the cable tray, insert the threaded portion of an M6 x 12 screw through one of the aligned slots.
4. Fit an M6 flat washer (where provided) and an M6 hex nut onto the protruding thread of the M6 x 12 screw.
5. Tighten the fixing assembly by hand.
6. Repeat for the remaining fixing sets.
7. Fully secure the cable tray fittings to the supporting structure.
8. Check the alignment of the abutting components. Adjust as necessary to give a fair and true alignment.
9. Tighten the M6 hex nuts to a torque of 12Nm.





> 2.9 Cable Tray
Expansion Joint:

Refer to pg 247 for details on the spacing between expansion couplers and the required gap setting procedure at the time of installation.

1. Position the two straight cable trays onto the supporting structure.

2. Locate the cable tray flat bar coupler on the inside of the two abutting straight cable trays.

3. Position the coupler across the joint between the two straight lengths. Align the slots in the coupler with those in the side wall of the cable tray.

4. From the inside of the cable tray insert the threaded portion of an M6 x 16 screw through one of the aligned slots.

5. Fit an M6 flat washer (where provided) and an M6 hex nut onto the protruding thread of the M6 x 16 screw.

6. Tighten the fixing assembly by hand such that the fixing assembly is free to move within the slots (some light resistance to movement is preferable).
7. Repeat for the remaining fixing sets.

8. Repeat the assembly procedure for the second coupler.

9. Check the alignment of the coupler and the abutting straight cable trays. Adjust as necessary to give a fair and true alignment.

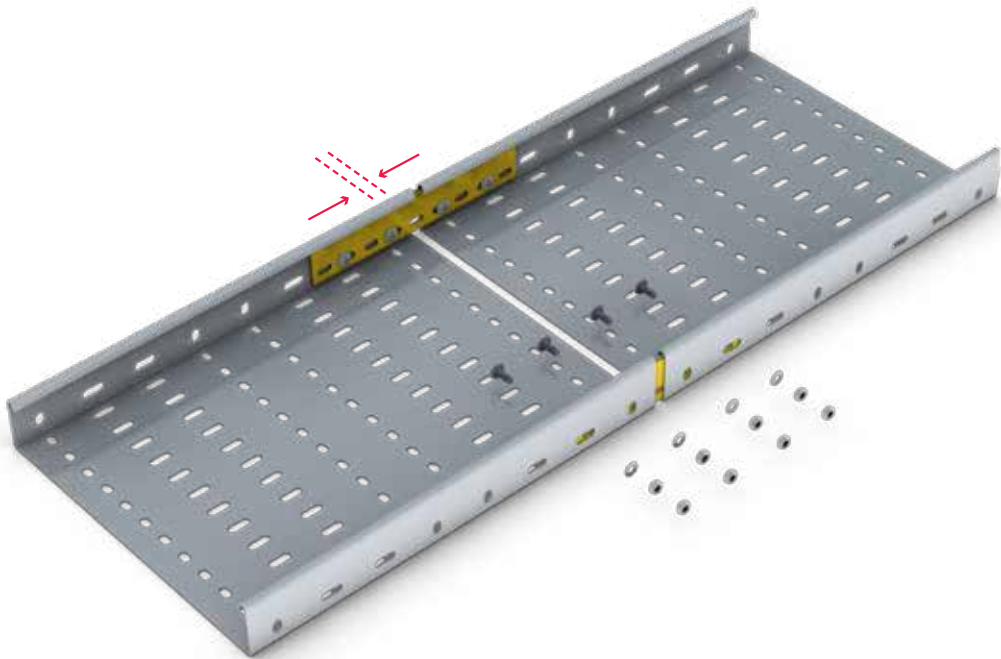
10. Check the setting gap between the straight cable trays and adjust as necessary.

11. Secure the straight cable trays to the supporting structure using nylon spacer pads and hold down brackets to permit movement relative to the structure.

12. Fit the second M6 nut onto the fixing assemblies. Lock the second M6 nut onto the first M6 nut. Check that the completed fixing assembly remains free to move within the aligned slots.

13. Tighten the 2nd M6 hex nut onto the 1st M6 hex nut to a torque of 12Nm.

14. Ensure that the fixing assembly remains free to move within the slots, otherwise re-assembly as necessary.



>> 3 LOADING INFORMATION

To enable the selection of the most appropriate Vantrunk cable tray for a particular installation it is necessary to consider the loads which must be supported and the distance between supports (the span). These loads are broadly classed as dead loads, imposed loads and point loads.

3.1 Dead Loads

Dead loads include the weight of any cables, pipes and secondary equipment carried on or installed on the cable tray plus the self weight of the cable tray and any component of the cable tray (covers, connectors, accessories, etc.).

Weight data for cables is readily available from the cable manufacturer or supplier and is usually quoted in terms of kilograms per metre (kg/m). The weight per metre from the cables (or pipes, etc) is the sum of the individual cable (or pipe, etc) weights.

Weight data for secondary equipment should also be readily available from the equipment manufacturer or supplier and is usually quoted in terms of kilograms (kg). The unit weight for the secondary equipment can be converted into an equivalent weight per metre by using the following formula:

Equivalent weight per metre $W_m = \frac{2 \times \text{unit weight of equipment (kg)}}{\text{Span (m)}} \text{ kg/m}$

For example, a secondary item of equipment with a weight of 12kg has an equivalent weight per metre W_m of 16kg/m for a span of 1.5m. This figure should be added to the sum of the individual cable weights (or pipe, etc). When determining the location of secondary items of equipment, care should be taken to either mount these items centrally across the cable tray or place these items adjacent to, or directly onto, the cable tray side walls and as close to the cable tray supports as the installation will allow.

The allowable loading figures given in the tables below include the self weight of the Vantrunk cable tray. The weight data for additional installed components (covers, mounting accessories, etc) for the Vantrunk cable tray system can be provided on request by our Design Team.

3.2 Point Loads

Point loads are often applied inadvertently to the cable tray during installation and during in-service inspection. Care should be exercised to avoid these undue point loads, particularly on light duty & medium duty cable trays which are not designed for this type of loading.

In situations where point loads are applied to heavy duty cable trays, an allowance can be made for the influence of point loads at the design stage when determining the total load to be carried by the Vantrunk cable tray system. When specifying a point load requirement at the design stage it should be noted that the value of the point load should be kept to a minimum as incorporating the point load will reduce the allowable cable load for the Vantrunk cable tray. Loading graphs which include the influence of a mid span point load are available on request.

Vantrunk cable tray is not intended to be used as a walkway and on no account should localised point loads be applied onto the bed of the cable tray. On those occasions where it is necessary to apply a point load care should be taken to apply the load evenly onto both side walls of the cable tray, preferably using a board or similar support to distribute the load over as long a section of the cable tray as possible.

Where doubt exists, further guidance should be sought from our Design Team.





3.3 Loading Graphs

When correctly mounted and secured, cable tray can be considered to be a ‘continuous beam’. This implies that the cable tray run is regularly supported and that the cable trays at the extremities of the run are firmly anchored. The following tables are used to calculate the safe working load and have been verified by testing in accordance to BS EN 61537.

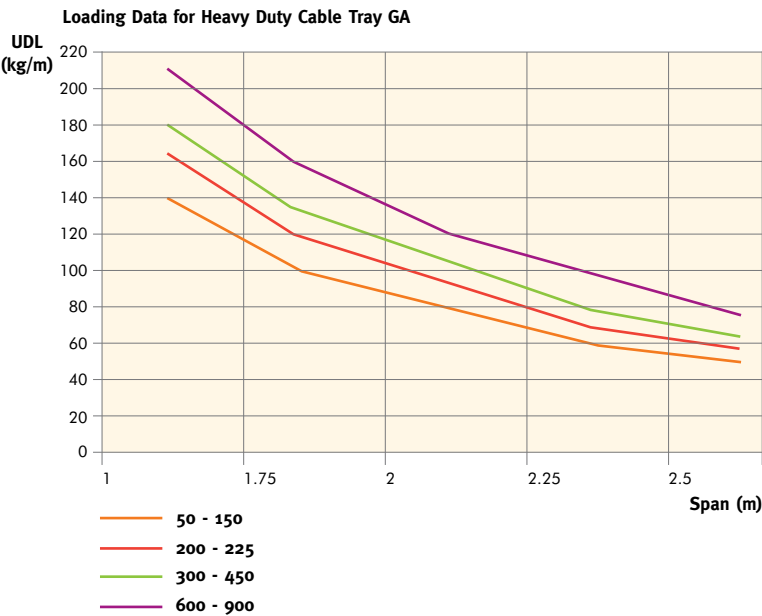
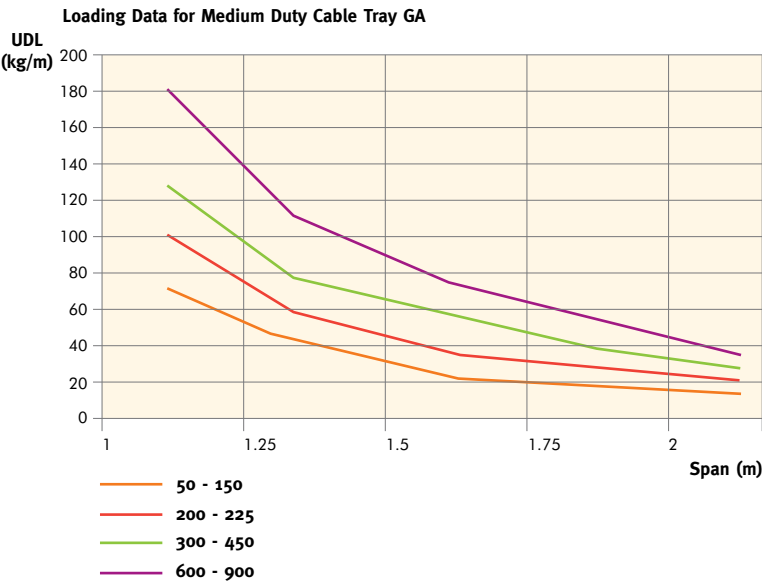
The load bearing capacity of a cable tray is limited by the lesser of the maximum allowable stress induced in the tray section or the maximum deflection acceptable between the supports. The maximum allowable stress is usually limited by the materials lower yield stress; this gives a safety factor of 1.7 against the ultimate tensile strength. Maximum deflection, (in the absence of a particular customer need) is not allowed to exceed 1/360th of the distance between supports (span).

Although unusual, there may be occasions when it is difficult or indeed impossible to anchor the cable tray securely in position. Under these circumstances the tray is ‘simply supported’ and its load bearing ability is substantially reduced. As a rough guide maximum loads should be limited to two thirds of those shown in the loading tables and increased deflection values should be accepted for each span. The data given in the graphs is for tray installed as a continuous beam and allows for the weight of the tray itself.

Loading information is available for other gauges and for heavy duty cable trays with increased side wall heights – contact our Design Team for details

The Vantrunk cable tray system, components and accessories have been tested to BS EN ISO 61537:2002.

Further details can be provided by our Design Team.



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WELLHEAD PLATFORM LAM-C

LOCATION: HAZAR, TURKMENISTAN

PROJECT DESCRIPTION:

The Dzheitune (Lam) C platform, delivered in Q1 2012, represents a third new platform to be installed by Dragon Oil...

...since becoming the operator in the Cheleken Contract Area in 2000 and will aid in the continued development of the Western area of the field. The Lam C platform, which will support a jackup rig, has the capacity to drill up to eight wells on the Lam field.

OPERATOR:

Dragon Oil Ltd

CONTRACTOR:

ILK Insaat Taah

PRODUCTS SUPPLIED:

- > Speedway Cable Ladder (SW5 & SW6)
- > Vantrunk Cable Tray (HR)

FINISHES & MATERIALS :

Stainless Steel 1.4404 Marine Grade.

SPECIAL FEATURES:

Vantrunk Speedway Cable Ladder products were supplied with the Speedlok integral coupler system which decreased overall installation time and reduced the overall weight of the cable management system.



VANTRUNK INTELOK

SLIP RESISTANT INTELOK SERRATED CHANNEL

THE INTELOK STEEL FRAMING SYSTEM IS A STRONG, EASY TO ERECT SUPPORT SYSTEM, IDEAL FOR SUPPORTING VANTRUNK CABLE TRAY, CABLE LADDERS, TRUNKING, PIPES AND DUCTING.



Rapid
Installation
Systems



Withstands
extreme
temperatures
(-50° to +50°C)



HOW TO ORDER

CODE SYSTEM EXPLAINED

The information given on this page should be used as a guide when ordering channel, fittings, covers and accessories. For more detailed information and examples refer to the relevant page within the catalogue.

Intelok Channel

System Type	Product Group	Channel Type	Slotting Type	Length	Finish & Material
eg. IC	CNL	D	P	SL3	SS

Intelok Channel, Channel, Deep, Plain, 3 metre length, Stainless Steel

Intelok Brackets

System Type	Bracket Type	Finish & Material	Quickfit Option
eg. 325	AJ12	GA	QF

Intelok Channel, Channel, Deep, Plain, 3 metre length, Stainless Steel

Concrete Inserts

System Type	Product Group	Channel Type	Length	Finish & Material
eg. IC	CON	D	SL3	SS

Intelok Channel, Concrete Insert, Deep, 3 metre length, Stainless Steel

Plastic End Caps

System Type	Fitting Type	Channel Type	Colour
eg. IC	PEC	S	BLK

Intelok Channel, Plastic End Cap, Shallow, Black

VANTRUNK
INTELOK



System Type		Page	Length	
IC	Intelok Channel	172	SL3:	3m length
325	Intelok Brackets (GA)	182	SL6:	6m length
325X	Intelok Brackets (SS)	182	SL#:	# = Add length in mm * * - For Concrete Inserts the length must be divisible by 200
Product Group		Page		
CNL	Channel	172		
CON	Concrete Insert	192		
PEC	Plastic End Caps	198		
Channel Type		Page	Bracket Type	
S	Shallow Channel	174	Various	Use 4 character reference, see section for details
D	Deep Channel	172		
DBB	Deep Back to Back Channel	176		
SBB	Shallow Back to Back Channel	177		
Slotting Type		Page	Quickfit Option	
P	Plain	172	QF	M10 Quickfit
S	Slotted	173	QF12	M12 Quickfit
			Colour	
			BLK	Black
			WHT	White

Finishes and Materials (●)



Details on the full range of standard Finishes and Materials are given in the Finish and Materials section (page 26) and Technical Section (page 246).

Code Sample: Choose finish



INTELOK SUPPORT CHANNEL

Vantrunk Steel Framing Intelok Channel comes equipped with serrations on its return flanges as standard, and when used with the Vantrunk Steel Framing Channel Nut significantly increases the resistance to slip. The Steel Framing Intelok Channel is tailor made for applications in areas of considerable vibrations such as offshore platforms and power plants.

The Steel Framing System offers two basic forms of Channel, 41 X 41 Deep Channel and 41 X 21 Shallow Channel that are manufactured in 2.5mm material as standard.

Both forms can be manufactured in either plain or slotted configurations dependent on the installation requirements.

The slotted configuration facilitates the overhead support framework for threaded rods, carrying building services i.e. suspended ceilings, lighting, cable tray, cable ladder, trunking, ducting, cable or pipe work. Slotted channel also allows for easier onsite alignment when fixing the framework to a wall or partition, as there is no need to drill through the channel prior to fixing.

The Steel Framing Intelok Channel is available in 3m & 6m lengths as standard. Other lengths of channel are available from 150mm to 6000mm and in increments of 10mm for plain channel and 50mm for slotted channel.

Contact Vantrunk's Sales Team for ordering details.

Vantrunk can also supply multiple channel sections to add superior strength and versatility, utilizing the two basic forms of channel profiles welded in a variety of combinations. The two basic forms are the back to back deep plain and the back to back shallow plain configurations.

Due to the versatility of the Steel Framing Channel and the manufacturing expertise at Vantrunk, a wide range of non-standard channel configurations can be manufactured at the request of the user. Please turn to the end of the Channel Section (page178) for information and ordering details for non-standard channel.

For tunnel applications Vantrunk also has the manufacturing know how to offer a Radial Channel option. Please contact the Vantrunk Sales Team for more information.

GET A GRIP WITH THE INTELOK SERRATED CHANNEL



INTELOK FEATURES:

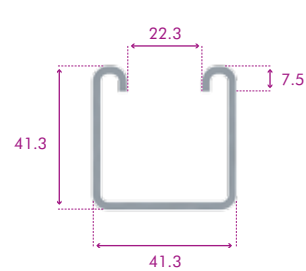
- Vantrunk Steel Framing Intelok Channel comes equipped with serrations on its return flanges as standard, and when used with the Vantrunk Steel Framing Channel Nut significantly increases the resistance to slip.
- The Steel Framing Intelok Channel is tailor made for applications in areas of considerable vibrations such as offshore platforms and power plants.
- Structural Heavy Duty 2.5mm material fully compliant as per BS 6946.

For more information on the Intelok Serrated Channel visit vantrunk.com

Deep Channel Plain

Ref.IC/CNL/D/P

- Steel with a Minimum yield strength 280 N/mm.
- Beams are assumed to be simply supported.
- Load and deflection are calculated using a safety factor of 1.6 and an allowable stress of 175 N/mm.
- Results given are for Pre-galvanized steel, Hot dipped galvanized will reduce the stress due to the heat treatment and reduce the loading in the chart by a factor of approx 18%.
- Beam loads are calculated from the column face and effective length in BS5950.
- The tables show:
 - 1) The max safe working load,
 - 2) the load to give 1/200 deflection
 - 3) load to give 1/360 deflection - the deflection used will depend on the installation designer.
- This also applies to Point and UDL loads.



Sectional Properties

CSA (mm ²)	I xx (mm ⁴)	Z xx (mm ³)	Weight (kg/m)	Yield (N/mm ²)
336.25	71450	3071	2.68	280



□ = Select a Channel Length* ○ = Select a finish

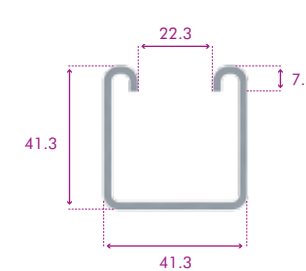
Safe Working Load Table

Span (metres)	Safe Working Load - Uniform (kg/m)		Def Limit Span/200 (kg)	Def Limit Span/360 (kg)	Maximum Load-Point Load (kg)		Def Limit Span/200 (kg)	Def Limit Span/360 (kg)	Safe Working Load - Column at Face (kg)
	Load kg/m	Def (mm)			Load (kg)	Def (mm)			
0.8	682.32	2.43	682.32	682.32	272.84	1.94	272.84	272.84	1452
1.0	435.72	3.80	435.72	317.50	217.79	3.02	217.79	197.43	1378
1.2	301.77	5.48	301.77	182.61	181.00	4.34	181.00	135.75	1612
1.4	220.99	7.45	220.99	114.00	154.65	5.89	154.65	98.35	1187
1.6	168.57	9.74	138.02	75.49	134.81	7.67	134.81	73.88	1119
1.8	132.63	12.32	96.14	52.22	119.33	9.66	106.35	56.94	1062
2.0	106.92	15.21	69.36	37.34	106.89	11.87	84.69	44.67	1012
2.2	87.90	18.41	51.44	27.39	96.66	14.29	68.53	35.45	960
2.4	73.43	21.91	39.01	20.48	88.09	16.90	56.10	28.31	920
2.6	62.17	25.71	30.11	15.54	80.80	19.71	46.32	22.63	877
2.8	53.24	29.82	23.57	11.91	74.51	22.70	38.44	18.02	838
3.0	46.03	34.23	18.67	9.18	69.02	25.87	31.98	14.19	810
3.2	40.13	38.95	14.91	—	64.19	29.20	26.60	10.97	779
3.4	35.24	43.97	11.98	—	59.90	32.68	22.05	—	743
3.6	31.15	49.29	9.67	—	56.05	36.30	18.15	—	716
3.8	27.68	54.92	7.82	—	52.57	40.05	14.76	—	693
4.0	24.72	60.86	6.33	—	49.42	43.91	11.79	—	671
4.2	22.17	67.09	—	—	46.55	57.87	—	—	650
4.4	19.96	73.63	—	—	43.91	51.92	—	—	—
4.6	18.04	80.48	—	—	41.47	56.04	—	—	—
4.8	16.35	87.63	—	—	39.22	60.21	—	—	—
5.0	14.86	95.09	—	—	37.13	64.42	—	—	—

Deep Channel Slotted

Ref.IC/CNL/D/S

- Steel with a Minimum yield strength 280 N/mm.
- Beams are assumed to be simply supported.
- Load and deflection are calculated using a safety factor of 1.6 and an allowable stress of 175 N/mm.
- Results given are for Pre-galvanized steel, Hot dipped galvanized will reduce the stress due to the heat treatment and reduce the loading in the chart by a factor of approx 18%.
- Beam loads are calculated from the column face and effective length in BS5950.
- The tables show:
 - 1) The max safe working load,
 - 2) the load to give 1/200 deflection
 - 3) load to give 1/360 deflection - the deflection used will depend on the installation designer.
- This also applies to Point and UDL loads.



Sectional Properties

CSA (mm ²)	I xx (mm ⁴)	Z xx (mm ³)	Weight (kg/m)	Yield (N/mm ²)
248.7	60743	2860	2.59	280



□ = Select a Channel Length* ○ = Select a finish

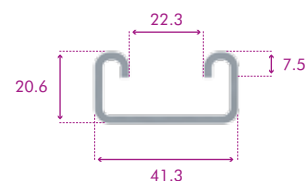
Safe Working Load Table

Span (metres)	Safe Working Load - Uniform (kg/m)		Def Limit Span/200 (kg)	Def Limit Span/360 (kg)	Maximum Load-Point Load (kg)		Def Limit Span/200 (kg)	Def Limit Span/360 (kg)	Safe Working Load - Column at Face (kg)
	Load kg/m	Def (mm)			Load (kg)	Def (mm)			
0.8	635.26	2.67	635.26	528.96	254.02	2.12	254.02	254.02	1360
1.0	405.60	4.17	405.60	269.52	202.74	3.31	202.74	167.44	1272
1.2	280.85	6.00	280.85	154.84	168.46	4.75	168.46	114.93	1186
1.4	205.63	8.17	175.88	96.52	143.89	6.45	143.89	83.05	1068
1.6	156.80	10.67	116.94	63.77	125.40	8.39	125.40	62.17	999
1.8	123.33	13.50	81.33	43.99	110.96	10.57	89.69	47.68	941
2.0	99.39	16.67	58.56	31.34	99.36	12.98	71.20	37.17	884
2.2	81.68	20.17	43.33	22.88	89.81	15.62	57.37	29.25	832
2.4	68.20	24.00	32.76	17.01	81.82	18.47	46.73	23.10	786
2.6	57.72	28.17	25.20	12.81	75.01	21.53	38.33	18.20	752
2.8	49.40	32.67	19.64	9.72	69.13	24.78	31.56	14.20	714
3.0	42.68	37.50	15.47	—	64.01	28.22	25.98	10.86	681
3.2	37.19	42.66	12.27	—	59.49	31.83	21.33	—	974
3.4	32.64	48.16	9.79	—	55.47	35.60	17.38	—	—
3.6	28.82	54.00	7.82	—	51.86	39.51	13.98	—	—
3.8	25.59	60.16	6.25	—	48.61	43.55	11.02	—	—
4.0	22.84	66.66	4.98	—	45.66	47.71	8.42	—	—
4.2	20.47	73.50	—	—	42.96	51.97	—	—	—
4.4	18.41	80.66	—	—	40.49	56.31	—	—	—
4.6	16.61	88.16	—	—	38.20	60.71	—	—	—
4.8	15.04	96.00	—	—	36.08	65.16	—	—	—
5.0	13.65	104.16	—	—	34.12	69.63	—	—	—

Shallow Channel Plain

Ref.IC/CNL/S/P

- Steel with a Minimum yield strength 280 N/mm.
- Beams are assumed to be simply supported.
- Load and deflection are calculated using a safety factor of 1.6 and an allowable stress of 175 N/mm.
- Results given are for Pre-galvanized steel, Hot dipped galvanized will reduce the stress due to the heat treatment and reduce the loading in the chart by a factor of approx 18%.
- Beam loads are calculated from the column face and effective length in BS5950.
- The tables show:
 - 1) The max safe working load,
 - 2) the load to give 1/200 deflection
 - 3) load to give 1/360 deflection - the deflection used will depend on the installation designer.
- This also applies to Point and UDL loads.



Sectional Properties

CSA (mm ²)	I xx (mm ⁴)	Z xx (mm ³)	Weight (kg/m)	Yield (N/mm ²)
23.4	11743	956	1.84	280



□ = Select a Channel Length* ○ = Select a finish

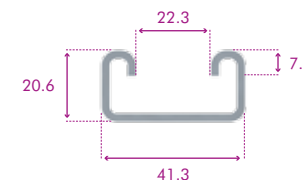
Safe Working Load Table

Span (metres)	Safe Working Load - Uniform (kg/m)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Maximum Load- Point Load (kg)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Safe Working Load - Column at Face (kg)
	Load kg/m	Def (mm)			Load (kg)	Def (mm)			
0.8	210.56	4.61	182.32	100.10	84.20	3.64	84.20	49.24	762
1.0	133.79	7.20	92.04	49.94	66.88	5.65	56.52	30.21	691
1.2	92.09	10.37	52.13	27.77	55.24	8.06	37.90	19.62	625
1.4	66.95	14.12	31.84	16.50	46.85	10.86	26.45	13.03	545
1.6	50.63	18.44	20.44	10.17	40.49	14.01	18.84	8.56	495
1.8	39.44	23.34	13.56	—	35.49	17.48	13.45	—	—
2.0	31.44	28.82	9.16	—	31.43	21.24	9.44	—	—
2.2	25.52	34.87	—	—	28.06	25.23	—	—	—
2.4	21.01	41.50	—	—	25.21	29.43	—	—	—
2.6	17.51	48.70	—	—	22.75	33.78	—	—	—
2.8	14.73	56.48	—	—	20.61	38.21	—	—	—
3.0	12.48	64.84	—	—	18.72	42.69	—	—	—

Shallow Channel Slotted

Ref.IC/CNL/S/S

- Steel with a Minimum yield strength 280 N/mm.
- Beams are assumed to be simply supported.
- Load and deflection are calculated using a safety factor of 1.6 and an allowable stress of 175 N/mm.
- Results given are for Pre-galvanized steel, Hot dipped galvanized will reduce the stress due to the heat treatment and reduce the loading in the chart by a factor of approx 18%.
- Beam loads are calculated from the column face and effective length in BS5950.
- The tables show:
 - 1) The max safe working load,
 - 2) the load to give 1/200 deflection
 - 3) load to give 1/360 deflection - the deflection used will depend on the installation designer.
- This also applies to Point and UDL loads.



Sectional Properties

CSA (mm ²)	I xx (mm ⁴)	Z xx (mm ³)	Weight (kg/m)	Yield (N/mm ²)
201.5	9669	880	1.72	280



□ = Select a Channel Length* ○ = Select a finish

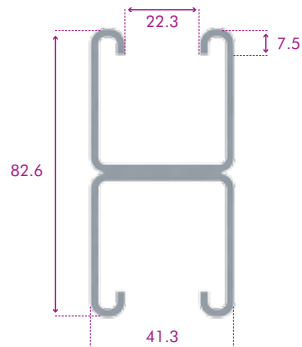
Safe Working Load Table

Span (metres)	Safe Working Load - Uniform (kg/m)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Maximum Load- Point Load (kg)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Safe Working Load - Column at Face (kg)
	Load kg/m	Def (mm)			Load (kg)	Def (mm)			
0.8	210.56	4.61	182.32	100.10	84.20	3.64	84.20	49.24	702
1.0	133.79	7.20	92.04	49.94	66.88	5.65	56.52	30.21	629
1.2	92.09	10.37	52.13	27.77	55.24	8.06	37.90	19.62	544
1.4	66.95	14.12	31.84	16.50	46.85	10.86	26.45	13.03	489
1.6	50.63	18.44	20.44	10.17	40.49	14.01	18.84	8.56	442
1.8	39.44	23.34	13.56	—	35.49	17.48	13.45	—	—
2.0	31.44	28.82	9.16	—	31.43	21.24	9.44	—	—
2.2	25.52	34.87	—	—	28.06	25.23	—	—	—
2.4	21.01	41.50	—	—	25.21	29.43	—	—	—
2.6	17.51	48.70	—	—	22.75	33.78	—	—	—
2.8	14.73	56.48	—	—	20.61	38.21	—	—	—
3.0	12.48	64.84	—	—	18.72	42.69	—	—	—

Deep Back to Back Channel

Ref.IC/CNL/BBD/P

- Steel with a Minimum yield strength 280 N/mm.
- Beams are assumed to be simply supported.
- Load and deflection are calculated using a safety factor of 1.6 and an allowable stress of 175 N/mm.
- Results given are for Pre-galvanized steel, Hot dipped galvanized will reduce the stress due to the heat treatment and reduce the loading in the chart by a factor of approx 18%.
- Beam loads are calculated from the column face and effective length in BS5950.
- The tables show:
 - 1) The max safe working load,
 - 2) the load to give 1/200 deflection
 - 3) load to give 1/360 deflection - the deflection used will depend on the installation designer.
- This also applies to Point and UDL loads.



Sectional Properties

CSA (mm ²)	I xx (mm ⁴)	Z xx (mm ³)	Weight (kg/m)	Yield (N/mm ²)
672.5	375152.9	9083.6	5.35	280



Part Number
IC/CNL/BBD/P/□/○

Finishes & Materials:

□ = Select a Channel Length* ○ = Select a finish

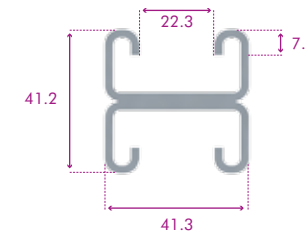
Safe Working Load Table

Span (metres)	Safe Working Load - Uniform (kg/m)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Maximum Load- Point Load (kg)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Safe Working Load - Column at Face (kg)
	Load kg/m	Def (mm)			Load (kg)	Def (mm)			
0.8	2023.46	1.37	2023.46	2023.46	809.14	1.10	809.14	809.14	2893
1.0	1294.05	2.14	1294.05	1294.05	646.83	1.71	646.83	646.83	2861
1.2	897.83	3.09	897.83	970.19	538.53	2.46	538.53	538.53	2824
1.4	658.92	4.20	658.92	609.97	461.10	3.35	461.10	461.10	2781
1.6	503.86	5.49	503.86	407.75	402.96	4.36	402.96	402.96	2622
1.8	397.55	6.94	397.55	285.58	357.68	5.51	357.68	319.47	2564
2.0	321.50	8.57	321.50	207.46	321.40	6.80	321.40	257.31	2498
2.2	265.24	10.37	265.24	155.20	291.67	8.21	291.67	211.19	2426
2.4	222.45	12.34	216.22	118.93	266.85	9.75	266.85	175.98	2349
2.6	189.14	14.48	169.49	92.97	245.81	11.42	245.81	148.46	2270
2.8	162.72	16.80	135.17	73.90	227.74	13.22	227.74	126.51	2188
3.0	141.40	19.28	109.39	59.58	212.04	15.14	202.10	108.70	2108
3.2	123.95	21.94	89.67	48.62	198.26	17.18	176.12	94.03	2029
3.4	109.49	24.77	74.31	40.09	186.08	19.34	154.49	81.78	1951
3.6	97.38	27.77	62.18	33.35	175.22	21.61	136.28	71.42	1877
3.8	87.12	30.94	52.47	27.96	165.48	24.01	120.79	62.58	1803
4.0	78.37	34.28	44.60	23.59	156.68	26.51	107.48	54.95	1734
4.2	70.83	37.80	38.16	—	148.70	29.13	95.96	48.31	1667
4.4	64.30	41.48	32.84	—	141.41	31.85	85.90	42.48	1602
4.6	58.60	45.34	28.41	—	134.74	34.67	77.05	37.33	1541
4.8	53.60	49.37	24.68	—	128.60	37.60	69.22	32.74	1482
5.0	49.19	53.57	21.53	—	122.93	40.63	62.25	28.63	1425

Shallow Back to Back Channel

Ref.IC/CNL/BBS/P

- Steel with a Minimum yield strength 280 N/mm.
- Beams are assumed to be simply supported.
- Load and deflection are calculated using a safety factor of 1.6 and an allowable stress of 175 N/mm.
- Results given are for Pre-galvanized steel, Hot dipped galvanized will reduce the stress due to the heat treatment and reduce the loading in the chart by a factor of approx 18%.
- Beam loads are calculated from the column face and effective length in BS5950.
- The tables show:
 - 1) The max safe working load,
 - 2) the load to give 1/200 deflection
 - 3) load to give 1/360 deflection - the deflection used will depend on the installation designer.
- This also applies to Point and UDL loads.



Sectional Properties

CSA (mm ²)	I xx (mm ⁴)	Z xx (mm ³)	Weight (kg/m)	Yield (N/mm ²)
468	58679.6	2848.48	3.57	280



Part Number
IC/CNL/BBS/P/□/○

Finishes & Materials:

□ = Select a Channel Length* ○ = Select a finish

Safe Working Load Table

Span (metres)	Safe Working Load - Uniform (kg/m)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Maximum Load- Point Load (kg)		Def Limit Span/ 200 (kg)	Def Limit Span/ 360 (kg)	Safe Working Load - Column at Face (kg)
	Load kg/m	Def (mm)			Load (kg)	Def (mm)			
0.8	631.89	2.75	631.89	510.25	252.68	2.19	252.68	252.68	1698
1.0	403.44	4.30	403.44	259.94	201.66	3.41	201.66	161.46	1633
1.2	279.35	6.19	270.88	149.30	167.56	4.90	167.56	110.77	1559
1.4	204.53	8.42	169.59	93.03	143.12	6.65	143.12	79.99	1422
1.6	155.96	11.00	112.73	61.44	124.73	8.65	111.12	59.83	1345
1.8	122.67	13.92	78.38	42.35	110.37	10.89	86.36	45.84	1269
2.0	98.85	17.18	56.41	30.15	98.82	13.38	68.50	35.67	1197
2.2	81.23	20.79	41.71	21.98	89.32	16.10	55.15	28.02	1127
2.4	67.83	24.74	31.52	16.32	81.37	19.04	44.86	22.06	1062
2.6	57.40	29.04	24.22	12.26	74.59	22.19	36.74	17.31	1002
2.8	49.12	33.68	18.85	—	68.75	25.54	30.18	13.43	945
3.0	42.44	38.66	14.83	—	63.65	29.08	24.79	10.20	892
3.2	36.98	43.99	—	—	59.15	32.80	20.28	—	841
3.4	32.45	49.66	—	—	55.15	36.68	16.45	—	—
3.6	28.66	55.67	—	—	51.56	40.71	13.15	—	—
3.8	25.44	62.03	—	—	48.33	44.88	10.28	—	—
4.0	22.70	68.73	—	—	45.39	49.16	—	—	—
4.2	20.34	75.78	—	—	42.71	53.55	—	—	—
4.4	18.30	83.16	—	—	40.24	58.01	—	—	—
4.6	16.51	90.90	—	—	37.97	62.54	—	—	—
4.8	14.95	98.97	—	—	35.86	67.11	—	—	—
5.0	13.56	107.39	—	—	33.90	71.71	—	—	—

CHANNEL VERSATILITY

Due to the versatility of the Vantrunk Steel Framing Channel, a wide range of non-standard channel configurations can be offered. Contact Vantrunk's Sales Team for ordering information.

Back to Back Deep and Shallow Channel
(IC/CNL/BBSD)



Back to Side Deep Channel
(IC/CNL/BWD)



Side to Side Deep Channel
(IC/CNL/WWD)



Back to Side Deep Shallow Channel
(IC/CNL/BWSD)



Opposite Side to Side Deep Channel
(IC/CNL/WWID)



Radial Return Flange Inwards Deep Channel
(IC/CNL/RI)



Radial Return Flange Outwards Deep Channel
(IC/CNL/RO)



VANTRUNK CHANNEL NUT

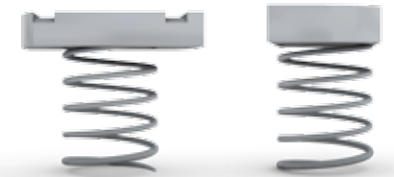
The Intelok Channel has serrated return flanges which provide greatly enhanced slip resistance, essential in areas of vibration and where close inspection of completed installations is not possible.



The Vantrunk Intelok Channel Nut can be supplied in plain, short and long spring configurations to suit the client's application.



The Vantrunk Intelok Nut is stocked in a number of thread sizes including M6, M8, M10 and M12.



The Vantrunk Intelok Channel Nut can be supplied in three main materials & finishes which are Zinc Plated, Galvanized and Stainless Steel.

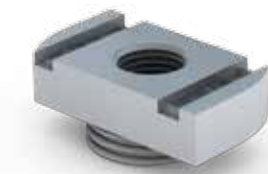
Long Spring Channel Nut

CHANNEL NUTS - LONG SPRING					
Thread Size	Part No.	ZA	GA	SS	
M6	IC/NUT/M6/L/ZA		IC/NUT/M6/L/GA	IC/NUT/M6/L/SS	
M8	IC/NUT/M8/L/ZA		IC/NUT/M8/L/GA	IC/NUT/M8/L/SS	
M10	IC/NUT/M10/L/ZA		IC/NUT/M10/L/GA	IC/NUT/M10/L/SS	
M12	IC/NUT/M12/L/ZA		IC/NUT/M12/L/GA	IC/NUT/M12/L/SS	



Short Spring Channel Nut

CHANNEL NUTS - SHORT SPRING					
Thread Size	Part No.	ZA	GA	SS	
M6	IC/NUT/M6/S/ZA		IC/NUT/M6/S/GA	IC/NUT/M6/S/SS	
M8	IC/NUT/M8/S/ZA		IC/NUT/M8/S/GA	IC/NUT/M8/S/SS	
M10	IC/NUT/M10/S/ZA		IC/NUT/M10/S/GA	IC/NUT/M10/S/SS	
M12	IC/NUT/M12/S/ZA		IC/NUT/M12/S/GA	IC/NUT/M12/S/SS	



Plain Channel Nut

CHANNEL NUTS - NO SPRING					
Thread Size	Part No.	ZA	GA	SS	
M6	IC/NUT/M6/N/ZA		IC/NUT/M6/N/GA	IC/NUT/M6/N/SS	
M8	IC/NUT/M8/N/ZA		IC/NUT/M8/N/GA	IC/NUT/M8/N/SS	
M10	IC/NUT/M10/N/ZA		IC/NUT/M10/N/GA	IC/NUT/M10/N/SS	
M12	IC/NUT/M12/N/ZA		IC/NUT/M12/N/GA	IC/NUT/M12/N/SS	



INTELOK BRAKETRY & BEAM CLAMPS

Brackets are primarily designed to be used to provide mechanical strength and reinforcement to a joint when used to connect channel together. The Vantrunk Steel Framing System comes equipped with one of the industry's most comprehensive and versatile range of brackets. The Steel Framing Brackets allow for infinite varieties of permanent and temporary supporting frameworks to be created.

Every Bracket in the Vantrunk Steel Framing Range comes complete with a 15.2mm fixing hole to accommodate fixings up to and including M12.

The Steel Framing Range of Brackets are manufactured in either Hot Dip Galvanized Mild Steel or Stainless Steel 316 Marine Grade. Vantrunk Steel Framing Brackets manufactured in Carbon Steel have a material gauge of 6mm and brackets manufactured in Stainless Steel have a material gauge of 5mm.

All Steel Framing Brackets are manufactured out of steel with minimum yield strength of 170N/mm² in accordance with BS 6946.

The seven groups of brackets (see page 182) are all provided within the Steel Framing Brackets Range, which will accommodate all of our user's installation requirements. For more information on the Vantrunk Bracket Range please contact the Vantrunk Technical Team.

Please note that the diagrams are just one application of the bracket, some brackets may be used in several applications.

ACCREDITED TO THE
FOLLOWING STANDARDS



ENHANCED OPTION



Vantrunk's unique Intelok Quickfit System of brackets and cantilevers are factory assembled with channel nuts, setscrews, washers & special plastic sleeves. The sleeves ensure that the correct spacing is maintained between the bracket and the channel nut enabling it to be easily located and quickly assembled and also ensures that the channel nut is held captive in transit whilst allowing rotation of the fixing assembly during installation.

To install the Intelok Quickfit system of brackets & cantilevers the nuts are aligned with the open slot of the channel. The assembly is placed in position, the setscrew turned by hand through 90° to locate the channel nut under the return flange of the channel and the setscrew tightened. The channel nuts ensure positive location within the channel. The entire assembly operation takes approximately one third of the time required to fix similar brackets and cantilevers by the conventional spring nut method.

Why Quickfit your Brackets?

- Easier and quicker to assemble.
- Less components to order.
- Approximate 65% savings on installation time.
- Simplified stock control.
- Easier estimating.

Conventional bracket



- Number of individual components = 10
- Number of order items = 4
- Assembly time = 135 secs

QF Quickfit Bracket



- Number of individual components = 1
- Number of order items = 1
- Assembly time = 45 secs... **66.6% saving**

It couldn't be easier to order a Quickfit Bracket with our **NEW** Simplified Ordering System

1. All brackets with the **QF** symbol can be supplied as Quickfit.
2. Select the bracket part number required.
3. Add the suffix (-QF) for standard M10 Quickfit Brackets.
4. or add (-QF12) for M12 fixings
5. For example 325XAS10SS becomes 325XAS10SS-QF

QUICK GUIDE...

FLAT PLATE BRACKETS

Flat Plate Brackets provide joint reinforcement between Steel Framing Channel on the same or on different planes.



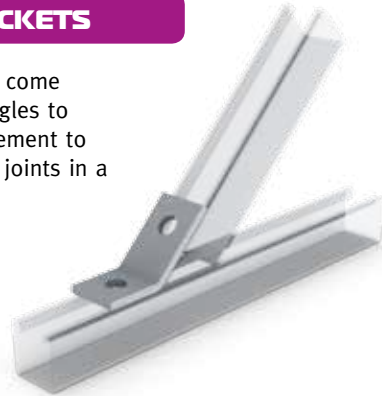
90° ANGLE BRACKETS

90° Angled brackets allow for right angle joints within a channel framework.



ANGLE BRACKETS

Angled brackets come in a range of angles to provide reinforcement to angular channel joints in a framework.



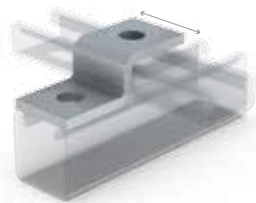
SUPPORT BRACKETS

Designed to offer support and mechanical strength to channels on many different planes.



SHAPED & TOP HAT BRACKETS

A captive fixing bracket used to secure channel side by side on the same plane or channel on a horizontal plane to channel on a vertical plane.



BASE PLATES

Base Plates are to be used for securing channel to the floor or wall and will help to distribute the concentrated load over a larger area.



BEAM CLAMPS

Beam Clamps are designed to secure Steel Framing Intelok Channel to secondary steelwork or building structures.

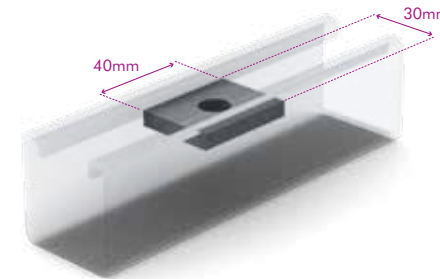


BRACKETERY AND BEAM CLAMPS

FLAT PLATE BRACKETS

Internal Washer

Part No.	GA	325AJ02
Part No.	SS	325XAJ02

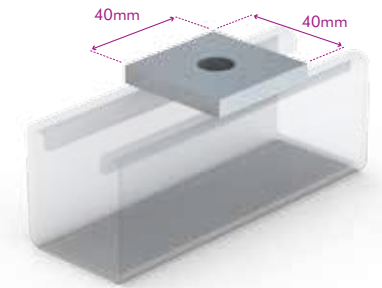


Square Washer

Part No.	GA	Part No.	SS	Hole Clearance
325AJ03		325XAJ03		M6
325AJ05		325XAJ05		M8
325AJ07		325XAJ07		M10
325AJ10		325XAJ10		M12

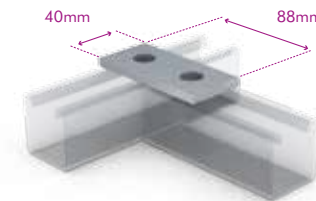
325XAJ10 also available **QF**

Available in: M6, M8, M10 & M12 Amend Code as Applicable.



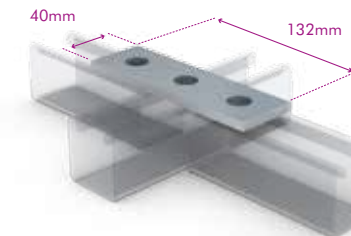
2 Hole Straight Bar **QF**

Part No.	GA	325AD11
Part No.	SS	325XAD11



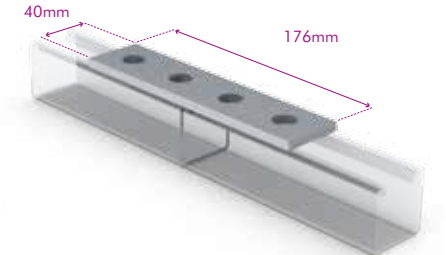
3 Hole Straight Bar **QF**

Part No.	GA	325AC11
Part No.	SS	325XAC11



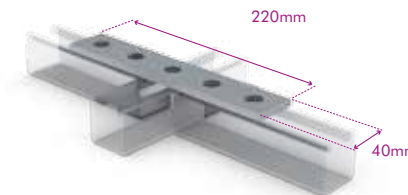
4 Hole Straight Bar **QF**

Part No.	GA	325AC13
Part No.	SS	325XAC13



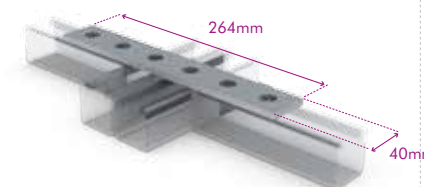
5 Hole Straight Bar **QF**

Part No.	GA	325AY10
Part No.	SS	325XAY10



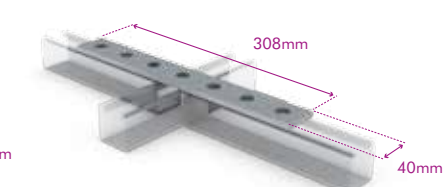
6 Hole Straight Bar **QF**

Part No.	GA	325AY11
Part No.	SS	325XAY11



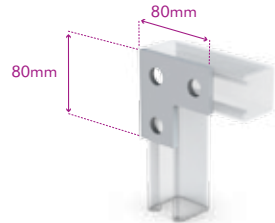
7 Hole Straight Bar **QF**

Part No.	GA	325AY12
Part No.	SS	325XAY12



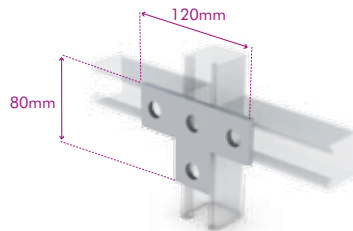
'L' Shaped Bracket **UF**

Part No. **GA** 325AG10
Part No. **SS** 325XAG10



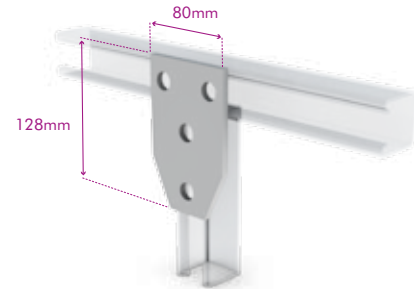
'T' Shaped Bracket **UF**

Part No. **GA** 325AF13
Part No. **SS** 325XAF13



Fish Plate Joiner **UF**

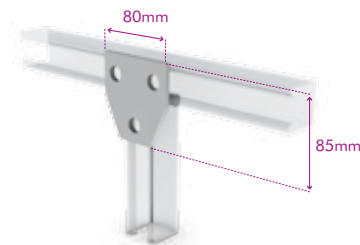
Part No. **GA** 325AF15
Part No. **SS** 325XAF15



90° ANGLE BRACKETS

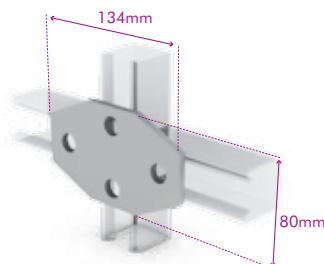
3 Hole Flat Plate **UF**

Part No. **GA** 325AF26
Part No. **SS** 325XAF26



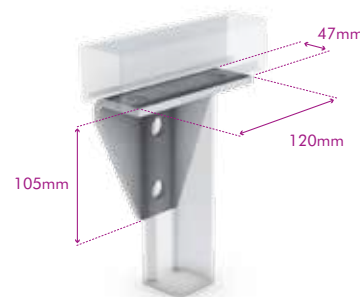
4 Hole Flat Plate **UF**

Part No. **GA** 325AF27
Part No. **SS** 325XAF27



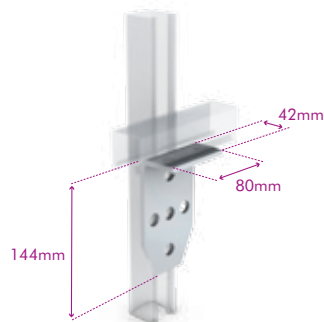
Wing 90° Angle Plate **UF**

Part No. **GA** 325AQ10
Part No. **SS** 325XAQ10



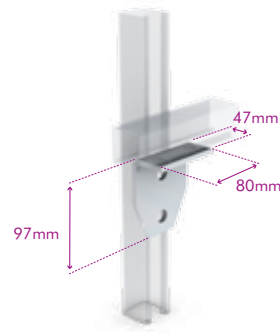
Large 90° Angle Plate **UF**

Part No. **GA** 325AQ11
Part No. **SS** 325XAQ11



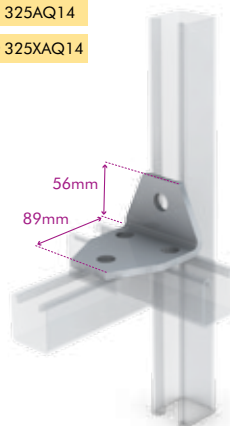
Medium 90° Angle Plate **UF**

Part No. **GA** 325AQ12
Part No. **SS** 325XAQ12



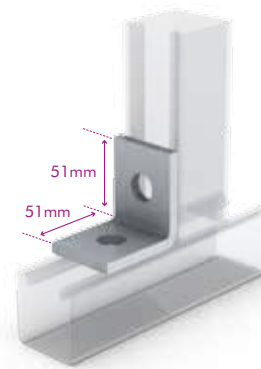
Small 90° Angle Plate **UF**

Part No. **GA** 325AQ14
Part No. **SS** 325XAQ14



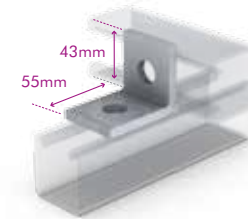
Linear Right Angle Bar 1x1 **UF**

Part No. **GA** 325AS10
Part No. **SS** 325XAS10



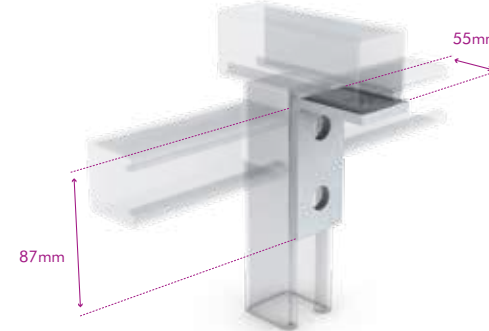
Perpendicular Right Angle Bar 1x1 **UF**

Part No. **GA** 325AD10
Part No. **SS** 325XAD10



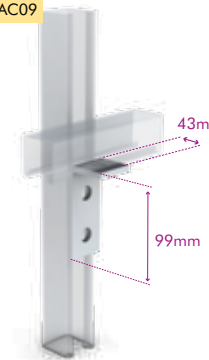
Linear Right Angle Bar 2x1 **UF**

Part No. **GA** 325AC10
Part No. **SS** 325XAC10



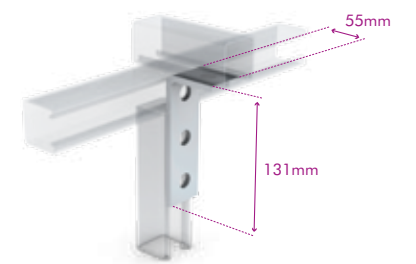
Perpendicular Right Angle Bar 2x1 **UF**

Part No. **GA** 325AC09
Part No. **SS** 325XAC09



Linear Right Angle Bar 3x1 **UF**

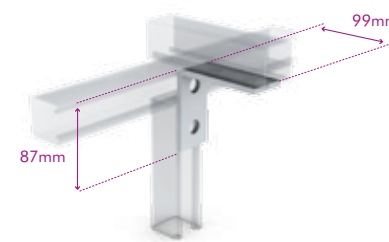
Part No. **GA** 325AE10
Part No. **SS** 325XAE10



ANGLE BRACKETS

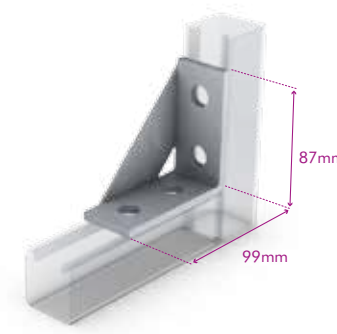
Linear Right Angle Bar 2x2 **UF**

Part No. **GA** 325AE11
Part No. **SS** 325XAE11



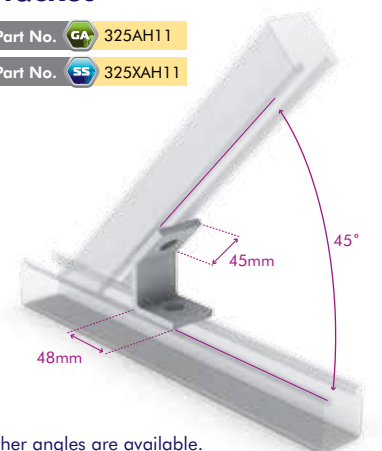
Right Angle Shelf Bracket **UF**

Part No. **GA** 325AE12
Part No. **SS** 325XAE12



Acute Angle Bracket **UF**

Part No. **GA** 325AH11
Part No. **SS** 325XAH11



Other angles are available.
Please contact our Sales Team

ANGLE BRACKETS CONTINUED

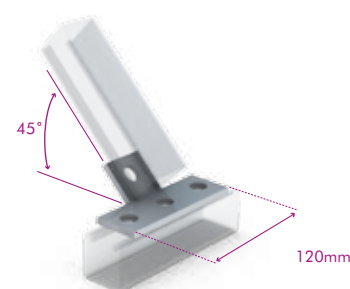
Obtuse Angle **UF**
Bracket

Part No. **GA** 325AD17
Part No. **SS** 325XAD17

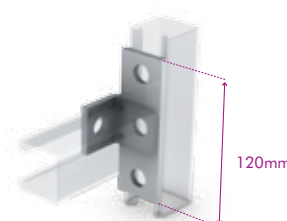
Other angles
are available.
Please contact
our Sales Team

45° Angle Tee **UF**
Bracket

Part No. **GA** 325AF14
Part No. **SS** 325XAF14

90° Angle Tee **UF**
Bracket

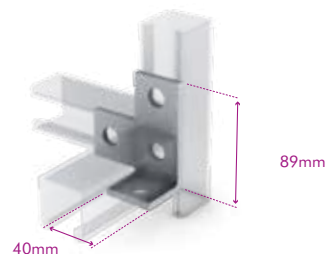
Part No. **GA** 325AF10
Part No. **SS** 325XAF10



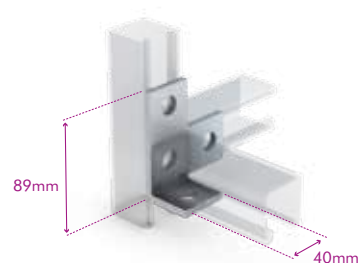
SUPPORT BRACKETS

Left Handed **UF**
Tee Support

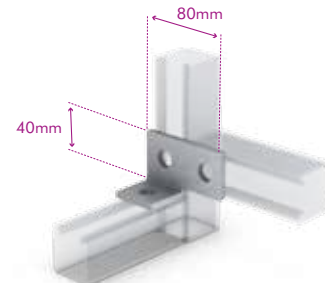
Part No. **GA** 325AF11
Part No. **SS** 325XAF11

Right Handed **UF**
Tee Support

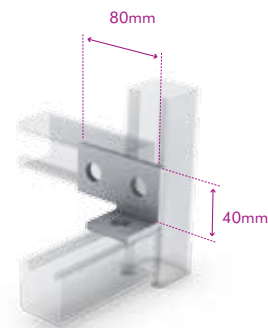
Part No. **GA** 325AF12
Part No. **SS** 325XAF12

Left Hand One
Bend L Support

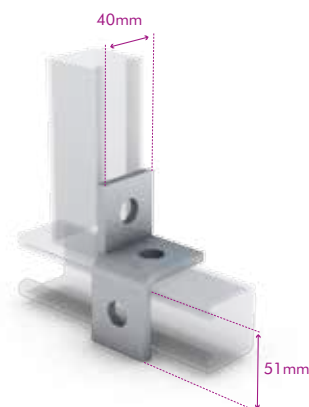
Part No. **GA** 325AG12
Part No. **SS** 325XAG12

Right Hand One
Bend L Support

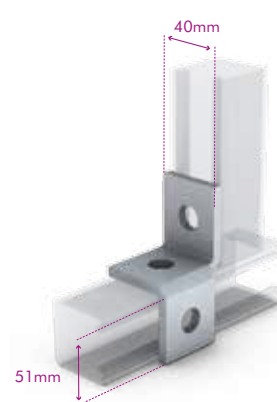
Part No. **GA** 325AG13
Part No. **SS** 325XAG13

Left Hand Two
Bend L Support

Part No. **GA** 325AG15
Part No. **SS** 325XAG15

Right Hand Two
Bend L Support

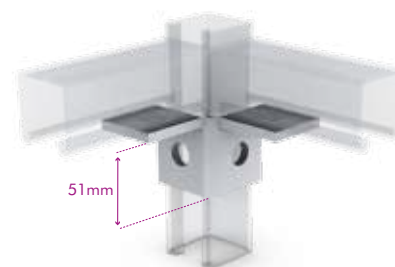
Part No. **GA** 325AG16
Part No. **SS** 325XAG16



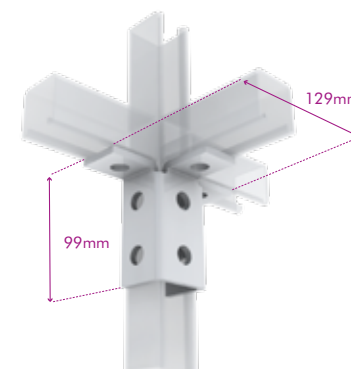
BRACKETRY AND BEAM CLAMPS

Three Way Corner **UF**

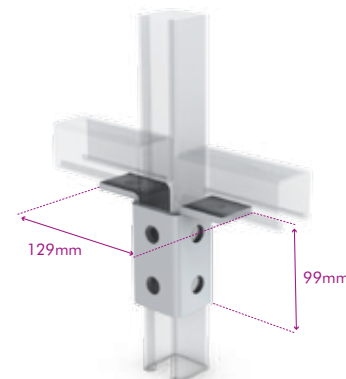
Part No. **GA** 325AV02
Part No. **SS** 325XAV02

Three Leg Support **UF**

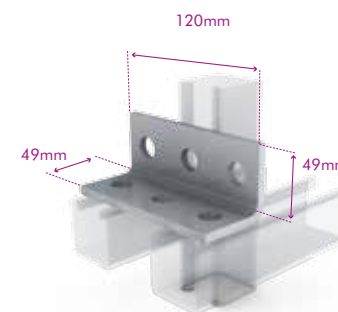
Part No. **GA** 325AV09
Part No. **SS** 325XAV09

Two Leg Support **UF**

Part No. **GA** 325AV10
Part No. **SS** 325XAV10

Cross Support **UF**

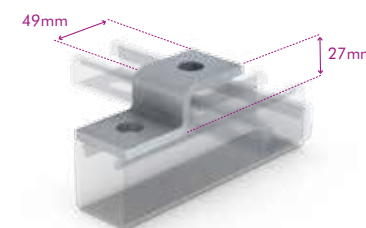
Part No. **GA** 325AB10
Part No. **SS** 325XAB10



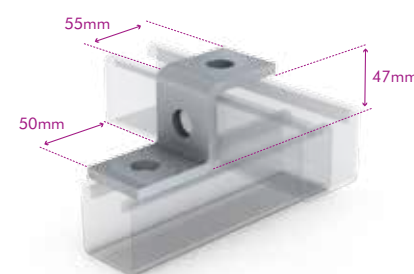
SHAPED BRACKETS

Shallow 'Z' **UF**
Shaped Bar

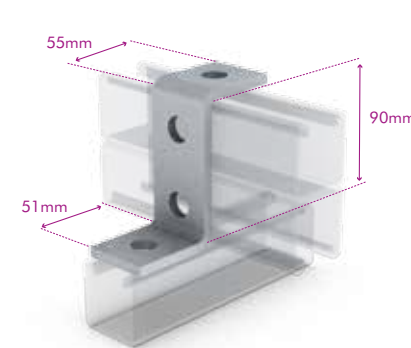
Part No. **GA** 325AD28
Part No. **SS** 325XAD28

Deep 'Z' Shaped **UF**
Bracket

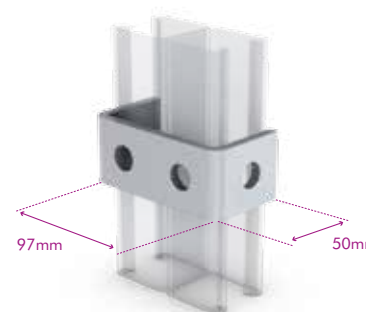
Part No. **GA** 325AC12
Part No. **SS** 325XAC12

Deep Back to Back **UF**
Shaped Bar

Part No. **GA** 325AU10
Part No. **SS** 325XAU10

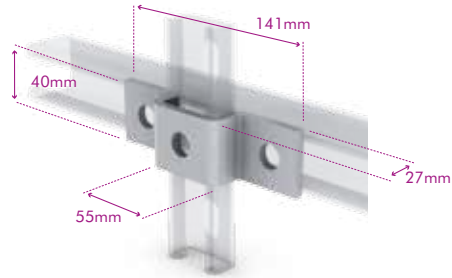
Back to Back **UF**
Bracket

Part No. **GA** 325AT11
Part No. **SS** 325XAT11



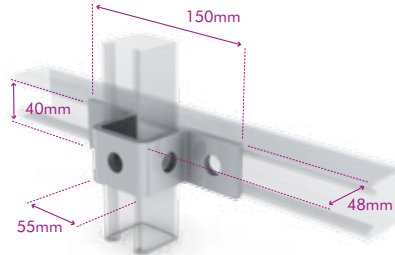
Shallow Normal QF Top Hat Bracket

Part No. **GA** 325AJ13
Part No. **SS** 325XAJ13



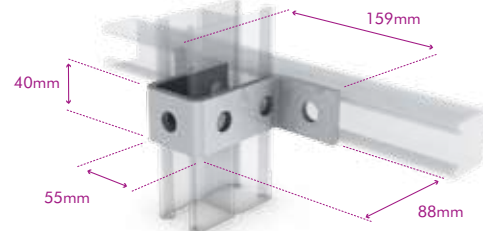
Deep Normal QF Top Hat Bracket

Part No. **GA** 325AJ12
Part No. **SS** 325XAJ12



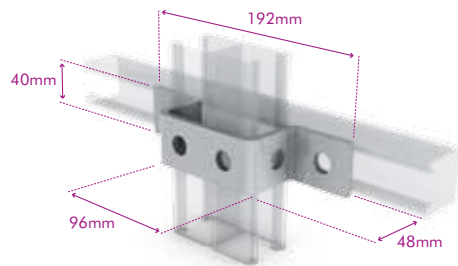
Back to Back Normal QF Top Hat Bracket

Part No. **GA** 325AFJ14
Part No. **SS** 325XAJ14



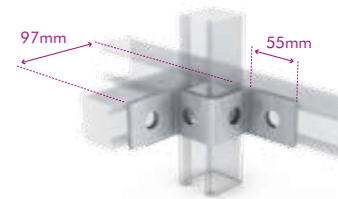
Back to Back Flat QF Top Hat Bracket

Part No. **GA** 325AJ11
Part No. **SS** 325XAJ11



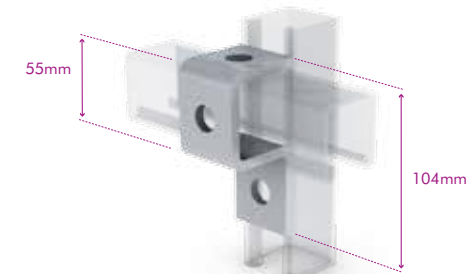
'W' Shaped Bracket QF

Part No. **GA** 325AU15
Part No. **SS** 325XAU15



'U' Shaped Bracket QF

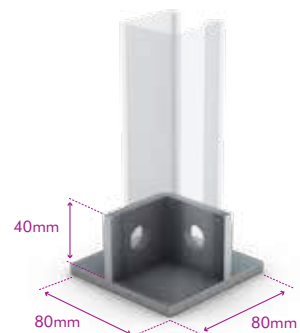
Part No. **GA** 325AJ15
Part No. **SS** 325XAJ15



SUPPORT BRACKETS

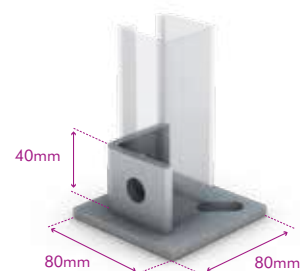
Deep Offset QF Base Plate

Part No. **GA** 325AR10
Part No. **SS** 325XAR10



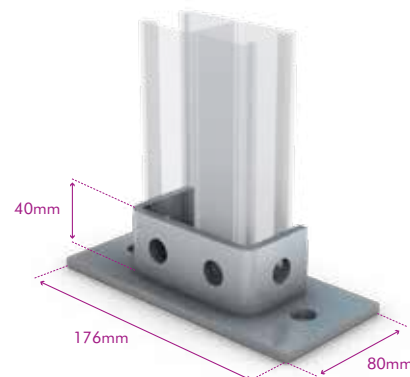
Deep Central QF Base Plate

Part No. **GA** 325AN10
Part No. **SS** 325XAN10



Back to Back Central QF Base Plate

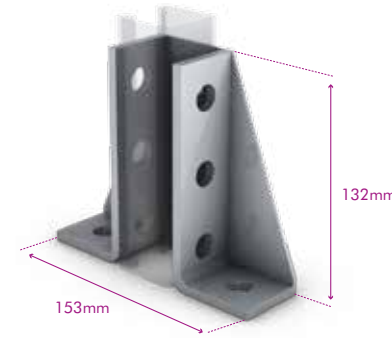
Part No. **GA** 325AT10
Part No. **SS** 325XAT10



BRACKETS AND BEAM CLAMPS

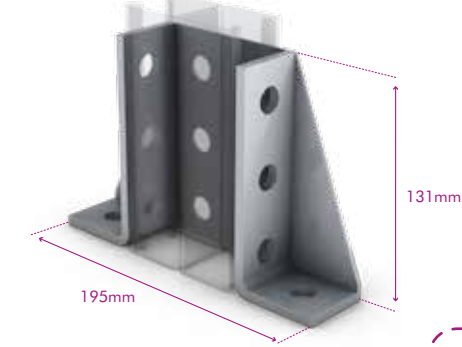
Deep Tall Gusset QF Wing Fitting

Part No. **GA** 325AW01
Part No. **SS** 325XAW01



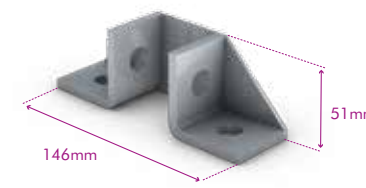
Back to Back Tall Gusset Wing Fitting QF

Part No. **GA** 325AW02
Part No. **SS** 325XAW02



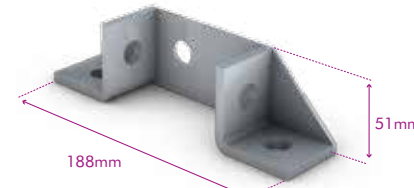
Deep Short Gusset QF Wing Fitting

Part No. **GA** 325AW03
Part No. **SS** 325XAW03



Back to Back Short Gusset Wing Fitting QF

Part No. **GA** 325AW04
Part No. **SS** 325XAW04



Purlin Beam Clamp

Part No. **GA** 389AH10
Part No. **SS** 389XAH10



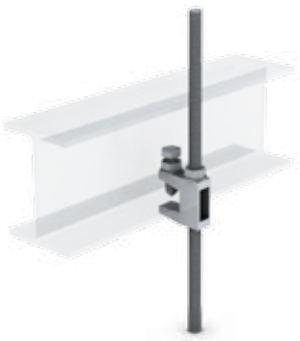
BEAM CLAMPS

**DON'T FORGET YOUR
FIXINGS**
SEE PAGE 232 FOR MORE DETAILS

BEAM CLAMPS CONTINUED

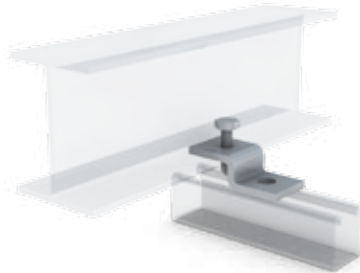
Beam Clamp

Part No.	GA	Part No.	SS	Thread Size	GA	Max. Load
389AA07		389XAA07		M10		114kg
389AA08		389XAA08		M12		341kg



'Z' Shaped Beam Clamp **UF**

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AP10		325XAP10			300kg



Flange range up to 17mm
Supplied with M10x40 Cone Point Screw

'J' Shaped Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AP11		325XAP11			300kg



Flange range up to 21mm

'C' Shaped Flange Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AX11		325XAX11			250kg



Flange range up to 18mm
Supplied with M12x40 Cone Point Screw

'C' Shaped Base **UF**
Beam Clamp

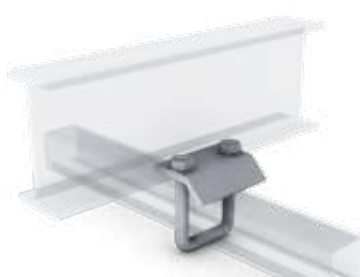
Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AX10		325XAX10			300kg



Flange range up to 17mm
Supplied with M10x40 Cone Point Screw

Medium Duty 'U'
Bolt Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AM10		325XAM10			1100kg



Suitable for both Deep and Shallow Channel Flange range up to 25mm Supplied single and with M10x80 'U' Bolt, 2 x M10 Flat Washers and 2 M10 Hex Nuts

BRACKETRY AND BEAM CLAMPS

Medium Duty Back to Back 'U'
Bolt Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
Ref.325AM12		Ref.325XAM12			1100kg



Flange range up to 25mm
Supplied single and with M10x128 'U' Bolt, 2 x M10 Flat Washers and 2 M10 Hex Nuts

Extra Heavy Duty Back to Back 'U'
Bolt Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
Ref.325AM14		Ref.325XAM14			1800kg



Flange range up to 25mm - 40mm
Supplied single and with M12x146 'U' Bolt, 2 x M12 Flat Washers and 2 M12 Hex Nuts

Deep Window Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AL10		325X AL10			500kg



Flange range up to 15mm
Supplied with M10x40 Cone Point Screw

Heavy Duty Back to Back 'U'
Bolt Beam Clamp

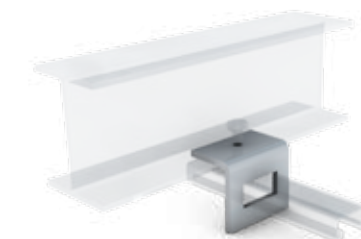
Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AM13		325XAM13			1800kg



Flange range up to 25mm Supplied single and with M12x126 'U' Bolt, 2 x M12 Flat Washers and 2 M12 Hex Nuts

Shallow Window Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AL11		325X AL11			500kg



Flange range up to 15mm
Supplied with M10x40 Cone Point Screw

Deep Back to Back Window Beam Clamp

Part No.	GA	Part No.	SS	GA	Max. Load as pair
325AL09		325X AL09			500kg



Flange range up to 15mm
Supplied with M10x40 Cone Point Screw

INTELOK CONCRETE INSERTS

Steel Framing Concrete Inserts are manufactured from Steel Framing Intelok Channel profiles. The back of each channel is pressed out to form specially designed strong anchor lugs.

The channel is then filled with a unique profile manufactured from expanded polystyrene foam which prevents the ingress of concrete during the pouring stage of construction. The infill is simply removed by inserting a knife blade down the two continuous slots formed in the profile enabling rapid removal of the infill.

ACCREDITED TO THE
FOLLOWING STANDARDS



CONCRETE INSERTS

Deep Intelok Concrete Insert

Ref.IC/CON/D

Steel Framing Deep Concrete Inserts are manufactured from 2.5mm, 41 x 41 deep channel with securing lugs at 200mm centres.

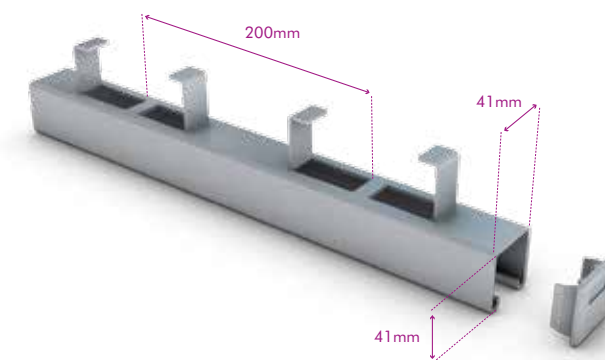
Loading Data – Concrete Inserts

Loading Condition	Deep Channel
Safe Working Load per 200mm module	670kg
Safe Working Load per metre length	3350kg
Safe pull-out load on channel lips	1000kg
Safe shear load - M10 fixings	1392kg
Safe shear load - M12 fixings	2023kg

Loading data is based on concrete with a crushing strength of 33N/mm² and a factor safety of 2.

Steel Framing Deep Concrete Inserts are available in standard lengths of 3m and 6m. For lengths other than the standard 3 & 6 metres, quote the required length in mm (must be divisible by 200).

Part Number	Finishes & Materials:
IC/CON/D/□/○	
□ = Select a Channel Length* ○ = Select a finish	



Intelok Shallow Concrete Insert

Ref.IC/CON/S

Steel Framing Deep Concrete Inserts are manufactured from 2.5mm, 41 x 41 deep channel with securing lugs at 200mm centres.

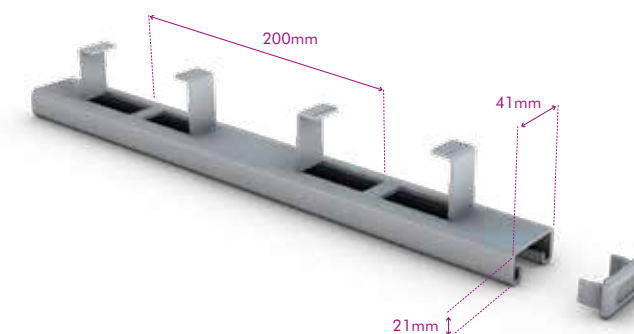
Loading Data – Concrete Inserts

Loading Condition	Deep Channel
Safe Working Load per 200mm module	400kg
Safe Working Load per metre length	2000kg
Safe pull-out load on channel lips	5100kg
Safe shear load - M10 fixings	1392kg
Safe shear load - M12 fixings	2023kg

Loading data is based on concrete with a crushing strength of 33N/mm² and a factor safety of 2.

Steel Framing Deep Concrete Inserts are available in standard lengths of 3m and 6m. For lengths other than the standard 3 & 6 metres, quote the required length in mm (must be divisible by 200).

Part Number	Finishes & Materials:
IC/CON/S/□/○	
□ = Select a Channel Length* ○ = Select a finish	



The Concrete Insert above is shown with Plastic End Caps. Vantrunk highly recommends the use of Plastic End Caps as the cap prevents the ingress of concrete slurry into the insert during installation. (Order Separately for End Caps Page 198).

INTELOK STEEL FRAMING CONCRETE INSERT INSTALLATION INSTRUCTIONS:

Step 1: Fixing to Shuttering:

Fix the Concrete Insert to the shuttering by nailing through the slots created by the anchor lugs. Fit end caps as necessary to the open ends of the concrete insert. The anchor lugs can be wired onto reinforcement mesh as required to increase the strength of the finished assembly.



Step 2: Removing the Infill

After pouring of concrete & removal of the shuttering, remove the polystyrene infill using a knife to cut through the two continuous grooves in the infill. Remove the nails.



CONCRETE INSERTS

Step 3: Inserting the Quickfit Assembly

Vantrunk Quickfit Brackets/Cantilevers are simply inserted into the channel. When the hexagon set screw is rotated through 90° degrees the channel nuts turn into the correct position, it is then easily tightened by a spanner.

This saves approximately two thirds of the time taken when using the conventional method of spring channel nuts etc.



The Quickfit assembly can be adjusted along the channel to the desired position before tightening the fixing bolt.

The Vantrunk Intelok Concrete Inserts are also compatible with the conventional style of spring channel nuts.



Finished installation

INTELOK ACCESSORIES

The Vantrunk Steel Framing System is complemented by a range of accessories.

From a selection of pipe clamps and connectors to end caps and cover strips, the following ancillary items represent cost-effective and practical solutions to most requirements.

ACCREDITED TO THE
FOLLOWING STANDARD

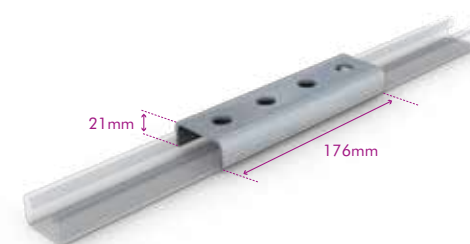


ACCESSORIES

Shallow External Connector **UF**

Part No. **GA** 325AK11

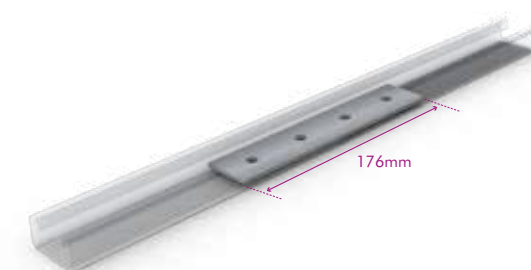
Part No. **SS** 325XAK11



Shallow Internal Connector

Part No. **GA** 325AK13

Part No. **SS** 325XAK13

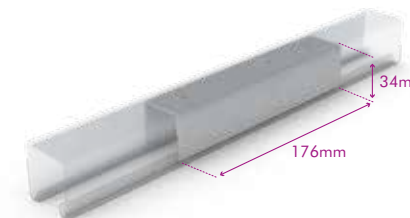


Comes complete with necessary fixings

Deep Internal Connector

Part No. **GA** 325AB08

Part No. **SS** 325XAB08



Comes complete with necessary fixings

Pipe Clamps

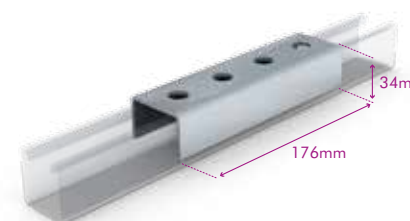
A Range of Pipe Clamps are available in a zinc plated finish, please contact the Vantrunk Sales Team for More Information. Please note that a minimum order quantity applies for this range of products.



Deep External Connector

Part No. **GA** 325AK10

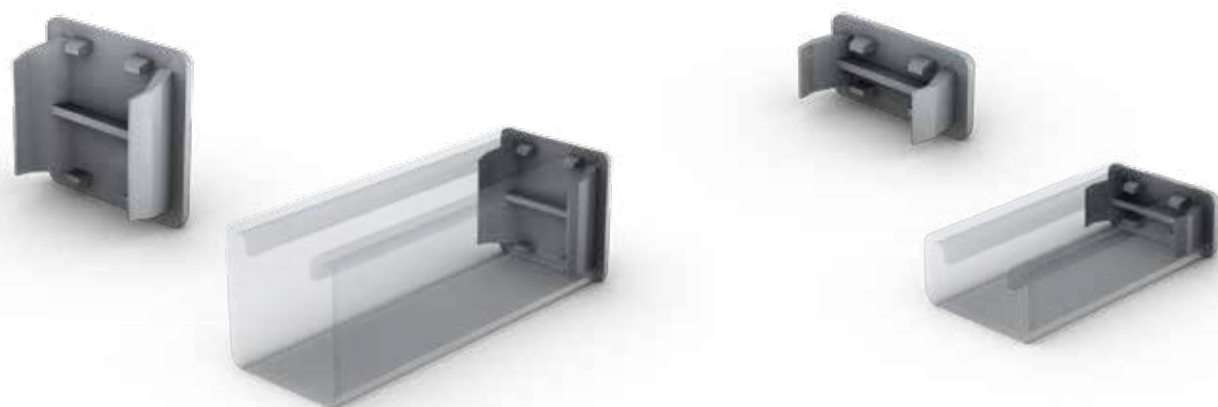
Part No. **SS** 325XAK10



Protective End Cap

Ref. IC/PEC

Protective End Caps are designed to close off the open ends of Intelok Deep and Shallow Channel Profiles. End caps are also used with Intelok Concrete Inserts to prevent the ingress of concrete slurry during the pouring process. Manufactured from injection moulded PVC, end caps are available in black or white colours.



Part Number

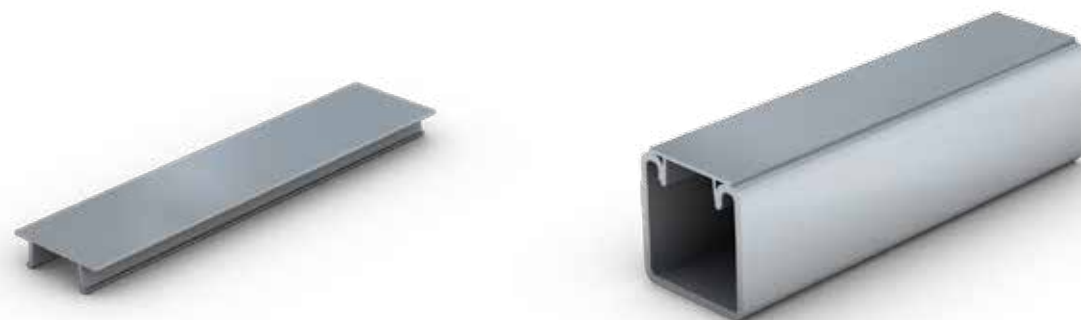
IC/PEC/Δ/O

Δ = Select Channel Type ○ = Select a finish

Cover Strip

Ref. IC/COV/SL3

Cover Strips are designed to close off the continuous open slots of Intelok Channel Profiles, particularly for decorative purposes or where the channel is used as trunking for the routing of secondary cables. Cover strips are supplied in 3m lengths and are available in extruded white PVC and roll-formed pre-galvanized mild steel or stainless steel material.



Part Number

IC/COV/SL3/O

○ = Select a finish

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 WHAT IT TAKES
 TO CLIMB THE...**

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 OF
 LADDERS**



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INTELOK TECHNICAL DATA

This compilation of technical information is intended to supply essential details relating to the Intelok Serrated Channel System. This will ensure that any installation has suitable strength & rigidity to provide reliable support at minimum installed cost.

Our Design Team is available to answer any questions relating to particular site requirements which may not be answered in the following sections.

Contents

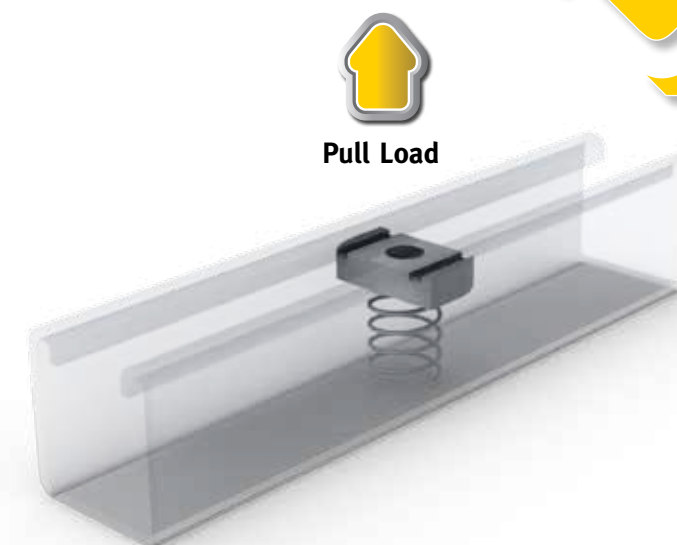
1.0 Speedway Cable Ladder General Information	PAGE
1.1 Pull Test	201
1.2 Slip Test	201
2.0 Bracket Weights & Quick-fit Fixings Quantities	202
3.0 Classification	204
4.0 Reference Standards	204

2.1 Loads

TECHNICAL DATA

> 1.1. PULL TEST

In Order to measure the safe working pull out load (SWL) for channel, a series of tests were conducted according to BS 6946:1988. The following are the set of results that were derived from the tests.



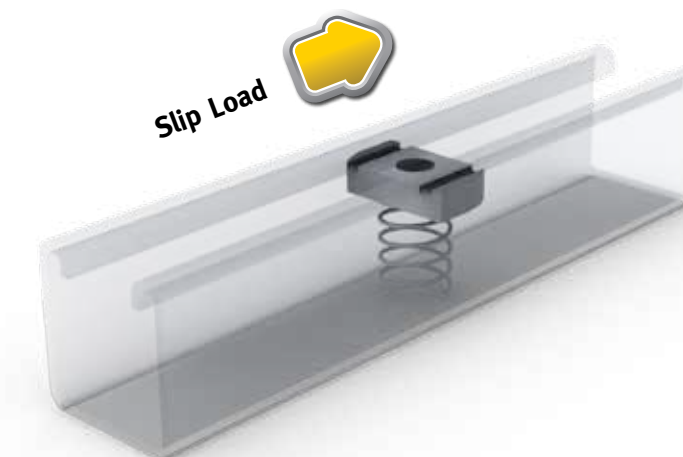
Safe Working Pull Loads

Material	M10	M12
Hot Dip Galvanised	728	768
Pre-Galvanised	839	733
Stainless Steel	1052	1375

* The Results in the above table have had a safety factor of 3 applied to the ultimate failure load
* The Results are in Kilogram (Kg)

> 1.2. SLIP TEST

In order to measure the safe working slip load (SWL) for channel, a series of tests were conducted according to BS 6946:1988. The following are the set of results that were derived from the tests.



Safe Working Slip Load

Material	Nut Size	Torque	1mm Slip	Failure	Average SWL
Hot Dip Galvanised	M10	46Nm	662.6kg	733.9kg	286.5kg
Pre-Galvanised	M10	46Nm	632kg	978.6kg	425.9kg
Stainless Steel	M10	31Nm	336.4kg	540.3kg	188kg

* The Results in the above table have had a safety factor of 3 applied to the ultimate failure load
* The Results are in Kilogram (Kg)

> 2.0 BRACKET WEIGHTS & QUICK-FIT
FIXINGS QUANTITIES



Part Number	Weight (g)	Quickfit				Former QF Reference
		Part Number	No of QF Fixings	M10 Weight (g)	Bracket Description	
325AJ02/GA	52	N/A		-	Internal washer	N/A
325AJ03/GA	75	N/A		-	Square washer M6	N/A
325AJ05/GA	73	N/A		-	Square washer M8	N/A
325AJ07/GA	72	N/A		-	Square washer M10	N/A
325AJ10/GA	69	325AJ10/GA-QF	1	132	Square washer M12	325QJ60
325AD11/GA	153	325AD11/GA-QF	2	279	Two hole plate	325QD61
325AC11/GA	229	325AC11/GA-QF	3	418	Three hole plate	325QC61
325AC13/GA	306	325AC13/GA-QF	4	558	Four hole plate	325QC63
325AY10/GA	382	325AY10/GA-QF	5	697	Five hole flat plate	325QY60
325AY11/GA	459	325AY11/GA-QF	6	837	Six hole flat plate	325QY61
325AY12/GA	535	325AY12/GA-QF	7	976	Seven hole flat plate	325QY62
325AG10/GA	207	325AG10/GA-QF	3	396	L bracket	325QG60
325AF13/GA	276	325AF13/GA-QF	3	465	T bracket	325QF63
325AF15/GA	418	325AF15/GA-QF	4	670	Fishplate/joiner four hole	325QF65
325AF26/GA	261	325AF26/GA-QF	3	450	Three hole angle plate	325QF76
325AF27/GA	207	325AF27/GA-QF	4	459	Four hole cross plate	325QF77
325AQ10/GA	610	325AQ10/GA-QF	4	862	Right angle bracket	325QQ60
325AQ11/GA	594	325AQ11/GA-QF	5	909	Right angle bracket	325QQ61
325AQ14/GA	401	325AQ14/GA-QF	4	653	Right angle bracket	325AQ14
325AQ12/GA	418	325AQ12/GA-QF	4	670	Right angle bracket	325QQ62
325AS10/GA	162	325AS10/GA-QF	2	288	Right angle bracket 1 + 1	325QS60
325AC09/GA	229	325AC09/GA-QF	3	418	Right angle bracket 2 + 1	325QC59
325AC10/GA	229	325AC10/GA-QF	3	418	Right angle bracket 2 + 1	325QC60
325AD10/GA	153	325AD10/GA-QF	2	279	Right angle bracket 1 + 1	325QD60
325AE10/GA	306	325AE10/GA-QF	4	558	Right angle brackets 3 + 1	325QE60
325AE11/GA	306	325AE11/GA-QF	4	558	Right angle bracket 2 + 2	325QE61
325AE12/GA	394	325AE12/GA-QF	4	646	Right angle shelf bracket 2 + 2	325QE62
325AH11/GA	219	325AH11/GA-QF	2	345	Acute angle bracket 45°	325QH61
325AD17/GA	188	325AD17/GA-QF	2	314	Obtuse angle bracket 45°	325QD67
325AF14/GA	276	325AF14/GA-QF	3	465	45° angle bracket	325QF64
325AF10/GA	276	325AF10/GA-QF	4	528	Channel support bracket	325QF60
325AF11/GA	276	325AF11/GA-QF	4	528	Channel support bracket (LH)	325QF61
325AF12/GA	276	325AF12/GA-QF	4	528	Channel support bracket (RH)	325QF62
325AG12/GA	207	325AG12/GA-QF	3	396	Channel support bracket (LH)	325QG62
325AG13/GA	207	325AG13/GA-QF	3	396	Channel support bracket (RH)	325QG63
325AG15/GA	231	325AG15/GA-QF	2	357	Channel support bracket (LH)	325QG65
325AG16/GA	231	325AG16/GA-QF	2	357	Channel support bracket (RH)	325QG66
325AV02/GA	324	325AV02/GA-QF	3	513	Corner bracket – 3 way	325QV52
325AV09/GA	688	325AV09/GA-QF	5	1003	Wing fitting – 3 leg	325QV59
325AV10/GA	595	325AV10/GA-QF	4	847	Wing fitting – 2 leg	325QV60
325AB10/GA	458	325AB10/GA-QF	3	647	Cross support bracket	325QB60
325AD28/GA	188	325AD28/GA-QF	2	314	Z shaped shallow bracket	325QD78
325AC12/GA	229	325AC12/GA-QF	2	355	Z shaped deep bracket	325QC62
325AU10/GA	306	325AU10/GA-QF	2	432	Z shaped B to B bracket	325QU60
325AT11/GA	306	325AT11/GA-QF	2	432	Back to back bracket	325QT61
325AJ13/GA	293	325AJ13/GA-QF	3	482	U shaped shallow bracket	325QJ63
325AJ12/GA	382	325AJ12/GA-QF	3	571	U shaped deep bracket	325QJ62
325AJ14/GA	535	325AJ14/GA-QF	3	724	Back to back channel bracket	325QJ64
325AJ11/GA	459	325AJ11/GA-QF	4	711	Double channel bracket	325QJ61
325AU15/GA	306	325AU15/GA-QF	3	495	W shaped deep bracket	325QU15
325AJ15/GA	306	325AJ15/GA-QF	2	432	U shaped deep bracket	325QJ65
325AR10/GA	454	325AR10/GA-QF	1	517	Base plate	325QR60
325AN10/GA	454	325AN10/GA-QF	1	517	Base plate	325QN60
325AT10/GA	984	325AT10/GA-QF	2	1110	Double base plate	325QT60
325AW01/GA	878	325AW01/GA-QF	2	1004	Wing fitting	325QW51
325AW02/GA	971	325AW02/GA-QF	4	1223	B to B Wing fitting	325QW52
325AW03/GA	428	325AW03/GA-QF	1	491	B to B Short wing fitting	325QW53
325AW04/GA	466	325AW04/GA-QF	2	592	Short wing fitting	325QW54
325AP10/GA	199	325AP10/GA-QF	1	262	Beam bracket	325QP60
325AP11/GA	169	N/A		-	Beam clamp	N/A
325AX11/GA	185	N/A		-	Beam clamp	N/A
325AX10/GA	528	325AX10/GA-QF	1	591	Beam clamp	325QX60
325AM10/GA	338	N/A		-	Beam clamp deep/shallow	N/A
325AM12/GA	386	N/A		-	Beam clamp (B TO B chnl)	N/A
325AM13/GA	691	N/A		-	Beam clamp H.Duty (B to B)	N/A
325AM14/GA	898	N/A		-	Beam clamp H.Duty (B to B)	N/A
325AL11/GA	390	N/A		-	Beam clamp shallow (window)	N/A
325AL10/GA	418	N/A		-	Beam clamp deep (window)	N/A
325AL09/GA	418	N/A		-	Beam clamp B to B (window)	N/A
325AK10/GA	435	325AK10/GA-QF	4	687	Deep external connector	325QK60
325AK11/GA	327	325AK11/GA-QF	4	579	Shallow external connector	325QK61
325AK13/GA	285	N/A		-	Shallow internal connector	N/A



Part Number	Weight (g)	Quickfit				Former QF Reference
		Part Number	No of QF Fixings	M10 Weight (g)	Bracket Description	
325XAJ02/SS	44	N/A		-	Internal washer	N/A
325XAJ03/SS	64	N/A		-	Square washer M6	N/A
325XAJ05/SS	62	N/A		-	Square washer M8	N/A
325XAJ07/SS	62	N/A		-	Square washer M10	N/A
325XAJ10/SS	59	325XAJ10/SS-QF	1	124	Square washer M12	325XQJ60
325XAD11/SS	131	325XAD11/SS-QF	2	261	Two hole plate	325XQD61
325XAC11/SS	196	325XAC11/SS-QF	3	391	Three hole plate	325XQC61
325XAC13/SS	262	325XAC13/SS-QF	4	522	Four hole plate	325XQC63
325XAY10/SS	326	325XAY10/SS-QF	5	651	Five hole flat plate	325XQY60
325XAY11/SS	392	325XAY11/SS-QF	6	782	Six hole flat plate	325XQY61
325XAY12/SS	457	325XAY12/SS-QF	7	912	Seven hole flat plate	325XQY62
325XAG10/SS	177	325XAG10/SS-QF	3	372	L bracket	325XQG60
325XAF13/SS	236	325XAF13/SS-QF	3	431	T bracket	325XQF63
325XAF15/SS	357	325XAF15/SS-QF	4	617	Fishplate/joiner four hole	325XQF65
325XAF26/SS	223	325XAF26/SS-QF	3	418	Three hole angle plate	325XQF76
325XAF27/SS	177	325XAF27/SS-QF	4	437	Four hole cross plate	325XQF77
325XAQ10/SS	521	325XAQ10/SS-QF	4	781	Right angle bracket	325XQQ60
325XAQ11/SS	508	325XAQ11/SS-QF	5	833	Right angle bracket	325XQQ61
325XAQ14/SS	343	325XAQ14/SS-QF	4	603	Right angle bracket	325XAQ14
325XAQ12/SS	357	325XAQ12/SS-QF	4	617	Right angle bracket	325XQQ62
325XAS10/SS	138	325XAS10/SS-QF	2	268	Right angle bracket 1 + 1	325XQS60
325XAC09/SS	196	325XAC09/SS-QF	3	391	Right angle bracket 2 + 1	325XQC59
325XAC10/SS	196	325XAC10/SS-QF	3	391	Right angle bracket 2 + 1	325XQC60
325XAD10/SS	131	325XAD10/SS-QF	2	261	Right angle bracket 1 + 1	325XQD60
325XAE10/SS	262	325XAE10/SS-QF	4	522	Right angle brackets 3 + 1	325XQE60
325XAE11/SS	262	325XAE11/SS-QF	4	522	Right angle bracket 2 + 2	325XQE61
325XAE12/SS	337	325XAE12/SS-QF	4	597	Right angle shelf bracket 2 + 2	325XQE62
325XAH11/SS	187	325XAH11/SS-QF	2	317	Acute angle bracket 45°	325XQH61
325XAD17/SS	161	325XAD17/SS-QF	2	291	Obtuse angle bracket 45°	325XQD67
325XAF14/SS	236	325XAF14/SS-QF	3	431	45° angle bracket	325XQF64
325XAF10/SS	236	325XAF10/SS-QF	4	496	Channel support bracket	325XQF60
325XAF11/SS	236	325XAF11/SS-QF	4	496	Channel support bracket (LH)	325XQF61
325XAF12/SS	236	325XAF12/SS-QF	4	496	Channel support bracket (RH)	325XQF62
325XAG12/SS	177	325XAG12/SS-QF	3	372	Channel support bracket (LH)	325XQG62
325XAG13/SS	177	325XAG13/SS-QF	3	372	Channel support bracket (RH)	325XQG63
325XAG15/SS	197	325XAG15/SS-QF	2	327	Channel support bracket (LH)	325XQG65
325XAG16/SS	197	325XAG16/SS-QF	2	327	Channel support bracket (RH)	325XQG66
325XAV02/SS	277	325XAV02/SS-QF	3	472	Corner bracket – 3 way	325XQV52
325XAV09/SS	588	325XAV09/SS-QF	5	913	Wing fitting – 3 leg	325XQV59
325XAV10/SS	509	325XAV10/SS-QF	4	769	Wing fitting – 2 leg	325XQV60
325XAB10/SS	391	325XAB10/SS-QF	3	586	Cross support bracket	325XQB60
325XAD28/SS	161	325XAD28/SS-QF	2	291	Z shaped shallow bracket	325XQD78
325XAC12/SS	196	325XAC12/SS-QF	2	326	Z shaped deep bracket	325XQC62
325XAU10/SS	262	325XAU10/SS-QF	2	392	Z shaped B to B bracket	325XQU60
325XAT11/SS	262	325XAT11/SS-QF	2	392	Back to back bracket	325XQT61
325XAJ13/SS	250	325XAJ13/SS-QF	3	445	U shaped shallow bracket	325XQJ63
325XAJ12/SS	326	325XAJ12/SS-QF	3	521	U shaped deep bracket	325XQJ62
325XAJ14/SS	457	325XAJ14/SS-QF	3	652	Back to back channel bracket	325XQJ64
325XAJ11/SS	392	325XAJ11/SS-QF	4	652	Double channel bracket	325XQJ61
325XAU15/SS	262	325XAU15/SS-QF	3	457	W shaped deep bracket	325XQU15
325XAJ15/SS	262	325XAJ15/SS-QF	2	392	U shaped deep bracket	325XQJ65
325XAR10/SS	388	325XAR10/SS-QF	1	453	Base plate	325XQR60
325XAN10/SS	388	325XAN10/SS-QF	1	453	Base plate	325XQN60
325XAT10/SS	841	325XAT10/SS-QF	2	971	Double base plate	325XQT60
325XAW01/SS	750	325XAW01/SS-QF	2	880	Wing fitting	325XQW51
325XAW02/SS	830	325XAW02/SS-QF	4	1090	B to B Wing fitting	325XQW52
325XAW03/SS	366	325XAW03/SS-QF	1	431	B to B Short wing fitting	325XQW53
325XAW04/SS	398	325XAW04/SS-QF	2	528	Short wing fitting	325XQW54
325XAP10/SS	170	325XAP10/SS-QF	1	235	Beam bracket	325XQP60
325XAP11/SS	144	N/A		-	Beam clamp	N/A
325XAX11/SS	158	N/A		-	Beam clamp	N/A
325XAX10/SS	451	325XAX10/SS-QF	1	516	Beam clamp	325XQX60
325XAM10/SS	289	N/A		-	Beam clamp deep/shallow	N/A
325XAM12/SS	330	N/A		-	Beam clamp (B TO B chnl)	N/A
325XAM13/SS	591	N/A		-	Beam clamp H.Duty (B to B)	N/A
325XAM14/SS	768	N/A		-	Beam clamp H.Duty (B to B)	N/A
325XAL11/SS	333	N/A		-	Beam clamp shallow (window)	N/A
325XAL10/SS	357	N/A		-	Beam clamp deep (window)	N/A
325XAL09/SS	357	N/A		-	Beam clamp B to B (window)	N/A
325XAK10/SS	372	325XAK10/SS-QF	4	632	Deep external connector	325XQK60
325XAK11/SS	279	325XAK11/SS-QF	4	539	Shallow external connector	325XQK61
325XAK13/SS	244	N/A		-	Shallow internal connector	N/A

> 3.0 CLASSIFICATION TO BS 6946:1988

The Metal Channels, Brackets and other components in this catalogue, are cover by this standard and are used to make load bearing frameworks.

For more details on the classification of the Vantrunk Steel Framing System, components and accessories to BS 6946:1988 please refer to the Vantrunk Technical Team

> 4.0 REFERENCE STANDARDS

The following list of standards relating to Vantrunk's Cable Management products and associated support systems covered in this catalogue.

BS 729	Replaced by BS EN ISO 1461	BS 10088-2:2005	Stainless Steel. Technical Delivery conditions for sheet/plate and strip for general purposes (formerly BS 1449 Part 2)
BS 1449	Part 1 Replaced by BS EN 10111, 10130 & 10025	BS EN 10111:2008	Continuously hot rolled low carbon steel sheet & strip for cold forming. Technical delivery conditions
BS 1449	Part 2 Replaced by BS EN 10088-2	BS EN 10130:2006	Cold Rolled low carbon flat products for cold forming. Technical Conditions
BS EN ISO 1461:2009	Hot Dip Galvanized coatings on fabricated on and steel articles. Specifications and test methods (formerly BS 729)	BS EN 10147:2004	Replaced by BS EN 10136:2004
BS 2989	Replaced by BS EN 10147	BS EN 14713:2009	Protection against corrosion of iron and steel in structures – Zinc and aluminium coatings – Guidelines
BS 6946:1988	Specification for metal channel support systems for electrical installations	BS EN 10327:2009	Continuously hot-dip coated strip & sheet of low carbon steels for cold forming. Technical Delivery Conditions
BS EN 10025:1993	Replaced by BS EN 10025-2:2004		
BS EN 10025-2:2004	Hot Rolled Products of structural steels. Technical delivery conditions for non alloy structural steels (formerly BS 10025:1993)		

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VANTRUNK

GORGON LNG

LOCATION: BARROW ISLAND AUSTRALIA

PROJECT DESCRIPTION:

Development proposal includes establishment of an LNG facility on Barrow Island, which lies directly between the gas fields and the mainland.

LNG plant will have three trains with a nominal capacity of 5 million tonnes per annum each (Train 1 due online 2014). The LNG plant can only be 300 hectares big under the 2003 Barrow Island Act.

OPERATOR:

Chevron

CONTRACTOR:

KJVG Consortium (Supplied through TSG Consortium)

PRODUCTS SUPPLIED:

- > Speedway Cable Ladder (SW6)
- > Vantrunk Cable Tray (HR)

FINISHES & MATERIALS:

Stainless Steel 1.4404 Marine Grade.





VANTRUNK

SUPPORTS

A range of supports and accessories complement Vantrunk's Cable Management Systems. General purpose single and double channel cantilevers, heavy duty cantilevers, overhead hangers and a comprehensive channel support system manufactured to BS 6946 in conjunction with Intelok Beam Clamps and Brackets offer solutions to suit all particular site requirements.

CANTILEVER ARMS

Single Channel Cantilever Arm



The Single Channel Cantilever Arm Bracket (IC/CARM/SC) is suitable for supporting light to medium loads. The single channel cantilever arm bracket is available in lengths from 150mm to 1200mm for supporting Speedway cable ladder and cable tray. Where heavier load carrying performance is required, the single channel cantilever arm bracket can be reinforced using a cantilever arm prop (IC/PROP/length/#) see page 213. The single channel cantilever arm bracket, based on a conventional strut profile, is suitable for use with both external flange clamps (SW/EFC/#), adaptable fixing brackets (SW/AFB/#) and hold down brackets (SW/HDB/#) for Speedway Cable Ladder and for Cable Tray is suitable for use with the tray hold down bracket (HDB) or for direct fixing through the bed of the cable tray using conventional M6 channel nuts.

The loading table below gives the recommended maximum load for each size of single channel cantilever arm bracket for supporting uniformly distributed loads (UDL) such as cable tray or for supporting Speedway cable ladder (which should be uniformly loaded to apply two equal point loads onto the cantilever arm).

Safety Factor of 3.

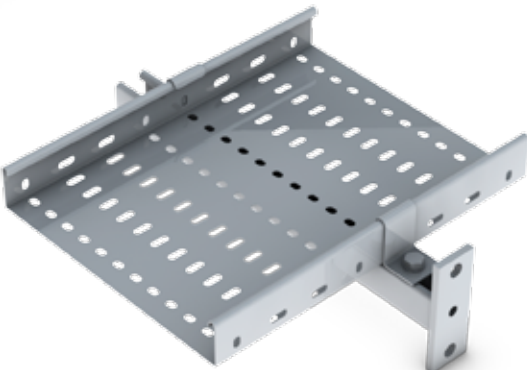
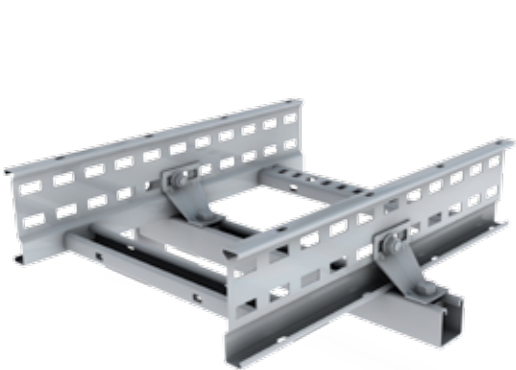
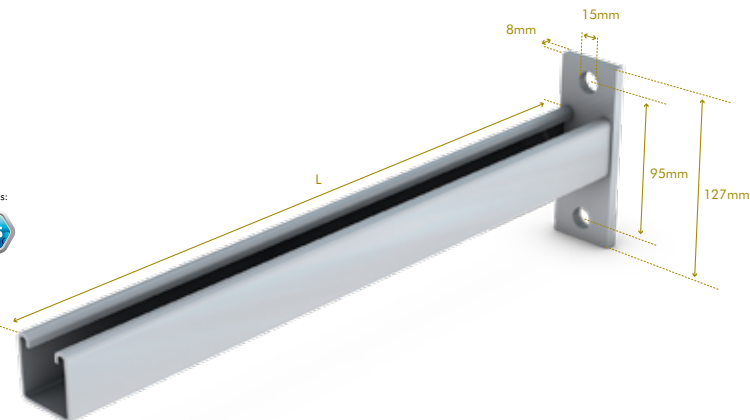
~ Not recommended without the use of additional support

Longer cantilever arm lengths are available for use as part of a pendant assembly where the single channel cantilever arm is suspended vertically to create a support system in conjunction with cantilever arm brackets as shown on the page overleaf. Consult our Design Team for loading information.

Part Number	L (mm)	Max. UDL (kg)
IC/CARM/SC/P/150/O	150	363
IC/CARM/SC/P/300/O	300	182
IC/CARM/SC/P/450/O	450	121
IC/CARM/SC/P/600/O	600	91
IC/CARM/SC/P/700/O	750	59
IC/CARM/SC/P/900/O	900	41
IC/CARM/SC/P/1050/O	1050	~
IC/CARM/SC/P/1200/O	1200	~



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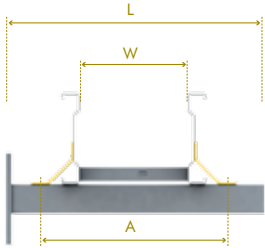


Single Channel Cantilever Arm (Continued)

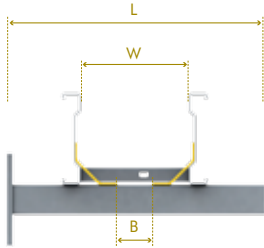


Typical pendant assembly comprising of IC/CARM/SC cantilever arm brackets

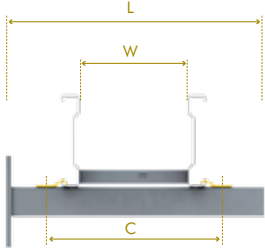
Ladder Type	SW4	SW5	SW6
A	W + 102mm	W + 107mm	
B	W + 83mm	W - 79mm	
C	W + 79mm	W + 89mm	
D	W + 123mm	W + 134mm	
L	W + 150mm		



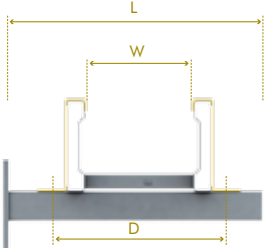
IC/CARM/SC/P Cantilever with Adaptable Fixing Brackets installed externally



IC/CARM/SC/P Cantilever with Adaptable Fixing Brackets installed internally



IC/CARM/SC/P Cantilever with External Flange Clamps



IC/CARM/SC/P Cantilever with Hold Down Brackets

CANTILEVER ARMS



Back to Back Channel Cantilever Arm

The Double Channel Cantilever Arm Bracket (IC/CARM/BB) is suitable for supporting medium to heavy loads. The double channel cantilever arm bracket is available in lengths from 150mm to 1200mm for supporting Speedway cable ladder and cable tray. Where heavier load carrying performance is required, the double channel cantilever bracket can be reinforced using a cantilever arm prop (IC/CARM/BB). The double channel cantilever arm bracket, based on conventional back to back strut profiles, is suitable for use with Speedway External Flange Clamps (SW/EFC/#), Adaptable Fixing Brackets (SW/AFB/#) and Hold Down Brackets (SW/HDB/#) for Speedway Cable Ladder and for Cable Tray is suitable for use with the tray hold down bracket (HDB) or for direct fixing through the bed of the cable tray using conventional M6 channel nuts.

The loading table below gives the recommended maximum load for each size of double channel cantilever arm bracket for supporting uniformly distributed loads (UDL) such as cable tray or for supporting Speedway Cable Ladder (which should be uniformly loaded to apply two equal point loads onto the cantilever arm).

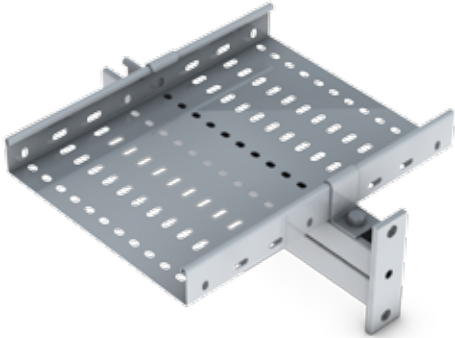
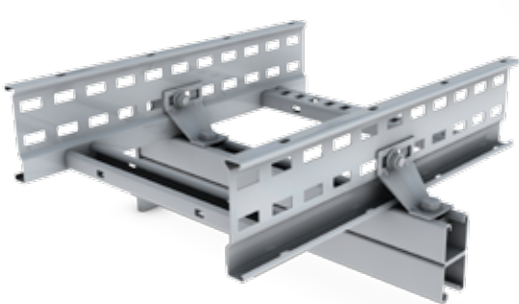
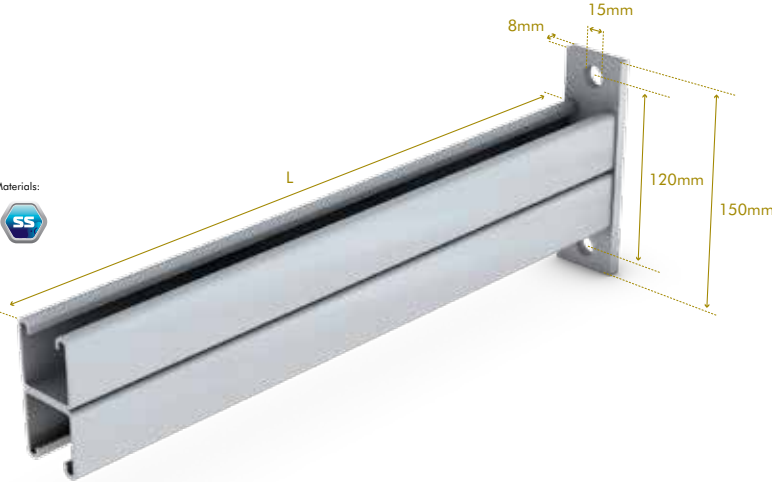
Safety Factor of 3.

Longer cantilever arm lengths are available for use as part of a pendant assembly where the double channel cantilever arm bracket is suspended vertically to create a support system in conjunction with cantilever arms as shown on the page overleaf. Consult our Design Team for loading information.

Part Number	L (mm)	Max. UDL (kg)
IC/CARM/BB/P/150/O	150	398
IC/CARM/BB/P/300/O	300	398
IC/CARM/BB/P/450/O	450	285
IC/CARM/BB/P/600/O	600	221
IC/CARM/BB/P/750/O	750	181
IC/CARM/BB/P/900/O	900	153
IC/CARM/BB/P/1050/O	1050	133
IC/CARM/BB/P/1200/O	1200	117



O= Select a Finish & Material

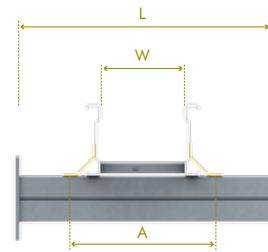


Back to Back Channel Cantilever Arm (Continued)

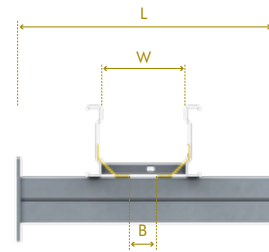


Typical pendant assembly comprising of IC/CARM/BB cantilever arm brackets

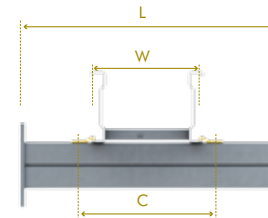
Ladder Type	SW4	SW5	SW6
A	W + 102mm	W + 107mm	
B	W + 83mm	W - 79mm	
C	W + 79mm	W + 89mm	
D	W + 123mm	W + 134mm	
L	W + 150mm		



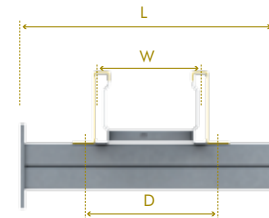
IC/CARM/BB Cantilever with Adaptable Fixing Brackets installed externally



IC/CARM/BB Cantilever with Adaptable Fixing Brackets installed internally



IC/CARM/BB Cantilever with External Flange Clamps



IC/CARM/BB Cantilever with Hold Down Brackets

CANTILEVER ARMS

Cantilever Arm Prop



A Cantilever Arm Prop (IC/PROP) is used where there is a requirement to increase the effective safe working loads of Single Channel Cantilever Arm Brackets (IC/CARM/SC) and Double Channel Cantilever Arm Brackets (IC/CARM/BB). The Cantilever Arm Prop is particularly effective when used to reinforce cantilever arm brackets carrying heavier duty Speedway Cable Ladders with their correspondingly higher load bearing capabilities.

The Cantilever Arm Prop is available in three sizes:

Cantilever Arm Props

Part Number	Dimensions (mm)		
	L	X	Y
IC/PROP/300-450/○	150	125	216.5
	300	125	216.5
	450	425	736
IC/PROP/600-750/○	600	425	736
	750	725	1259
IC/PROP/900-1200/○	900	725	1259
	1050	725	1259



○ = Select a Finish & Material

The Table below gives the recommended maximum safe working load for each size of cantilever arm prop when supporting Speedway Cable Ladder.

Safe Working Loads with Single Channel Cantilevers

Part Number	Cantilever Type	L (mm)	Max UDL kg
IC/PROP/300-450/○	IC/CARM/SC/P/150	150	2265
IC/PROP/300-450/○	IC/CARM/SC/P/300	300	531
IC/PROP/300-450/○	IC/CARM/SC/P/450	450	545
IC/PROP/600-750/○	IC/CARM/SC/P/600	600	1061
IC/PROP/600-750/○	IC/CARM/SC/P/750	750	311
IC/PROP/900-1200/○	IC/CARM/SC/P/900	900	420
IC/PROP/900-1200/○	IC/CARM/SC/P/1050	1050	539



○ = Select a Finish & Material

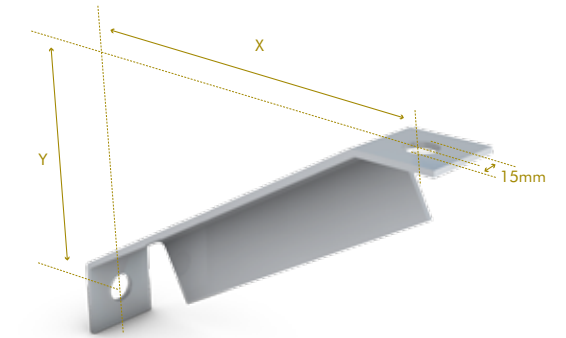
Safe Working Loads with Double Channel Cantilevers

Part Number	Cantilever Type	L (mm)	Max UDL kg
IC/PROP/300-450/○	IC/CARM/BB/P/150	150	6433
IC/PROP/300-450/○	IC/CARM/BB/P/300	300	1514
IC/PROP/300-450/○	IC/CARM/BB/P/450	450	1546
IC/PROP/600-750/○	IC/CARM/BB/P/600	600	3027
IC/PROP/600-750/○	IC/CARM/BB/P/750	750	885
IC/PROP/900-1200/○	IC/CARM/BB/P/900	900	1197
IC/PROP/900-1200/○	IC/CARM/BB/P/1050	1050	1529



○ = Select a Finish & Material

Where used with the IC/CARM/SC/P range of single channel cantilever arm brackets, it may be necessary to drill the single channel to accept a fixing for the cantilever arm prop.



Trapeze Support Channel



The Trapeze Support Channel (IC/CNL/D) provides a versatile means of installing Speedway Cable Ladder and Cable Tray using a trapeze support arrangement.

Based on slotted deep channel (strut type) to BS6946, the Trapeze Support Channel has 26 x 13 slots at 50mm pitch and is suited to either M10 or M12 threaded rod hangers. The slotted deep channel is supplied to an exact size to suit each width of Speedway Cable Ladder or Cable Tray and has the slots arranged uniformly along the length of the channel to simplify installation.

The continuous open slot on the trapeze support channel facilitates the use of Speedway External Flange Clamps (SW/EFC), Adaptable Fixing Brackets (SW/AFB) or Hold Down Brackets (SWΔ/HDB) for securing the Speedway Cable Ladder or for Cable Tray is suitable for use with the tray hold down bracket (HDB) or for direct fixing through the bed of the cable tray using conventional M6 channel nuts.

The tables below give installation details as well as the recommended maximum load for each size of trapeze support channel when used with Speedway Cable Ladder (which should be uniformly loaded to apply two equal point loads onto the ladder trapeze hanger) and Cable Tray (which should also be uniformly loaded).

Consult our Design Team for loading information on non-standard trapeze support channels and non-uniform loading configurations.



TRAPEZE SUPPORT CHANNEL

For Speedway Cable Ladder



Part Number	Ladder Width mm	Ladder Load kg	Dimensions (mm)			
			L	A	X	Y
IC/CNL/D/S/SL350/O	150	321	350	300	41.3	41.3
IC/CNL/D/S/SL500/O	300	322	500	450		
IC/CNL/D/S/SL650/O	450	323	600	600		
IC/CNL/D/S/SL800/O	600	324	800	750		
IC/CNL/D/S/SL950/O	750	324	950	900		
IC/CNL/D/S/SL1100/O	900	325	1100	1050		
IC/CNL/D/S/SL1250/O	1050	325	1250	1200		



O= Select a Finish & Material

For Cable Tray



Part Number	Ladder Width mm	Tray Load (kg)	Maximum Load kg			
			L	A	X	Y
IC/CNL/D/S/SL250/O	50	320	250	200	41.3	41.3
IC/CNL/D/S/SL300/O	75		300	250		
IC/CNL/D/S/SL350/O	100	320	350	300		
IC/CNL/D/S/SL400/O	150	321	400	350		
IC/CNL/D/S/SL500/O	200	321	500	450		
IC/CNL/D/S/SL650/O	225	322	650	600		
IC/CNL/D/S/SL800/O	30	323	800	750	41.3	41.3
IC/CNL/D/S/SL950/O	450	324	950	900		
IC/CNL/D/S/SL1100/O	600	324	1100	1050		
IC/CNL/D/S/SL1250/O	750	325	1250	1200		



O= Select a Finish & Material

Heavy Duty Trapeze Support Channel



The Trapeze Support Channel (IC/CNL/D) provides a versatile means of installing Speedway Cable Ladder and Cable Tray using a trapeze support arrangement.

Based on slotted deep channel (strut type) to BS6946, the Trapeze Support Channel has 26 x 13 slots at 50mm pitch and is suited to either M10 or M12 threaded rod hangers. The slotted deep channel is supplied to an exact size to suit each width of Speedway Cable Ladder or Cable Tray and has the slots arranged uniformly along the length of the channel to simplify installation.

The continuous open slot on the trapeze support channel facilitates the use of Speedway External Flange Clamps (SW/EFC), Adaptable Fixing Brackets (SW/AFB) or Hold Down Brackets (SWΔ/HDB) for securing the Speedway Cable Ladder or for Cable Tray is suitable for use with the tray hold down bracket (HDB) or for direct fixing through the bed of the cable tray using conventional M6 channel nuts.

The tables below give installation details as well as the recommended maximum load for each size of trapeze support channel when used with Speedway Cable Ladder (which should be uniformly loaded to apply two equal point loads onto the ladder trapeze hanger) and Cable Tray (which should also be uniformly loaded).

Consult our Design Team for loading information on non-standard Heavy Duty Trapeze Support Channels and non-uniform loading configurations. Additional Heavy Duty Trapeze Hangers and alternative fixing slot configurations are available – consult our Design Team for further information.



TRAPEZE SUPPORT CHANNEL

For Speedway Cable Ladder



Part Number	Ladder Width mm	Ladder Load kg	Dimensions (mm)			
			L	A	X	Y
IC/CNL/BBD/S/SL350/O	150	912	350	300	41.3	41.3
IC/CNL/BBD/S/SL500/O	300	914	500	450		
IC/CNL/BBD/S/SL650/O	450	917	600	600		
IC/CNL/BBD/S/SL800/O	600	919	800	750		
IC/CNL/BBD/S/SL950/O	750	920	950	900		
IC/CNL/BBD/S/SL1100/O	900	921	1100	1050		
IC/CNL/BBD/S/SL1250/O	1050	922	1250	1200		



O = Select a Finish & Material

For Cable Tray



Part Number	Ladder Width mm	Tray Load (kg)	Maximum Load kg			
			L	A	X	Y
IC/CNL/BBD/S/SL250/O	50	911	250	200	41.3	41.3
IC/CNL/BBD/S/SL300/O	75		300	250		
IC/CNL/BBD/S/SL350/O	100	912	350	300		
IC/CNL/BBD/S/SL400/O	150		400	350		
IC/CNL/BBD/S/SL500/O	200	913	500	450		
IC/CNL/BBD/S/SL650/O	225		650	600		
IC/CNL/BBD/S/SL800/O	30	914	800	750		
IC/CNL/BBD/S/SL950/O	450		950	900		
IC/CNL/D/S/SL1100/O	600	917	1100	1050		
	750					
	900	919				
		920				
		921				
		922				



O = Select a Finish & Material

Heavy Duty Cantilever



The Speedway Heavy Duty Cantilever (HDC) provides a specific means of supporting Speedway cable ladder on vertical fixed structures or channel (strut type) uprights.

The heavy duty cantilevers are available to suit Speedway SW4, SW5 & SW6 Cable Ladders for all widths up to and including 900mm wide.

Each Heavy Duty Cantilever has fixing slots to accept the Speedway External Flange Clamps (SW/EFC/#), Adaptable Fixing Brackets (SW/AFB/#) and Hold Down Brackets (SW-/HDB/#). The slot pattern allows the adaptable fixing bracket to be fitted either internally or externally on the Speedway cable ladder. The heavy duty cantilever arm back plate has a minimum of two 15mm diameter fixing holes (see table below for details) to accept fixings up to and including M14. The loading table below gives the recommended maximum load for each size of heavy duty cantilever arm for supporting uniformly distributed loads (UDL) such as or for supporting Speedway cable ladder (which should be uniformly loaded to apply two equal point loads onto the cantilever arm).

Speedway Heavy Duty Cantilevers - Safe Working Loads

Part Number	Ladder size	Arm Length mm	Maximum Load kg	
			UDL	Ladder
SW/HDC/150/O	150	300	629	315
SW/HDC/300/O	300	450	419	210
SW/HDC/450/O	450	600	496	248
SW/HDC/600/O	600	750	690	345
SW/HDC/750/O	750	900	871	435
SW/HDC/900/O	900	1050	1045	522

Finishes & Materials:



O= Select a Finish & Material

Heavy Duty Cantilevers with non-standard arm lengths and alternative fixing slot configurations are available – consult our Design Team for further information.

Installation dimensions are given in the following table.

Speedway Heavy Duty Cantilevers - Installation Details

Part Number	Ladder Width mm	Maximum Load kg			
		L	No of Holes	A	B
SW/HDC/150/O	150	300	2	70	N/A
SW/HDC/300/O	300	450	2	70	N/A
SW/HDC/450/O	450	600	3	55	40
SW/HDC/600/O	600	750	3	105	40
SW/HDC/750/O	750	900	3	155	40
SW/HDC/900/O	900	1050	3	205	40

Finishes & Materials:

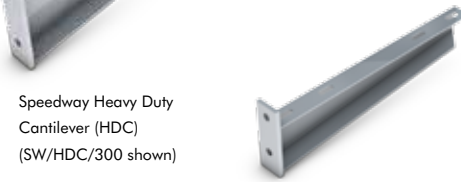


O= Select a Finish & Material

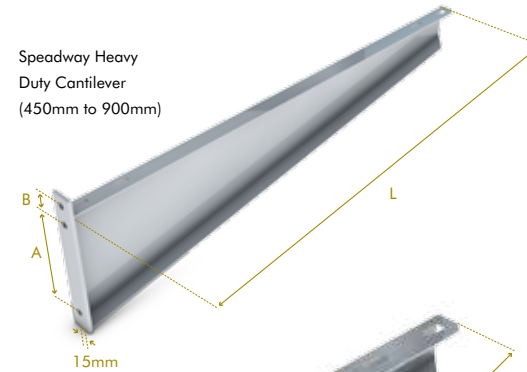
Speedway Heavy Duty Cantilever (HDC) (SW/HDC/600 shown)



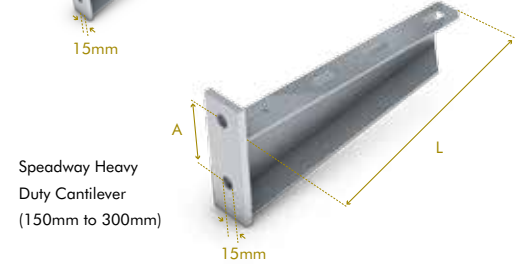
Speedway Heavy Duty Cantilever (HDC) (SW/HDC/300 shown)



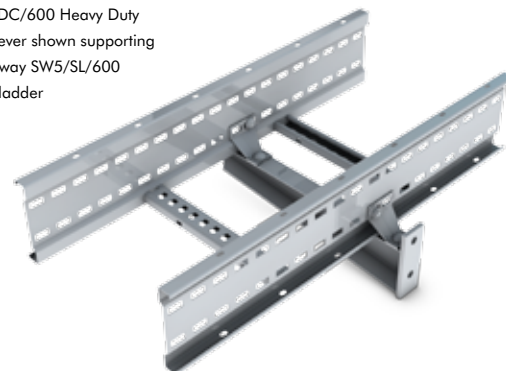
Speedway Heavy Duty Cantilever (450mm to 900mm)



Speedway Heavy Duty Cantilever (150mm to 300mm)



SW/HDC/600 Heavy Duty Cantilever shown supporting Speedway SW5/SL/600 cable ladder



Ladder Trapeze Hanger



The Speedway Ladder Trapeze Hanger (LTH) provides a dedicated and effective means of installing Speedway cable ladder using a trapeze support arrangement.

Each Ladder Trapeze Hanger has fixing slots to accept the Speedway External Flange Clamps (SW/EFC/#), Adaptable Fixing Brackets (SW/AFB/#) and Hold Down Brackets (SW-/HDB/#). The slot pattern allows the Adaptable Fixing Bracket to be fitted either internally or externally on the cable ladder.

The Ladder Trapeze Hanger has 25 x 13.5 end slots to suit the use of M10 or M12 threaded rod hangers. M10 threaded rod hangers can also be utilised for securing the Speedway cable ladder using Speedway External Flange Clamps (SW/EFC), Adaptable Fixing Brackets (SW/AFB) and Hold Down Brackets (SW/HDB). The loading table below gives the recommended maximum load for each size of ladder trapeze hanger when used with Speedway cable ladder (which should be uniformly loaded to apply two equal point loads onto the ladder trapeze hanger).

Speedway Ladder Trapeze Hanger - Safe Working Loads

Part Number	Ladder Width mm	Ladder Load kg
SW/LTH/150/O	150	1137
SW/LTH/300/O	300	1039
SW/LTH/450/O	450	994
SW/LTH/600/O	600	969
SW/LTH/750/O	750	952
SW/LTH/900/O	900	941
SW/LTH/1050/O	1050	917

Finishes & Materials:



O= Select a Finish & Material

Non-standard Ladder Trapeze Hangers and alternative fixing slot configurations are available – consult our Design Team for further information.

Installation dimensions are given in the following table.

Speedway Ladder Trapeze Hanger - Installation Details

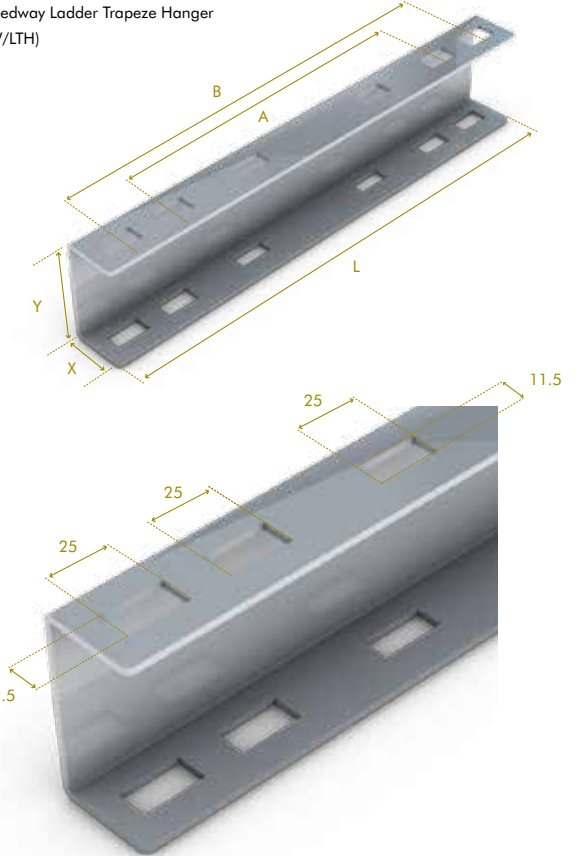
Part Number	Ladder Width mm	Maximum Load kg					
		L	X	Y	A	B	
SW/LTH/150/O	150	370	40	75	243	325	
SW/LTH/300/O	300	520	40	75	393	475	
SW/LTH/450/O	450	670	40	75	543	625	
SW/LTH/600/O	600	820	40	75	693	775	
SW/LTH/750/O	750	970	40	75	843	925	
SW/LTH/900/O	900	1120	40	75	993	1075	
SW/LTH/1050/O	1050	1270	40	75	1143	1225	

Finishes & Materials:

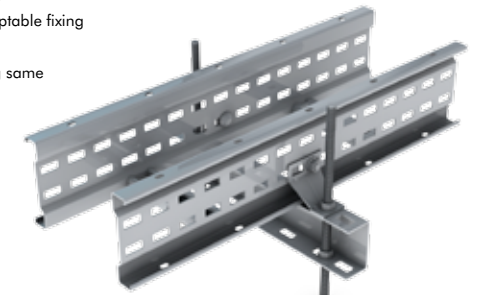


O= Select a Finish & Material

Speedway Ladder Trapeze Hanger (SW/LTH)



Ladder trapeze hanger suspended on M10 threaded rod. Adaptable fixing bracket (SW/AFB) secured using same threaded rod



Ladder trapeze hanger suspended on M12 threaded rod. Adaptable fixing bracket (SW/AFB) secured using M10 fixings



Stand-off Bracket



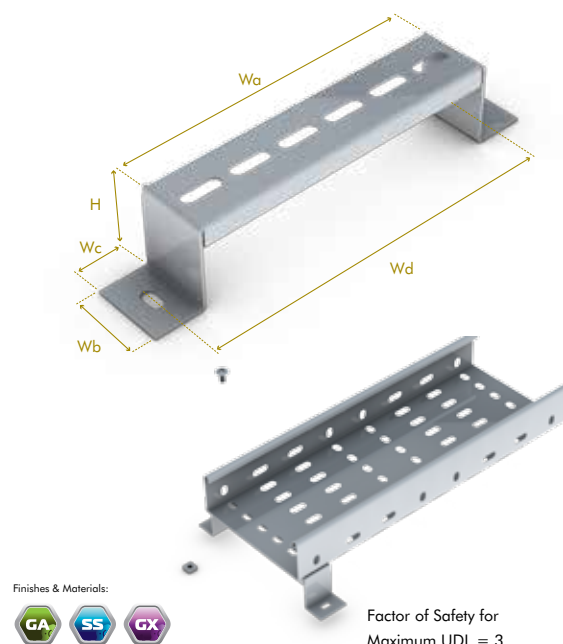
The Vantrunk cable tray stand-off bracket (SOB) is used to raise the cable tray clear of the floor or wall, providing access to the underside of the cable tray for fitting of cable ties and the securing of nuts. Fully slotted to provide on-site adjustment, the stand-off bracket is common to the full range of Vantrunk cable tray systems.

The recommended maximum load given in the loading table below for each size of tray stand-off bracket is based on use with Vantrunk cable tray and with a uniformly distributed load (UDL) onto the tray stand-off bracket.

Stand-off Bracket

Part Number	Tray Width mm	Dimensions mm						Maximum UDL Kg
		Wa	Wb	Wc	Wd	H	T	
TR/SOB/50/O	50	61.0	35	25	86.0	41.5	1.2	50
TR/SOB/75/O	75	80.5	35	25	106.5	41.5	1.2	50
TR/SOB/100/O	100	105.0	35	25	131.0	41.5	1.2	50
TR/SOB/150/O	150	155.5	35	25	181.5	41.5	1.2	50
TR/SOB/225/O	225	233.0	35	25	259.0	41.5	1.2	100
TR/SOB/300/O	300	309.0	35	25	335.0	41.5	1.2	100
TR/SOB/450/O	450	461.5	35	25	487.5	41.5	1.2	100

O= Select a Finish & Material



Finishes & Materials:



Factor of Safety for Maximum UDL = 3

Tray Overhead Hanger



Tray overhead hangers (OHB) are suitable for supporting narrower widths of cable tray using threaded rod. Available in widths from 75mm to 300mm, the tray overhead hangers are suitable for use with all types of Vantrunk cable tray.

The loading table below gives the recommended maximum load for each size of tray overhead hanger when used with Vantrunk cable tray and with a uniformly distributed load (UDL) onto the tray overhead bracket.

Tray Overhead Hanger

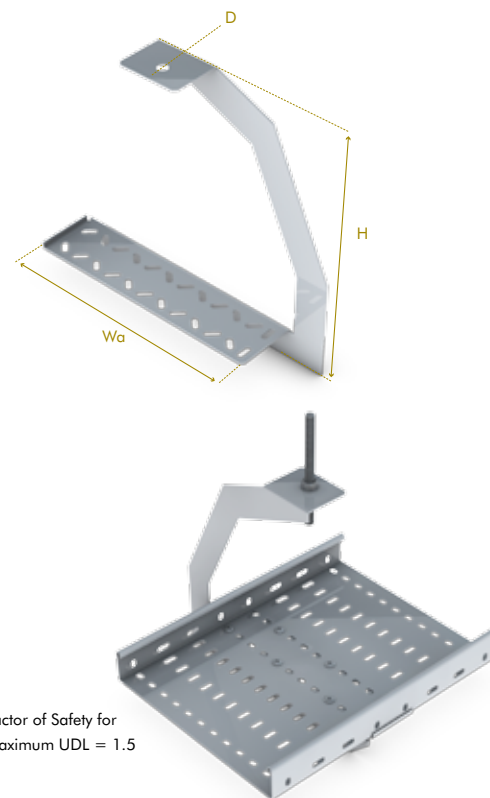
Part Number	Tray Width mm	Dimensions mm					Maximum UDL Kg
		Wa	H	D	T		
TR/OHB/50/O	50	55.0	184.5	10.0	2.0		40
TR/OHB/75/O	75	77.0	184.5	10.0	2.0		40
TR/OHB/100/O	100	102.0	195.0	10.0	2.0		46
TR/OHB/150/O	150	152.0	235.0	12.7	2.0		40
TR/OHB/225/O	225	227.0	276.0	12.7	2.0		15
TR/OHB/300/O	300	302.5	323.5	12.7	2.5		10

O= Select a Finish & Material

Finishes & Materials:



Factor of Safety for Maximum UDL = 1.5



HANGERS & BRACKETS

Flat Bar Hanger



The flat bar bracket (FBH) is an effective means of installing smaller widths of Vantrunk cable tray using a central threaded rod hanger.

The flat bar hanger has a central hole to suit the use of M10 or M12 threaded rod hangers. Each flat bar hanger has fixing slots for direct fixing through the bed of the cable tray.

The loading table below gives the recommended maximum load for each size of flat bar hanger when used with Vantrunk cable tray and with a uniformly distributed load (UDL) onto the flat bar hanger.

Flat Bar Hanger

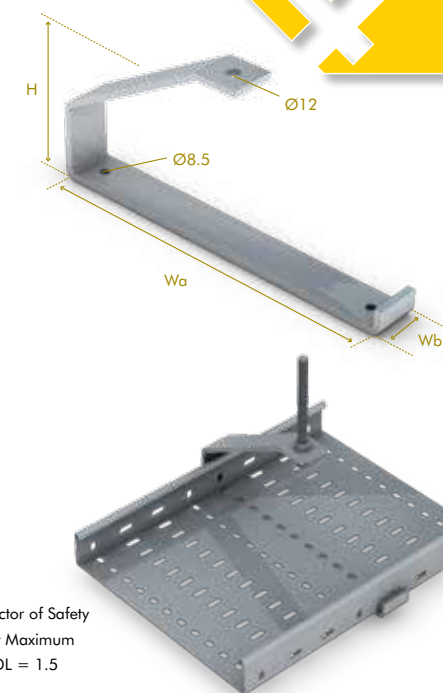
Part Number	Tray Width mm	Dimensions mm			Maximum UDL Kg
		Wa	Wb	H	
TB/FBH/50/O	50	66	40	150	125
TB/FBH/75/O	75	91	40	150	88
TB/FBH/100/O	100	116	40	150	86
TB/FBH/150/O	150	172	40	150	47
TB/FBH/225/O	225	247	40	150	32
TB/FBH/300/O	300	322	40	150	24

O= Select a Finish & Material

Finishes & Materials:



Factor of Safety for Maximum UDL = 1.5



Trapeze Hanger Bracket



The trapeze hanger bracket (THB) provides a dedicated and effective means of installing Vantrunk cable tray using a trapeze support arrangement with two threaded rod hangers.

The trapeze hanger bracket has 11mm holes to suit the use of M10 threaded rod hangers. Each trapeze hanger bracket has fixing holes for use with the tray hold down bracket (HDB) and elongated holes for direct fixing through the bed of the cable tray.

The loading table below gives the recommended maximum load for each size of trapeze hanger bracket when used with Vantrunk cable tray and with a uniformly distributed load (UDL) onto the trapeze hanger bracket.

Tray Overhead Hanger

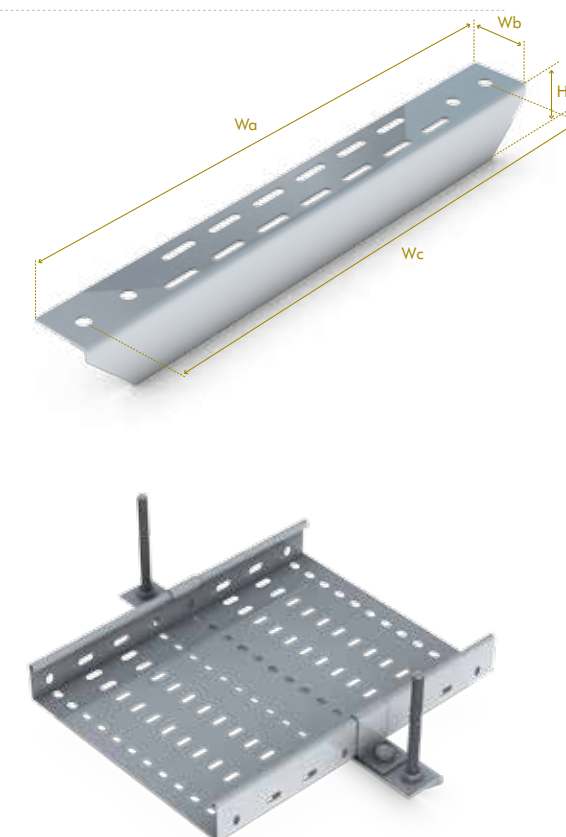
Part Number	Tray Width mm	Dimensions mm				Maximum UDL Kg
		Wa	Wb	Wc	H	
TB/TBH/50/O	50	214	50	174	20	152
TR/OHB/75/O	75	239	50	199	20	140
TR/OHB/100/O	100	264	50	224	20	130
TR/OHB/150/O	150	314	50	274	20	113
TR/OHB/225/O	225	389	50	349	20	95
TR/OHB/300/O	300	464	50	424	50	206
TR/OHB/450/O	450	614	50	574	50	240
TR/OHB/600/O	600	764	50	724	50	198
TR/OHB/750/O	750	914	50	874	50	168
TR/OHB/900/O	900	1064	50	1024	50	146

O= Select a Finish & Material

Finishes & Materials:



Factor of Safety for Maximum UDL = 1.5



Tray Cantilever Arm



Vantrunk tray arms (TCA) are suitable for supporting cable tray from channel or flat surfaces. Available for cable tray of widths from 50mm to 900mm, the Vantrunk tray arms have M10 clearance holes for fixing to the supports and M6 clearance holes to allow for fixing through the bed of the cable tray.

Vantrunk tray cantilever arms have one fixing hole for arm lengths up to & including 100mm, and two fixing holes for arm lengths of 150mm and above. The Vantrunk tray cantilever arms are suitable for use with the full range of Vantrunk cable trays.

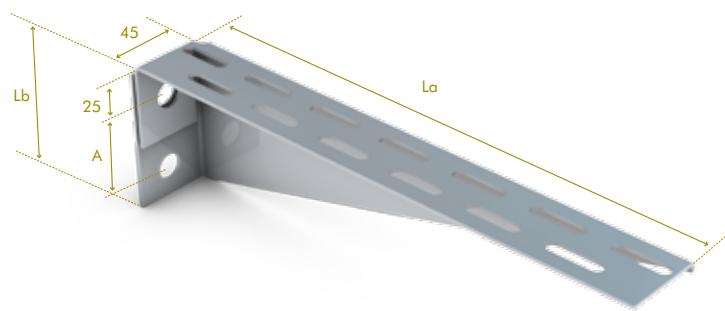
The loading table below gives the recommended maximum load for each size of trapeze hanger bracket when used with Vantrunk cable tray and with a uniformly distributed load (UDL) onto the tray cantilever arm.

Vantrunk Tray Arm

Part Number	Dimensions mm				Maximum UDL Kg
	Tray	La	Lb	A	
TR/TCA/50/O	50	60	50	N/A	100
TR/TCA/75/O	75	85	50	N/A	100
TR/TCA/100/O	100	110	50	N/A	100
TR/TCA/150/O	150	160	90	45	150
TR/TCA/225/O	225	235	90	45	150
TR/TCA/300/O	300	310	90	45	150
TR/TCA/450/O	450	460	125	80	200
TR/TCA/600/O	600	610	150	100	200
TR/TCA/750/O	750	760	150	100	300
TR/TCA/900/O	900	910	150	100	300

O = Select a Finish & Material

Factor of Safety for Maximum UDL = 3



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GAS SWEETENING FACILITIES (GSF) AT MESAIEED & DUKHAN

LOCATION: MESAIEED & DUKHAN, QATAR

PROJECT DESCRIPTION:

The plant will have the capacity to process around 750 million cf/d of gas which will be used as feedstock for petrochemicals capacity planned at Masaieed.

It will include a new acid gas removal unit, amine sweetening plant, rehabilitation of the sulphur recovery unit, supply and installation of compressors, a seawater cooling system, dehydration unit & flare gas system.

OPERATOR:

Qatar Petroleum

CONTRACTOR:

Petrofac

PRODUCTS SUPPLIED:

- > Speedway Cable Ladder (SW5)
- > Vantrunk Cable Tray (HR)

FINISHES & MATERIALS :

Structural grade carbon steel with a deep hot dipped galvanised finish.

SPECIAL FEATURES:

The project loading requirements required the use of a structural steel. In addition to this the deep galvanised finish will provide an enhanced project lifespan thus reducing maintenance costs.



UNIVERSAL MOUNTING FRAME SYSTEM FOR ELECTRICAL EQUIPMENT

Vantrunk’s Uniframe mounting frames are available in standard widths of 1m and 1.5m, other widths are available on request.

The Uniframe system is highly customisable to accommodate specific project requirements, such as slotted side panels to suit the mounting of electrical equipment - consult our Sales Team for further details.

Uniframe mounting frames are available as a flat pack kit as standard or if required as a pivotable flat pack for rapid onsite assembly.

Available in two configurations, single and double sided with feet for either bolting or welding.

The Uniframe system also includes a variety of accessories which are detailed on the following pages.

MOUNTING FRAME CONFIGURATIONS

Single Sided Configuration

Ref. UF/SM

- Package includes:**
- 2 x Side Panels
 - 6 x Mounting Panels
 - 3 x Channel Sections
 - 1 x Roof Unit
 - 4 x Feet (Bolted or Welded)

Part Number	Width
UF/SM/1000/○	1000
UF/SM/1500/○	1500

○= Select a finish & Material

Finishes & Materials:



Single Sided Configurations are available with feet for welding directly to steelwork. To order add the suffix ‘-W’ to the part code



Double Sided Configuration

Ref. UF/DM

Package includes:

- 2 x Side Panels
- 8 x Mounting Panels
- 4 x Channel Rail
- 2 x Roof Unit
- 4 x Feet (Bolted or Welded)

Part Number	Width
UF/DM/1000/○	1000
UF/DM/1500/○	1500

○= Select a finish & Material

Finishes & Materials:



Single Sided Configurations are available with feet for welding directly to steelwork. To order add the suffix '-W' to the part code

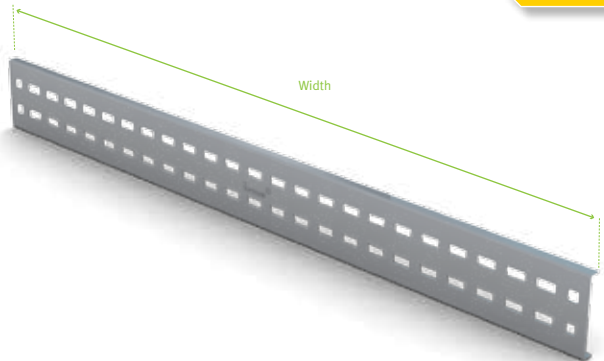
Extra Mounting Panels

Ref. UF/MP

Part Number	Width
UF/MP/1000/○	1000
UF/MP/1500/○	1500

○= Select a finish & Material

Finishes & Materials:



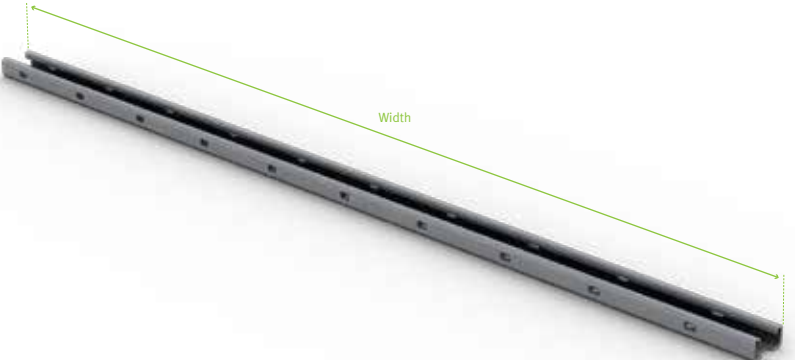
Extra Channel Rails

Ref. UF/CR

Part Number	Width
UF/CR/1000/○	1000
UF/CR/1500/○	1500

○= Select a finish & Material

Finishes & Materials:



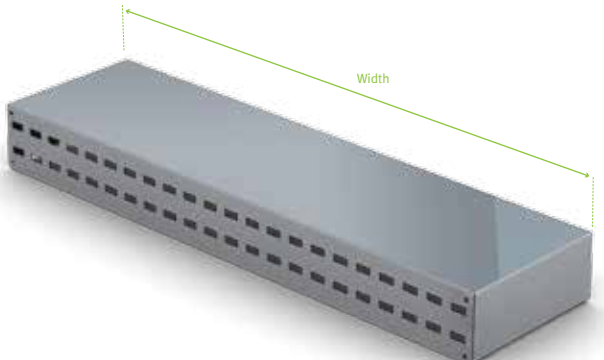
Internal Shelf

Ref. Ref. UF/SH

Part Number	Width
UF/IS/1000/○	1000
UF/IS/1500/○	1500

○= Select a finish & Material

Finishes & Materials:



Also available for mounting of electrical equipment...

Speedway Mounting Plate **Ref. SMP**

The Speedway Mounting Plate (SMP) provides a means of attaching junction boxes and other items to the speedway Cable Ladder System. Mounting plates are available to suit all Speedway Cable Ladder widths up to & including 900mm for attachment across the face of the cable ladder. The 300mm Speedway Mounting Plate (SW/SMP/300/O) can also be attached between rungs on all widths of Speedway Cable Ladder and can be mounted either within the cable space or below the cable ladder.

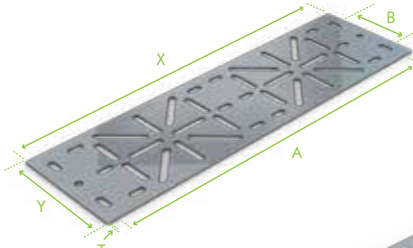
Alternative mounting plate designs can be made to order. Contact our Sales Team for more details.

Recommend Fixings:


Speedway Rungs: M6 Channel Nut and M6 x 12 Pan Head Screw
(& M6 Flat Washer for Stainless Steel)

Across Cable Ladder: M6 x 12 Pan Head Screw and M6 Hex Nut
(& M6 Flat Washer for Stainless Steel)

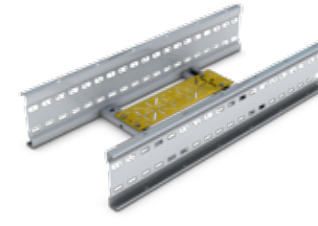
Alternative mounting plate designs can be manufactured to special order - Consult our Design Team for further details.



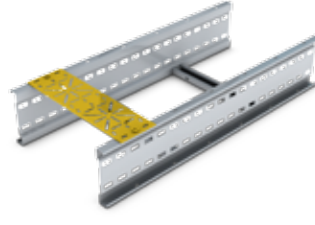
SW/SMP/150
150mm Speedway Mounting Plate



SW/SMP/300
300mm Speedway Mounting Plate



SW/SMP/300 - 300mm mounting plate shown installed across rungs




SW/SMP/300 - 300mm mounting plate shown installed across the face of 300mm wide cable ladder

Part Number	Dimensions (mm)					
	Ladder Width	X	Y	A	B	T
SW/SMP/150/O	150	200		175		
SW/SMP/300/O	300	350		325		
SW/SMP/450/O	450	500	100	475	60	2
SW/SMP/600/O	600	600		625		
SW/SMP/750/O	750	800		775		
SW/SMP/900/O	900	950		925		

Finishes & Materials:

GA SS GX GK

Supplied with:

 x0

○= Select a Finish & Material

Junction Box Plates **Ref. JBP**

Speedway Junction Box Plates (JBP) provide a versatile means of attaching junction boxes, switches and other equipment directly onto Speedway Cable Ladder and Fittings.

Junction Box Plates are available in five standard sizes to suit all secondary equipment mounting requirements.

Junction Box Plates are not supplied with ladder fixings.

Recommended Fixings:

For attachment to Speedway cable ladder - M6 x 12 Pan head screw and M6 nut (&M6 Flat Washer for stainless steel). Consult our sales Team for further details.

Part Number	Dimensions (mm)				No. of Fixings
	X	Y	A	T	
SW/JBP01/O	160	165	120	2	2
SW/JBP02/O	210	215	120	2	2
SW/JBP03/O	310	315	120	3	3
SW/JBP04/O	65	90	47	2	1
SW/JBP05/O	150	110	120	2	2


○= Select a Finish & Material

Finishes & Materials:


GA SS GX GK

Supplied with:


 x0




JBP01
Junction Box Plate



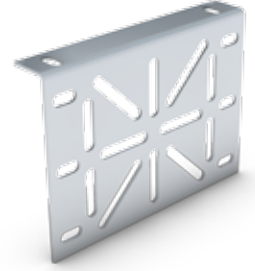
JBP02
Junction Box Plate



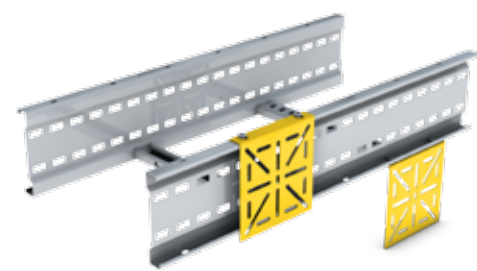
JBP03
Junction Box Plate



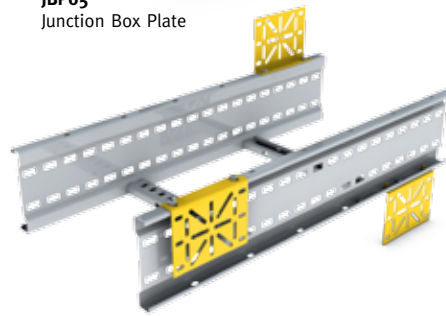
JBP04
Junction Box Plate



JBP05
Junction Box Plate



Junction Box Plate JBP01 shown mounted in two possible orientations on Speedway cable ladder



Junction Box Plate JBP05 shown mounted in three possible orientations on Speedway cable ladder




VANTRUNK

FIXINGS

Cable Management installations often require a wide range of ancillary items such as fixings. Vantrunk carry a vast range of these items to ensure that installers have a reliable 'single source' supply of components to meet their site requirements.




FIXINGS

Cup Square Bolts

Thread Size	Length (mm)	Part No. 	Part No. 	Part No. 
M10	16	-	318AR31	318AR81
	18	-	318AR-18	318AR-18/SS
	20	-	318AR32	318AR82
	25	-	318AR33	318AR83






Cone Point Hex Head Set Screw

Thread Size	Length (mm)	Part No. 	Part No. 	Part No. 
M10	40	32701-10	-	32701-30
M12	40	32701-12	-	32701-32






Hex Head Set Screw

Thread Size	Length (mm)	Part No. 	Part No. 	Part No. 
M6	20	-	GAM6X20HS	SSM6X20HS
	25	-	GAM6X25HS	SSM6X25HS
	30	-	GAM6X30HS	SSM6X30HS
	35	-	GAM6X35HS	SSM6X35HS
	40	-	GAM6X40HS	SSM6X40HS
M8	20	-	GAM8X20HS	SSM8X20HS
	25	-	GAM8X25HS	SSM8X25HS
	30	-	GAM8X30HS	SSM8X30HS
	35	-	GAM8X35HS	SSM8X35HS
	40	-	GAM8X40HS	SSM8X40HS
M10	50	-	GAM8X50HS	SSM8X50HS
	20	-	GAM10X20HS	SSM10X20HS
	25	-	GAM10X25HS	SSM10X25HS
	30	-	GAM10X30HS	SSM10X30HS
	35	-	GAM10X35HS	SSM10X35HS
	40	-	GAM10X40HS	SSM10X40HS
	50	-	GAM10X50HS	SSM10X50HS
M12	60	-	GAM10X60HS	SSM10X65HS
	75	-	GAM10X75HS	SSM10X75HS
	25	-	GAM12X25HS	SSM12X25HS
	30	-	GAM12X30HS	SSM12X30HS
	35	-	GAM12X35HS	SSM12X35HS
	40	-	GAM12X40HS	SSM12X40HS
	50	-	GAM12X50HS	SSM12X50HS
	60	-	GAM12X60HS	SSM12X60HS
	75	-	GAM12X75HS	SSM12X75HS






Pan Head Screw

Thread Size	Length (mm)	Part No. 	Part No. 	Part No. 
M6	12	-	-	SSM6X12PH
	16	-	-	SSM6X16PH
	20	-	-	SSM6X20PH
	25	-	-	SSM6X25PH
	30	-	-	SSM6X30PH
	35	-	-	SSM6X35PH
	40	-	-	SSM6X40PH



Mushroom Head Bolt & Square Nut

Thread Size	Length (mm)	Part No. 	Part No. 	Part No. 
M6	12	-	GAM6X12BN	-
	16	-	GAM6X16BN	-
	20	-	GAM6X20BN	-
	25	-	GAM6X25BN	-
	30	-	GAM6X30BN	-






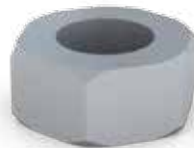
Serrated Flange Nut

Size	Part No. 	Part No. 
M10	GAM10SFN	SSM10SFN






Hex Nut

Thread Size	Part No. 	Part No. 	Part No. 
M6	GAM6HN	SSM6HN	SSM6NN
M8	GAM8HN	SSM8HN	SSM8NN
M10	GAM10HN	SSM10HN	SSM10NN
M12	GAM12HN	SSM12HN	SSM12NN






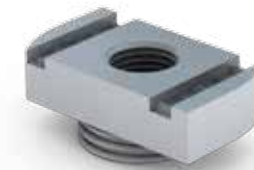
Channel Nut - Long Spring

Thread Size	Part No. 	Part No. 	Part No. 
M6	IC/NUT/M6/L/ZA	IC/NUT/M6/L/GA	IC/NUT/M6/L/SS
M8	IC/NUT/M8/L/ZA	IC/NUT/M8/L/GA	IC/NUT/M8/L/SS
M10	IC/NUT/M10/L/ZA	IC/NUT/M10/L/GA	IC/NUT/M10/L/SS
M12	IC/NUT/M12/L/ZA	IC/NUT/M12/L/GA	IC/NUT/M12/L/SS






Channel Nut - Short Spring

Thread Size	Part No. 	Part No. 	Part No. 
M6	IC/NUT/M6/S/ZA	IC/NUT/M6/S/GA	IC/NUT/M6/S/SS
M8	IC/NUT/M8/S/ZA	IC/NUT/M8/S/GA	IC/NUT/M8/S/SS
M10	IC/NUT/M10/S/ZA	IC/NUT/M10/S/GA	IC/NUT/M10/S/SS
M12	IC/NUT/M12/S/ZA	IC/NUT/M12/S/GA	IC/NUT/M12/S/SS






Channel Nut - No Spring

Thread Size	Part No. 	Part No. 	Part No. 
M6	IC/NUT/M6/N/ZA	IC/NUT/M6/N/GA	IC/NUT/M6/N/SS
M8	IC/NUT/M8/N/ZA	IC/NUT/M8/N/GA	IC/NUT/M8/N/SS
M10	IC/NUT/M10/N/ZA	IC/NUT/M10/N/GA	IC/NUT/M10/N/SS
M12	IC/NUT/M12/N/ZA	IC/NUT/M12/N/GA	IC/NUT/M12/N/SS






Flat Washer

Size	Part No. 	Part No. 	Part No. 
M6	GAM6FW	SSM6FW	M6FW/NYL
M8	GAM8FW	SSM8FW	M8FW/NYL
M10	GAM10FW	SSM10FW	M10FW/NYL
M12	GAM12FW	SSM12FW	M12FW/NYL






Internal Tooth Shake Proof Washer

Thread Size	Part No. 	Part No. 	Part No. 
M6	-	GAM6SW	SSM6SW
M8	-	GAM8SW	SSM8SW
M10	-	GAM10SW	SSM10SW
M12	-	GAM12SW	SSM12SW






Single Coil Spring Washer

Thread Size	Part No.		Part No.		Part No.	
M6	-		GAM6SPW		SSM6SPW	
M8	-		GAM8SPW		SSM8SPW	
M10	-		GAM10SPW		SSM10SPW	
M12	-		GAM12SPW		SSM12SPW	



Threaded Rod (Studding)

Size	Length (mm)	Part No.		Part No.		Part No.	
M6	1M	-		GAM6R1		SSM6R1	
	3M	-		GAM6R3		SSM6R3	
M8	1M	-		GAM8R1		SSM8R1	
	3M	-		GAM8R3		SSM8R3	
M10	1M	-		GAM10R1		SSM10R1	
	3M	-		GAM10R3		SSM10R3	
M12	1M	-		GAM12R1		SSM12R1	
	3M	-		GAM12R3		SSM12R3	



Nylon Bush

Part Number	Thread Size	Length	Description
315AN25-06	M6	6	BUSH 6MM ID X 8MM OD X 6MM LONG
315AN25-08		8	BUSH 6MM ID X 8MM OD X 8MM LONG
315AN25-10		10	BUSH 6MM ID X 8MM OD X 10MM LONG
315AN01-06	M10	6	BUSH 10MM ID X 16MM OD X 6MM LONG
315AN01-07		7	BUSH 10MM ID X 16MM OD X 7MM LONG
315AN01-08		8	BUSH 10MM ID X 16MM OD X 8MM LONG
315AN01-10		10	BUSH 10MM ID X 16MM OD X 10MM LONG
315AN01-12		12	BUSH 10MM ID X 16MM OD X 12MM LONG
315AN01-15		15	BUSH 10MM ID X 16MM OD X 15MM LONG
31017-16	M12	16	Q-FIT BUSH 12MM ID X 16MM LONG





Nylon Pad

Part Number	Length (mm)	Width (mm)	Thickness (mm)	Description
315AN10	66.5	50	4	PAD(ISOLATION)
315AN11	50	40	4	PAD(ISOLATION)
315AN12	80	55	4	PAD(ISOLATION)
315AN18	75	50	4	PAD(ISOLATION)





Speedway Ladder Fixing Set

Finish and Material	CODE	Contents		
		QTY	Fixing Code	Fixing Description
	389AA31-20	1 x	318AR31-20	M10x20mm CUP SQ BOLT
		1 x	GAM10SFN	M10 SERRATED FLANGE NUT
	389AA81-20	1 x	318AR81-20	M10x20mm CUP SQ BOLT
		1 x	SSM10SFN	M10 SERRATED FLANGE NUT





Speedway Ladder Fixing Kit

Finish and Material	CODE	Contents		
		QTY	Fixing Code	Fixing Description
	VSEK/G	8 x	389AA31-20	Speedway Ladder Fixing Set
	VSEK/S	8 x	389AA81-20	Speedway Ladder Fixing Set



Speedway Expansion Coupler Fixing Kit

Finish and Material	CODE	Contents		
		QTY	Fixing Code	Fixing Description
	VEFK/G	8 x	318AR33	M10x25mm CUP SQ BOLT
		16 x	GAM10HN	M10 HEX NUT
		8 x	GAM12FW	M12 FLAT WASHER
	VEFK/S	8 x	318AR83	M10x25mm CUP SQ BOLT
		16 x	SSM10HN	M10 HEX NUT
		8 x	SSM12FW	M12 FLAT WASHER



Speedway Ladder Cover Fixing Kit

Speedway covers are supplied complete with the required number of cover fixing kits (VCF3). The cover fixing kits are common to closed, louvered and peaked covers. The covers are secured to the ladder using pre-punched slots which are incorporated into the flanges of all Speedway ladder and fittings.

Ref.VCF3/G



Ref.VCF3/S



Ref.VCF8/S



Finish and Material	CODE	Contents		
		QTY	Fixing Code	Fixing Description
GA	VCF3/G	1 x	GAM6X12BN	M6x12mm Roofing Bolt & Nut
		1 x	GAM6SW	M6 Internal Shake Proof Washer
		1 x	SSM6X12PH	M6x12mm Pan Head Screw
SS	VCF3/S	1 x	SSM6FW	M6 Flat Washer
		1 x	SSM6SW	M6 Internal Shake Proof Washer
		1 x	SSM6HN	M6 Hex Nut
	VCF8/S	1 x	SSM6X12PH	M6x12mm Pan Head Screw
		1 x	SSM6FW	M6 Flat Washer
		1 x	SSM6SW	M6 Internal Shake Proof Washer

Earth Bonding Strap Fixing Set

Finish and Material	CODE	Contents		
		QTY	Fixing Code	Fixing Description
GA	389AA55	2 x	GAM10X25HS	M10x25mm HEX HEAD SETSCREW
		2 x	GAM10SFN	M10 SERRATED FLANGE NUT
SS	389AA65	2 x	SSM10X25HS	M10x25mm HEX HEAD SETSCREW
		2 x	SSM10SFN	M10 SERRATED FLANGE NUT



HAVE YOU GOT WHAT IT TAKES TO CLIMB THE...

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VANTRUNK

LEAGUE OF LADDERS





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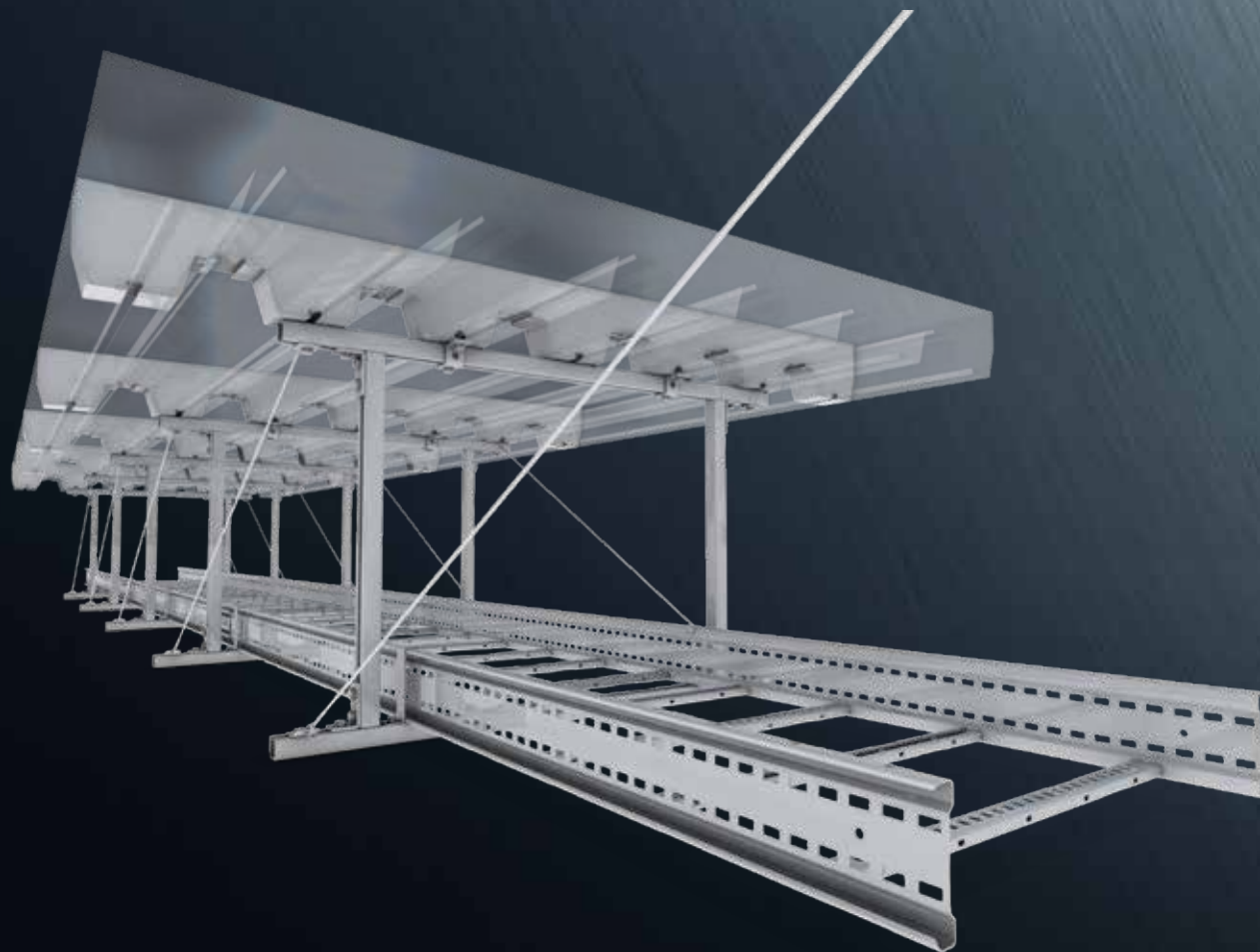
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INNOVATIVE DESIGN SOLUTIONS

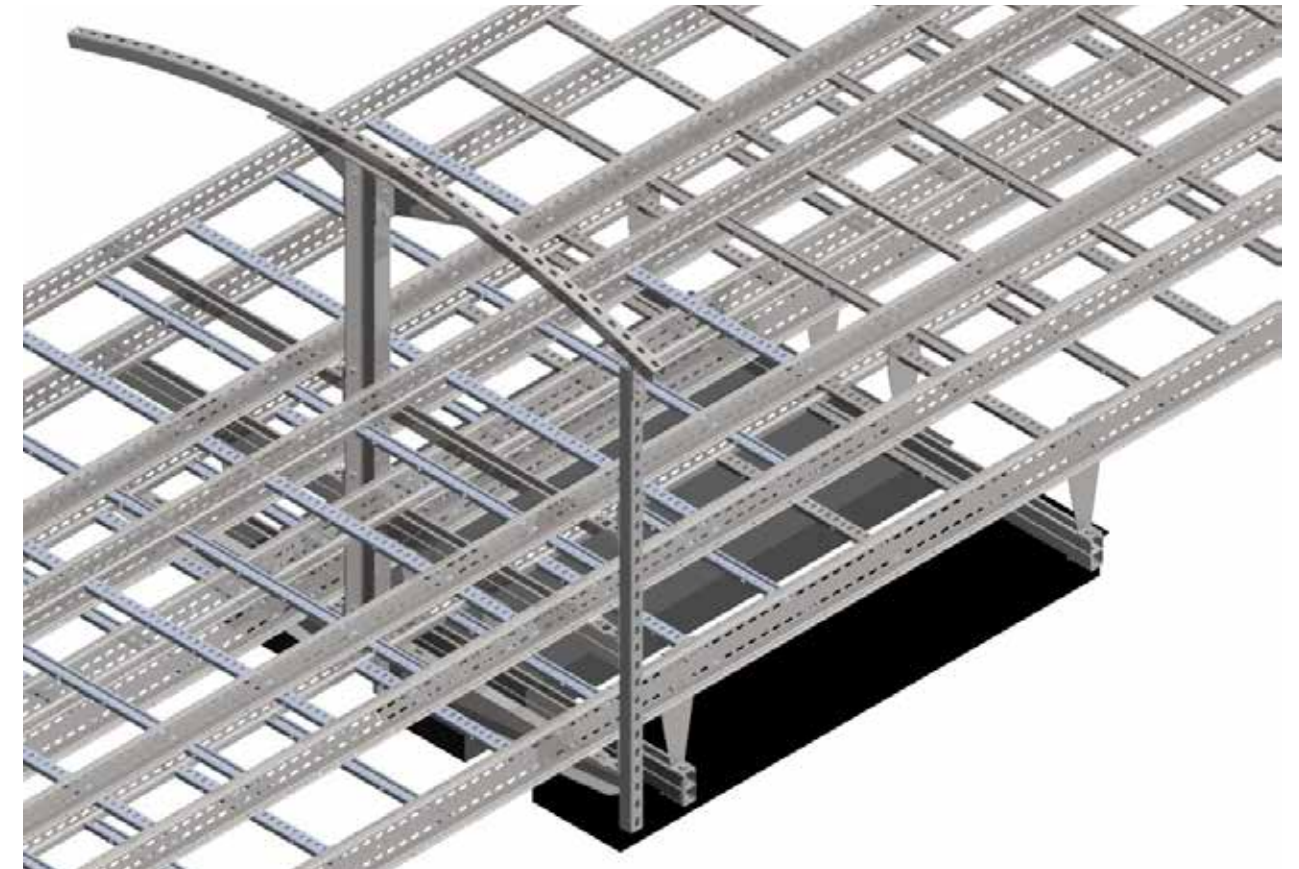
Vantrunk's industry experience and our continual investment in research and development over many years has secured our position as the leader in bespoke made to order solutions.



INNOVATIVE DESIGN SOLUTIONS

Tunnel Solutions

Specially designed Heavy Duty Wing Brackets that work in conjunction with Vantrunk's Intelok Radial Channel. When combined with Vantrunk's Speedway Cable Ladder, provides a multidiscipline Cable Management System suited to thrive in tunnel installations.

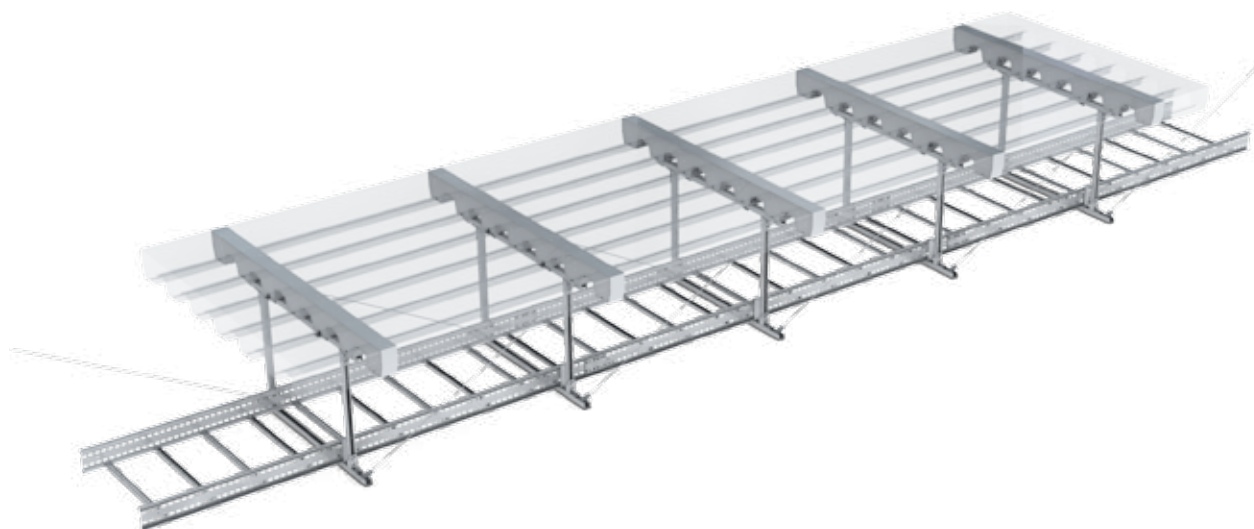


Custom Wing Brackets & Radial Channel



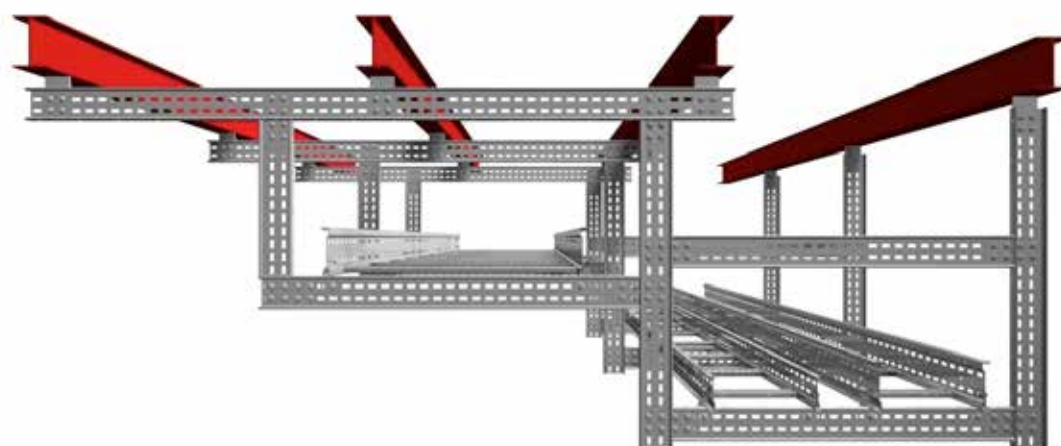
Assemblies for Seismic Active Areas

As Extreme Environment Experts Vantrunk can work closely with customers to overcome obstacles when working in harsh environments around the world such as those presented by seismically active areas.



Gridlok Support System

A flexible heavy duty support system designed to complement our range of cable management products; available as both welded and bolted solutions in vertical and horizontal planes.



Vantrunk Cable Tray Vertical Tees

Manufactured to complement the range of standard Cable Tray fittings, the Vertical Tee provides added flexibility to your installation. Available in Ascent, Descent and Lateral Descent variations.



Ascent



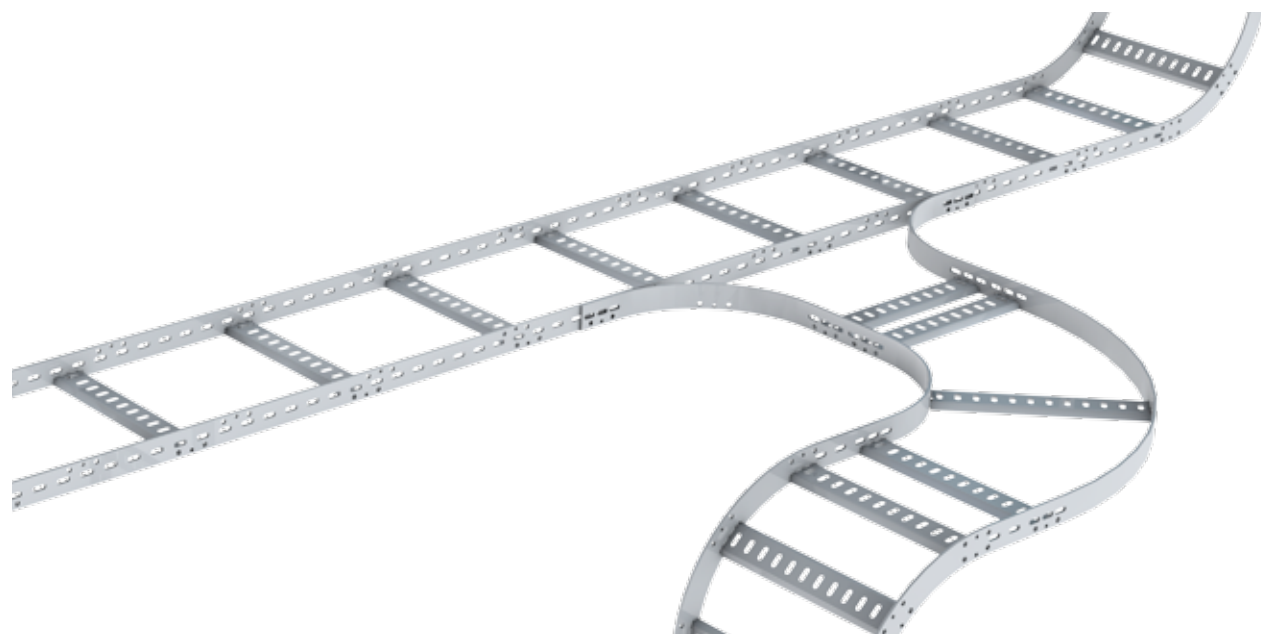
Descent



Lateral Descent

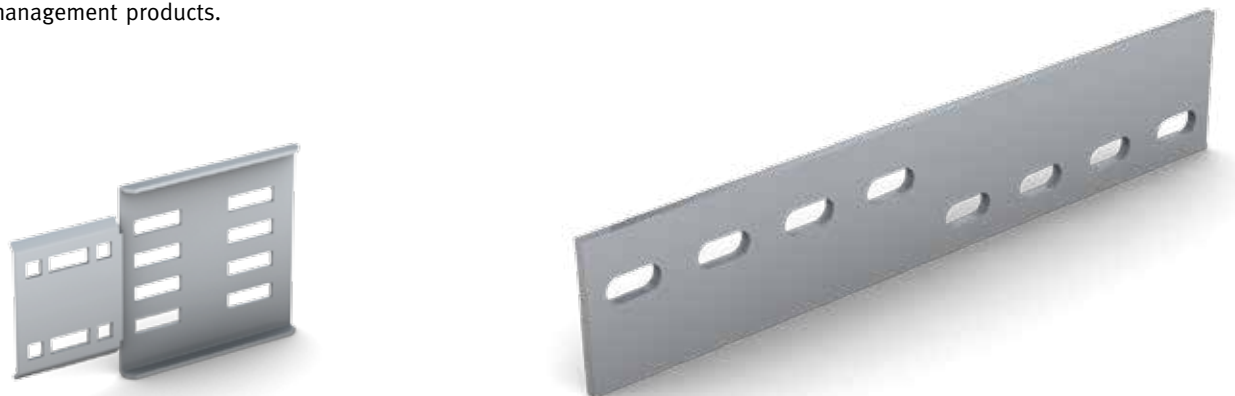
Marine Cable Ladder

The Marine Cable Ladder system is ideally suited to applications where space is limited and movement of cables between levels is a priority.



Transition Couplers

Bespoke designs that allow connection of Vantrunk Speedway Cable Ladder and Tray products to other Cable Management manufacturer's products. This is an ideal product when looking to install Vantrunk product on a site with existing cable management products.



Speedway Transition Coupler

Cable Tray Transition Coupler

Speedway Y-Fittings

Manufactured to complement the range of standard Speedway fittings, the Speedway Y-Fitting provides added flexibility to your installation. Available in right hand and left hand options.



Speedway Vertical Tees

Manufactured to complement the range of standard Speedway fittings, the Vertical Tee provides added flexibility to your installation. Available in Ascent and Descent configurations, both of which are suitable for mid-span or end - span changes of direction.



VANTRUNK

GENERAL TECHNICAL DATA

This compilation of Technical information is intended to supply essential details relating to Vantrunk's Cable Management Systems. Its aim is to ensure that the specified Cable Management installation is adequately protected against corrosion and has suitable strength & rigidity to provide reliable support at minimum installed cost.

Our Design Team is available to answer any questions relating to particular site requirements which may not be answered in the following sections.

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TECHNICAL DATA

» 1. EXTREME ENVIRONMENTS

» 1.1 Low Temperature Applications

Consideration should be given to the likely affects of low temperatures when specifying cable management products for installation at a location subject to sub zero temperatures.

Manufactured using generic low carbon steels and austenitic stainless steels – general guidance on the low temperature performance of these materials is as follows:

Low Carbon Steels

Low carbon steels used in the manufacture of commercially available cable management systems exhibit a ductile to brittle transition at low temperatures. At these low temperatures an impact can cause cracking which will propagate faster than the elastic deformation, resulting in failure of the product by brittle fracture. Brittle fracture can be avoided by specifying structural grade steels that have certified minimum impact values. These structural steel grades are typically certified at temperatures of 0°C, -20°C, and -40°C, showing a decreasing impact value as the temperature decreases. Vantrunk has manufactured the Speedway cable ladder system for low temperature applications using structural steels of 2.0mm and 2.5mm thickness. These steels have been independently tested at temperatures of -46°C giving average charpy values of 20 joules for 2.0mm thickness.

Austenitic Stainless Steels

Austenitic stainless steels, including grade 1:4404 to BS EN 10088-2 (marine grade 316) which is used in the manufacture of Vantrunk Cable Management systems and accessories, are not affected by sub zero temperatures. These stainless steels do not suffer a loss in either ductility or toughness and are not susceptible to failure by brittle fracture at low temperatures below -20°C. Please contact our Design Team for further information relating to low temperature applications.

» 1.2 Expansion & Contraction

It is important that thermal expansion and contraction are considered when designing and installing a cable ladder installation. Even in relatively moderate climates there will be sufficient seasonal thermal movement which could easily place undue stresses on the cable ladder installation and the supporting structure.

To incorporate thermal movement in the design of a cable ladder installation it is important to establish the maximum temperature differential which is likely to be encountered at the site of the installation. The

temperature differential is based on the maximum and minimum seasonal temperatures. This temperature differential will determine the maximum spacing between expansion couplers within the cable ladder installation.

To facilitate correct installation of the expansion couplers it will be necessary to measure the temperature of the cable ladder at the time of installation and to use this temperature to determine the required 'setting gap' between the adjoining lengths of cable ladder and tray. This will ensure that the movement provided by the expansion coupler is not compromised by incorrect assembly at the time of installation.

» 1.2.1 Speedway Cable Ladder

The Speedway expansion coupler is designed to allow movement up to a maximum of 28mm. This movement allowance is the basis for determining both the maximum allowable spacing between expansion couplers and the required setting gap at the time of installation.

The maximum allowable spacing between expansion couplers is given in the adjacent table for both hot dip galvanized and stainless steel Speedway Cable Ladder. Intermediate values can be obtained using the formula given under the table.

Maximum Allowable Spacing – Speedway Expansion Couplers

Temperature Differential At Location of Installation		Maximum Spacing Between Expansion Couplers			
		Hot Dip Galvanized		Stainless Steel	
°C	°F	m	ft	m	ft
10	50	229.5	629.6	175.0	480.1
20	68	114.8	314.8	87.5	240.0
30	86	76.5	209.9	58.3	160.0
40	104	57.4	157.4	43.8	120.0
50	122	45.9	125.9	35.0	96.0
60	140	38.3	104.9	29.2	80.0
70	158	32.8	89.9	25.0	68.6
80	176	28.7	78.7	21.9	60.0
90	194	25.5	70.0	19.4	53.3
100	212	23.0	63.0	17.5	48.0

Joints can also be calculated from the following formula: $L = C/T$

Where L = maximum allowable spacing between expansion couplers.

C = 1147 for low carbon steel cable tray & 875 for stainless steel cable tray

T = temperature differential at installation site.

As an example:

Maximum temperature = +35°C

Minimum temperature = -15°C

Temperature differential = 50°C

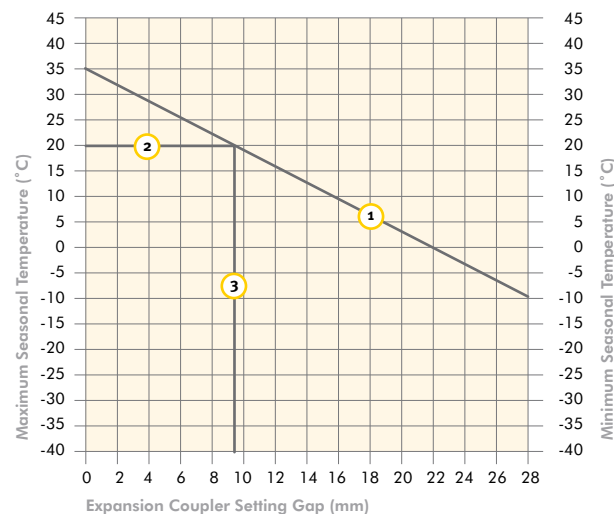
For a temperature differential of 50°C, based on a hot dip galvanized cable ladder system, expansion couplers should be fitted every 46m. For ease of installation, expansion couplers should be fitted at every 15th 3m cable ladder, giving 45m between expansion couplers.

To determine the setting gap at the time of installation the following chart should be used.

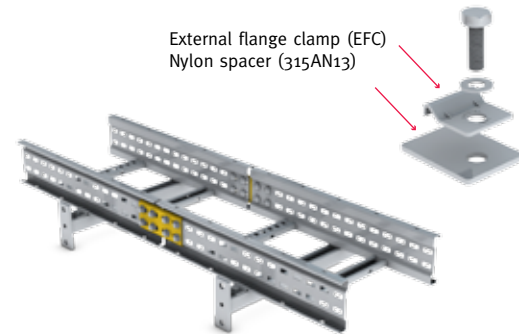
A diagonal line (1) should be constructed between the two vertical axes using the maximum and minimum seasonal temperatures, for example, +35°C & -10°C.

A horizontal line (2) should be constructed for the temperature of the Speedway Cable Ladder at the time of installation, for example +20°C.

A vertical line (3) should be constructed from the intersection of the diagonal and horizontal lines to give the required setting gap, for this example the expansion couplers should be set with a gap of 9.4mm. To ensure safe and correct installation, the Speedway Cable Ladder should be supported within 600mm on each side of connections fitted with expansion couplers. The Speedway expansion couplers should be correctly assembled – refer to 1.2 for further details.



Where installed with expansion couplers, the Speedway Cable Ladder should be secured to the supporting structure using the Speedway external flange clamp (EFC). The Speedway external flange clamp should be installed with nylon spacer pads (part number 315AN13) which will allow the Speedway Cable Ladder to expand and contract in a restrained manner.

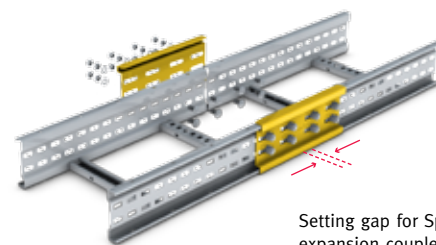


For those installations where it is not practical to fit supports within 600mm on each side of the expansion joint, or for those installations where there is a requirement to provide an expansion coupler capable of accommodating more than 28mm of movement, consideration should be given to the use of the Speedway Full Moment Expansion couplers.

The Speedway full moment expansion coupler is capable of carrying the full load of the Speedway cable ladder at the expansion joint without the need to provide local support. Typical examples of this type of installation requirement include pipe racks with expansion joints at 50m intervals.

The Speedway full moment expansion coupler provides for a maximum designed movement of 75mm without the need for local support at the location of the expansion joint. The Speedway full moment expansion coupler can accommodate movement in excess of 75mm; however, local support will be required at the location of the expansion joint.

Consult our Technical Team for full details on the installation requirements for the Speedway full moment expansion coupler (including detailed assembly requirements and gap setting at the time of installation).



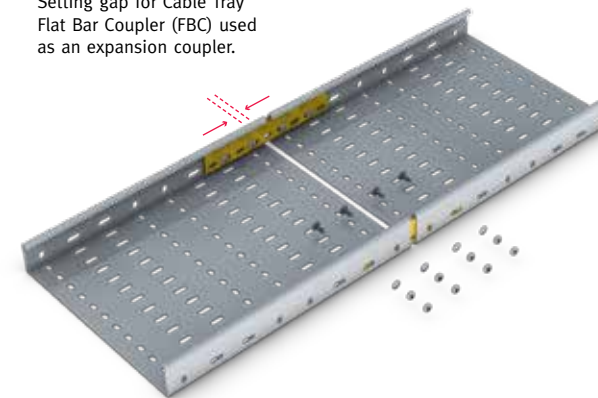
Setting gap for Speedway full moment expansion coupler (CS/EXP). Supports are not required at the location of the expansion joint.

> 1.2.2 Vantrunk Cable Tray

The standard flat bar coupler can allow movement up to a maximum of 14mm. This movement allowance is the basis for determining both the maximum allowable spacing between expansion joints and the required setting gap at the time of installation.

The maximum allowable spacing between expansion joints is given in the following table for both galvanized (pre-, hot dip & deep) and stainless steel Vantrunk Cable Tray. Intermediate values can be obtained using the formula given under the table.

Setting gap for Cable Tray Flat Bar Coupler (FBC) used as an expansion coupler.



Maximum Allowable Spacing – Cable Tray Expansion Joints

Temperature Differential		Maximum Spacing Between Expansion Joints			
		Hot Dip Galvanized		Stainless Steel	
°C	°F	m	ft	m	ft
10	50	114.8	314.8	87.5	240.0
20	68	57.4	157.4	43.8	120.0
30	86	38.3	104.9	29.2	80.0
40	104	28.7	78.7	21.9	60.0
50	122	23.0	63.0	17.5	48.0
60	140	19.1	52.5	14.6	40.0
70	158	16.4	45.0	12.5	34.3
80	176	14.3	39.3	10.9	30.0
90	194	12.8	35.0	9.7	26.7
100	212	11.5	31.5	8.8	24.0

The maximum allowable spacing between expansion joints can also be calculated from the following formula:

$$L = C/T$$

Where L = maximum allowable spacing between expansion couplers.
C = 1147 for low carbon steel cable tray & 875 for stainless steel cable tray.
T = temperature differential at installation site.

As an example:

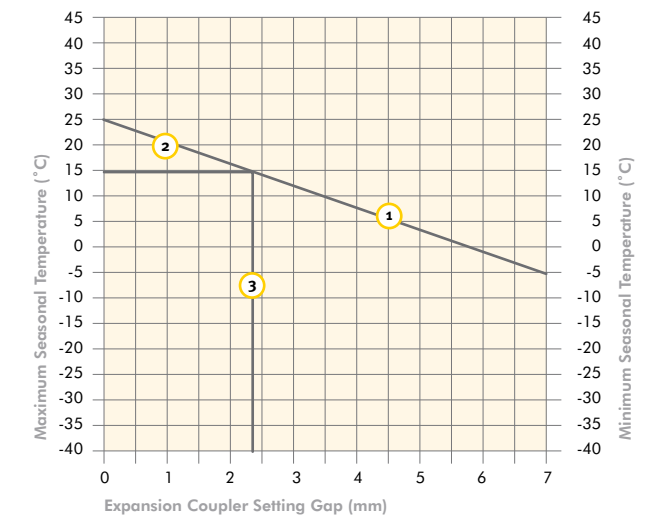
Maximum temperature +25°C

Minimum temperature -5°C

Temperature differential 30°C

For a temperature differential of 30°C, based on a hot dip galvanized cable tray system, expansion joints should be located every 19.1m. For ease of installation, expansion joints should be located at every 6th 3m cable tray, giving 18m between expansion joints.

To determine the setting gap at the time of installation the following chart should be used.



A diagonal line (1) should be constructed between the two vertical axes using the maximum and minimum seasonal temperatures, for example, +25°C & -5°C.

A horizontal line (2) should be constructed for the temperature of the Vantrunk cable tray at the time of installation, for example +15°C.

A vertical line (3) should be constructed from the intersection of the diagonal and horizontal lines to give the required setting gap, for this example the expansion couplers should be set with a gap of 2.3mm.

To ensure safe and correct installation, the Vantrunk Cable Tray should be supported within 300mm on each side of connections fitted with expansion couplers.

The flat bar couplers at each expansion joint should be correctly assembled – refer to 1.2 for further details. Where installed with expansion couplers, the Vantrunk Cable Tray should be secured to the supporting structure in a manner which will allow free movement.

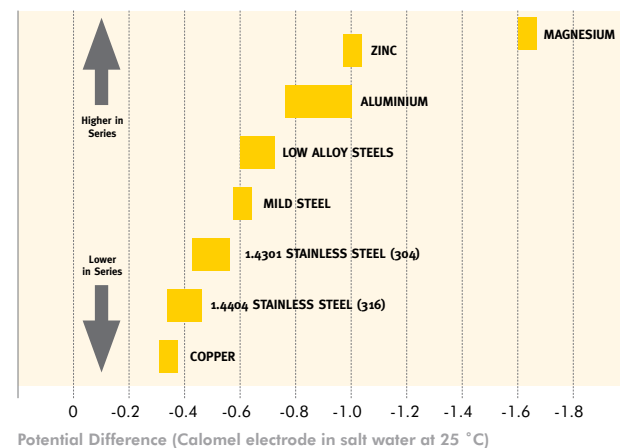
> 1.3 Bimetallic Corrosion

Bimetallic corrosion (also referred to as galvanic or electrolytic corrosion) occurs when two dissimilar metals are in close contact with an electrolyte. An electrolyte is a medium which allows the flow of an electrical current. The presence of water as moisture can act as an electrolyte. For further details see pages 80 for Speedway Insulation Assemblies and pages 138 for Cable Tray installation assemblies.

The rate of corrosion depends upon the differences in electrical potential of the metals as defined by the Galvanic Series (see chart below), the strength of the electrolyte, the period for which the electrolyte is present, and the geometry of the connection between the dissimilar metals. When corrosion occurs it is the anodic metal (which is higher in the galvanic series) that will corrode in preference to the cathodic metal (which is lower in the galvanic series).

If corrosion takes place between two dissimilar metals, the metal which is higher in the galvanic series will corrode in preference to the metal which is lower in the galvanic series.

Galvanic Series Chart



It is common to find dissimilar metals such as stainless steel and mild steel or zinc (as found on a hot dip galvanized item) in contact in a damp atmosphere (i.e. sea water, rain, etc.).

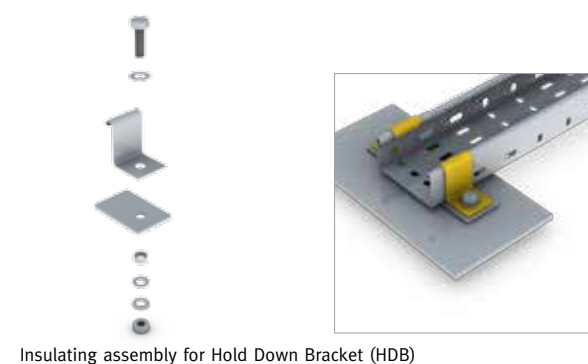
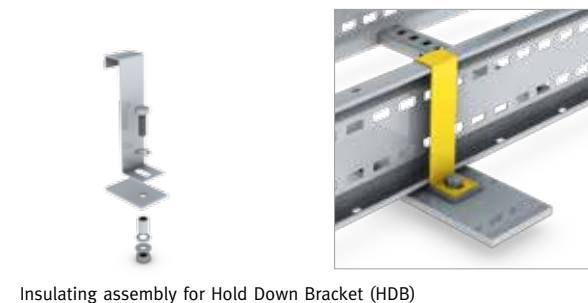
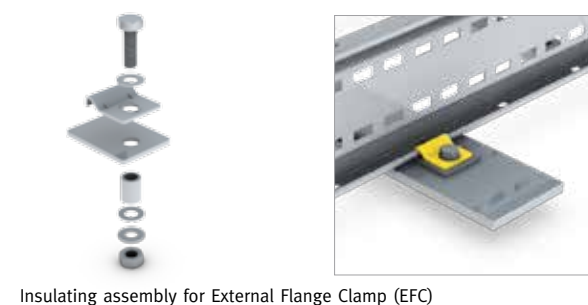
This arrangement is typically found in coastal and offshore applications where painted structures or heavyweight galvanized steel brackets are used to support stainless steel cable ladders on the exterior of an installation.

Whilst it is possible to use a layer of paint or grease to separate the stainless steel cable ladder from a zinc coating or any exposed mild steel arising from drilling of the support structure, these should not be considered

as a long term means of providing electrical separation between the dissimilar metals.

The best solution is to electrically isolate the two dissimilar metals. Vantrunk cable management systems include a range of nylon pads, bushes, and washers which entirely separates the cable ladder or tray and the fixings from the support structure to prevent bimetallic corrosion.

In a typical insulating assembly the ladder or tray securing device (external flange clamp, hold down bracket, or adaptable fixing bracket), securing bolt, nut, & washer are entirely of stainless steel and are therefore compatible with the stainless steel cable ladder.



> 1.4 Imposed Loads

Imposed loads include wind, ice and snow. The effects of imposed loads will vary from one installation to another and further advice relating to the specific influences of each should be sought at the design stage. The following information on imposed loads is given as a general guide only.

> 1.4.1 Ice Loads

When determining the total load to be supported by the Speedway Cable Ladder or Vantrunk Cable Tray an allowance should be made for those locations where ice formation is likely.

The tables below shows the additional load imposed by a layer of ice 10mm thick and having a density of 916kg/m³.

Ice Load (10mm thick) on Speedway Cable Ladder

Width W mm	Ice Load kg/m		
	Speedway SW4	Speedway SW5	Speedway SW6
150	1.72	1.83	1.83
300	3.10	3.21	3.21
450	4.47	4.58	4.58
600	5.84	5.95	5.95
750	7.22	7.33	7.33
900	8.59	8.70	8.70
1050	9.97	10.08	10.08

Ice Load (10mm thick) on Vantrunk Cable Tray

Tray Width	Ice Load kg/m	
	Medium Duty	Heavy Duty
50	0.46	0.46
75	0.69	0.69
100	0.92	0.92
150	1.37	1.37
200	1.83	1.83
225	2.06	2.06
300	2.75	2.75
450	4.12	4.12
600	5.50	5.50
750	6.87	6.87
900	8.24	8.24

> 1.4.2 Snow Loads

The magnitude of the additional load imposed by snow will be influenced by a number of factors including the density of the snow, the degree of drifting which will alter the profile of the snow accumulating on the Speedway Cable Ladder or Vantrunk Cable Tray, and the nature of the cable ladder installation (i.e. covers fitted or percentage of cable loading area occupied by cables). The density of snow can vary from 160kg/m³ to 481kg/m³ depending on the level of wetness and compactness. The tables below assume that the snow has a density of 160kg/m³ and is applied to a uniform height of 100mm.

Snow Load (100mm thick) on Speedway Cable Ladder

Width W mm	Snow Load kg/m		
	Speedway SW4	Speedway SW5	Speedway SW6
150	3.01	3.20	3.20
300	5.41	5.60	5.60
450	7.81	8.00	8.00
600	10.21	10.40	10.40
750	12.61	12.80	12.80
900	15.01	15.20	15.20
1050	17.41	17.60	17.60

Snow Load (100mm thick) on Vantrunk Cable Tray

Tray Width	Snow Load kg/m	
	Medium Duty	Heavy Duty
50	0.80	0.80
75	1.20	1.20
100	1.60	1.60
150	2.40	2.40
200	3.20	3.20
225	3.60	3.60
300	4.80	4.80
450	7.20	7.20
600	9.60	9.60
750	12.00	12.00
900	14.40	14.40

> 1.4.3 Wind Loads

Wind loads exert a sideways force on the cable ladder or cable tray. The sideways force is based on the wind speed and is derived from the equation $V_p (N/m^2) = 0.6V^2$ where V is the wind speed in m/s. The wind speed will vary relative to the height above the ground and the degree of exposure. The following tables give an indication for the sideways force which will be exerted on Speedway Cable Ladder or Vantrunk Cable Tray in an exposed location at an ambient temperature of 20°C and average relative humidity for the United Kingdom.

The tabulated wind loads are based on Speedway Cable Ladder and Vantrunk Cable Tray that is installed in the horizontal plane. In this orientation the structural properties of the Vantrunk Cable Management Systems are sufficient to resist most normal wind loads. The wind loadings will be significantly higher for edge-mounted Speedway Cable Ladder and Vantrunk Cable Tray and for this reason edge-mounted ladder or tray should not be installed in areas of high wind exposure.

If covers are to be fitted to Speedway Cable Ladder or Vantrunk Cable Tray in locations subject to high wind loads further advice should be sought from our Design Team regarding additional securing means.

Wind Loads on Speedway Cable Ladder

Beaufort Scale	Description	Wind Speed m/s		Pressure N/m ²		Wind Loads - kg/m					
		Min	Max	Min	Max	Speedway SW4		Speedway SW5		Speedway SW6	
						Min	Max	Min	Max	Min	Max
0	Calm	0.00	0.20	0.00	0.02	0.00	0.00	0.00	0.0	0.00	0.00
1	Light air	0.30	1.50	0.05	1.35	0.00	0.01	0.00	0.02	0.00	0.02
2	Light breeze	1.60	3.30	1.54	6.53	0.01	0.06	0.02	0.07	0.02	0.09
3	Gentle breeze	3.40	5.40	6.94	17.50	0.06	0.16	0.08	0.20	0.10	0.24
4	Moderate breeze	5.50	7.90	18.15	37.45	0.16	0.34	0.20	0.42	0.25	0.52
5	Fresh breeze	8.00	10.70	38.40	68.69	0.35	0.62	0.43	0.77	0.53	0.95
6	Strong breeze	10.80	13.80	69.98	114.26	0.64	1.04	0.79	1.29	0.97	1.58
7	Near gale	13.90	17.10	115.93	175.45	1.05	1.59	1.31	1.98	1.60	2.43
8	Gale	17.20	20.70	177.50	257.09	1.61	2.34	2.00	2.90	2.45	3.56

Wind Loads on Vantrunk Cable Tray

Beaufort Scale	Description	Wind Speed m/s		Pressure N/m ²		Medium Duty 25mm Height		Heavy Duty 50mm Height	
		Min	Max	Min	Max	Min	Max	Min	Max
0	Calm	0.00	0.20	0.00	0.02	0	0	0	0
1	Light air	0.30	1.50	0.05	1.35	0	0.1	0	0.5
2	Light breeze	1.60	3.30	1.54	6.53	0.2	0.7	0.5	2.3
3	Gentle breeze	3.40	5.40	6.94	17.50	0.7	1.8	2.4	6.1
4	Moderate breeze	5.50	7.90	18.15	37.45	1.9	3.9	6.3	13.1
5	Fresh breeze	8.00	10.70	38.40	68.69	4	7.2	13.4	24
6	Strong breeze	10.80	13.80	69.98	114.26	7.3	11.9	24.5	39.9
7	Near gale	13.90	17.10	115.93	175.45	12.1	18.3	40.5	61.3
8	Gale	17.20	20.70	177.50	257.09	18.5	26.8	62	89.8

» 2. Materials & Finishes

Details relating to the standard materials and finishes for Vantrunk Cable Management Systems, components, and accessories are given in the following sections. The choice of material and finish has been based on many years experience in providing cable management products and support systems for use in industrial and onshore/offshore installations.

> 2.1 Materials

The following materials are used in the manufacture of the Vantrunk Cable Management Systems, components and accessories:

Mild steel

Hot Rolled Mild steel grade D11 to BS EN 10111
Cold Rolled Mild steel grade D501 to BS EN 10130
Structural steel grade S275 to BS EN 10025-2

Stainless steel

Marine grade stainless steel 1.4404
to BS EN 10088-2

Silicon-rich steel

S355J0WP grade steel to BS EN 10025-5
S355J2W grade steel to BS EN 10025-5

Hot dip galvanized (before manufacture)

Grade S250+Z275 to
BS EN 10326 steel

> 2.1.1 Mild Steel

Vantrunk Cable Management Systems, components and accessories are manufactured using three different types of mild steel, each of which is matched for performance and strength to the product and the intended application. These mild steel materials are hot-rolled steel, cold-rolled steel and structural steel grade. Mild steel products require subsequent finishing on completion of manufacture to provide a means of corrosion protection.

Mechanical Properties of Mild Steel

Material Grade	Property		
	Yield Strength ReH N/mm ²	Tensile Strength Rm N/mm ²	Elongated A %
DD11	170 to 360	440	23
DC01	280 Max	270 to 410	28
S275	275 Min	430 to 580	14

Hot-rolled Mild Steel Grade DD11 to BS EN 10111
(formerly HR4 to BS 1449 Part 1)

DD11 hot-rolled mild steel is a cold forming material used for bending and drawing applications. This material is suitable for welding and hot dip galvanizing

Cold-rolled Mild Steel Grade DC01 to BS EN 10130

(formerly CR4 to BS 1449 Part 1)

DC01 cold-rolled steel grade is a cold-forming material for forming and deep drawing applications. This material is suitable for welding and hot dip galvanizing.

Structural Steel Grade S275 to BS EN 10025-2

(formerly 43A to BS 1449 Part 1)

S275 steel is a weldable, high-strength structural steel with good galvanizing properties.

> 2.1.2 Stainless Steel

The Speedway Cable Ladder System, components and accessories are manufactured using 1.4404 marine grade stainless steel (316) which is matched for performance and strength to the product and the intended application.

The corrosion resistance of stainless steel arises from a passive, chromium-rich, oxide film that forms naturally on the surface of the steel. Although extremely thin at 1.5 nanometres (i.e. 1.5 x 10⁻⁹ metres) thick, this protective film is strongly adherent, and chemically stable (i.e. passive) under conditions which provide sufficient oxygen to the surface. The key to the durability of the corrosion resistance of stainless steels is that if the film is damaged it will normally self repair in the presence of oxygen. In contrast to mild steel type materials which suffer from general corrosion where large areas of the surface are affected, stainless steels which have a passive oxide film are normally resistant to general corrosion. Stainless steels should not be considered to be indestructible, the oxide film can be broken down under certain conditions and corrosion can result, this typically taking the form of pitting or crevice corrosion.

The stainless steel used in the manufacture of Vantrunk Cable Management Systems, components and accessories has excellent corrosion and oxidation resistance due to the high chromium content. Grades 1.4404 stainless steel is an austenitic stainless steel which incorporate nickel to strengthen the oxide film and improve performance in more aggressive environments. The addition of molybdenum to 1.4404 marine grade improves resistance to pitting corrosion. The austenitic stainless steels have

excellent resistance to attack by acids, alkalis and other chemicals.

Stainless steels offer excellent performance at both high and low temperatures and, unlike some mild steels, are not susceptible to brittle fracture arising from impact at low temperature. Independent tests have shown that stainless steel cable ladders and trays can withstand a temperature of 1000°C for a period of 5 minutes without collapse (contact our Design Team for further details).

As the corrosion resistance of stainless steel is derived from the self-repairing oxide film it is important that the surface of the stainless steel remains uncontaminated, allowing the inherent corrosion resistance of the stainless steel to be maintained. Possible sources of contamination includes mild steel from cutting and drilling operations on site, and impingement of small particles created by welding and grinding of mild steel in close proximity to the stainless steel product. Care must be taken both during and after installation to avoid such contamination.

Stainless Steel Grade 1.4404 to BS EN 10088-2 (formerly marine grade 316 to BS 1449 Part 2)

Marine grade 1.4404 stainless steel is a corrosion resistant steel ideally suited for aggressive environments where severe conditions are prevalent, i.e. coastal and offshore applications. 1.4404 is a molybdenum-bearing austenitic stainless steel with high corrosion resistant properties, particularly to pitting and crevice corrosion. 1.4404 has excellent forming and welding characteristics. Post-weld annealing is not required with welding the material gauges that are used in the manufacture of the Speedway cable ladder system.

Mechanical Properties of Stainless Steel

Material Grade	Property		
	Proof Strength 0.2% Rp0.2 N/mm ²	Tensile Strength Rm N/mm ²	Elongated A ₈₀ %
1.4404	240 Min	530 to 680	40

> 2.1.3 Silicon-Rich Steel

Vantrunk Cable Management Systems, components and accessories can be manufactured using proprietary grades of silicon-rich material which are matched for performance and strength to the product and the intended application. Cable management products produced using silicon-rich steels require subsequent finishing on completion of manufacture to provide a means of corrosion protection.

Silicon-rich steels have high yield strengths, making these materials ideal for heavy duty applications. A particular property of these materials is the high silicon content which gives an affinity to attract thicker coatings of zinc when galvanized (see Finishes – Deep Galvanizing).

Material Grade	Property		
	Yield Strength Rp (N/mm ²)	Tensile Strength Rm (N/mm ²)	Elongated A %
S355J0WP	355 Minimum	480 Minimum	19
S355J2W	355 Minimum	510 - 680	15

Structural Steel Grade S355J0WP to BS EN 10025-5

S355J0WP is a weldable, high strength structural steel suitable for deep galvanizing. Ideal for environments where excellent corrosion resistance is required.

Structural steel grade S355J2W to BS EN 10025-5

S355J2W is a weldable, high strength structural steel with good galvanizing properties and Charpy impact rating at -20°C (and independantly tested to -45°C). Ideal for low temperature environments.

> 2.2 Finishes

The following are available for Vantrunk Cable Management Systems, components, and accessories:

Galvanizing

Hot dip galvanized to BS EN ISO 1461

(post-galvanized) GY, GA, & GK

Deep Galvanized to BS EN ISO 1461 (post-galvanized) GX

Coatings

Epoxy coated over mild steel EY & EA

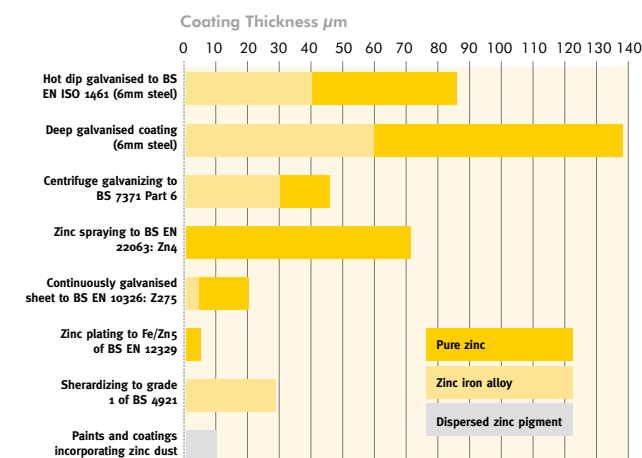
Epoxy coated over hot dip galvanizing FY & FA

> 2.2.1 Galvanizing

The coating of steel using zinc, either before manufacture (pre-galvanized) or after manufacture (post-galvanized) is a cost effective and practical means of protecting the steel from corrosion. The zinc coating protects the steel in three ways. Firstly, the zinc coating weathers at a very slow rate giving a long and predictable life. Secondly, the zinc coating corrodes preferentially to provide sacrificial protection of any small areas of steel exposed through cutting, drilling, or accidental damage; scratches and small areas of damage are sealed by weathering products from the zinc. Thirdly, if the damaged area is larger, the sacrificial protection provided by the surrounding zinc prevents ‘creepage’ typically associated with other protective finishes such as paint coatings.

The thickness of the zinc coating is dependant on the method of application. The following table shows the typical zinc coating thicknesses for a number of galvanizing and related processes, and includes zinc based paints for comparison purposes.

Zinc coatings compared in terms of coating thickness



Hot Dip Galvanized Finishes to BS EN ISO 1461

The hot dip galvanizing process provides a continuous layer of zinc-iron alloys and zinc on the surface of the products manufactured in steel. The hot dip zinc coating provides a continuous barrier to moisture and other contaminants, thereby protecting the steel substrate.

During the galvanizing process, a layer of zinc-iron alloy develops on the surface of the steel product. When the steel product is withdrawn from the zinc bath, a layer of pure zinc is left on the zinc-iron alloy. The layer of pure zinc gives a newly galvanized item a bright finish. This bright finish will gradually fade as the surface layer of the zinc oxidises, leaving a uniform dull grey appearance.

The average amount of zinc which can be deposited on a product is expressed in terms of thickness and is measured in µm. The actual zinc coating thicknesses will vary depending on the thickness of the steel, the chemical composition of the steel, and the period of immersion within the zinc bath. BS EN ISO 1461 specifies a number of thickness ranges for products to be galvanized, each of which has a specified minimum average local reading and minimum mean average reading. Details are given in the following table.

Zinc Coating Details to BS EN ISO 1461

Coating Weight & Thickness – Dipped Articles				
Article & Thickness	Local Coating		Mean Coating	
	(minimum)		(minimum)	
	Mass (g/m ²)	Thickness μm	Mass (g/m ²)	Thickness μm
Steel t ≥ 6mm	505	70	610	85
Steel 3mm ≥ t < = 6mm	395	55	505	70
Steel 1.5mm ≥ t < = 3mm	325	45	395	55
Steel t < 1.5mm	250	35	325	45
Castings t ≥= 6mm	505	70	575	80
Castings t < 6mm	430	60	505	70
Coating Weight & Thickness – Centrifuged Articles				
Article & it's Thickness	Local Coating		Mean Coating	
	(minimum)		(minimum)	
	Mass (g/m ²)	Thickness μm	Mass (g/m ²)	Thickness μm
Articles with threads:				
Diameter ≥ 6mm	395	55	505	70
Diameter <= 6mm	325	45	395	55
Other articles (including castings):				
t ≥= 3mm	325	45	395	55
t < 3mm	250	35	325	45

Deep Galvanizing to BS EN ISO 1461

The use of silicon-rich steels allows much heavier galvanized coatings to be obtained. Average coating thicknesses of two to three times that for mild steel can be achieved. It is for this reason that silicon-rich steels are termed ‘reactive’ steels and the galvanizing process ‘deep galvanizing’.

The influence of the silicon does not increase consistently but rather follows a curve as shown in the following diagram. This curve gives average values and variations can be expected between different silicon-rich steels with the same silicon content but from different steel casts.

These variations are attributed to the fact that whilst the total silicon contents can be equal, the amount of silicon that is bound to oxygen within the steel can vary. More or less silicon is then dissolved in the steel, and it is only this amount that influences the reaction. The silicon can be unevenly distributed on the surface of the steel and this will lead to uneven variations in the coating thickness after galvanizing.

Another property of the galvanized coatings on silicon-rich steels is the colour. During the galvanizing process, a zinc layer builds up on the zinc-iron alloy layers which are adhering to the surface of the steel. The reaction rate can be such that this pure zinc layer is transformed completely to zinc-iron alloy before the article has had time to cool.

This results in a coating which can be much darker in appearance, varying in colour and thickness across the surface of the galvanized item. This appearance does not alter the corrosion resistance of the zinc coating. Due to the variations in coating thickness associated with deep galvanizing of silicon-rich materials it is normal to specify the finish as ‘deep galvanized to twice the coating thickness specified by BS EN ISO 1461’.

Wet storage stain

Galvanized steel is protected from corrosion by a layer of zinc-iron alloys and a layer of pure zinc. After galvanizing, a protective zinc carbonate film forms over the surface of the zinc. The formation of this protective layer is only possible when the galvanized surface is exposed to free flowing air. Stacking freshly galvanized articles in contact with one another prevents the free circulation of air, and in wet or humid conditions, may result in the development of wet storage stain. Wet storage stain, often referred to as white rust, appears as a white, powdery covering. The white rust, comprising of zinc oxide and zinc hydroxide corrosion products, is voluminous and can appear to be more detrimental to the galvanized coating that it actually is.

Wet storage stain can be prevented by correct transport and storage provisions. For transportation over long distances, galvanized items should be protected by waterproof cover to prevent moisture ingress. For storage, galvanized items should be kept off the ground in a dry environment. If stacked in a potentially wet environment, the galvanized items should be separated from one another to provide free circulation of air. If possible, the stacking should be at an angle to facilitate drainage of water.

In normal use, light wet storage stain is not serious and does not reduce the life expectancy of the galvanized coating. The affected area should be dried and exposed to the atmosphere to allow the zinc to form a protective carbonate layer. The appearance of the wet storage stain will gradually fade to that of a normally weathered galvanized steel. Where more stubborn wet storage stain deposits are evident, these should be removed using a stiff bristle (non wire) brush and, if necessary, a cleaning solution should be used. Typical solutions would be ammonia A citric acid based clear such as Metsoak C4900 with a 10% dilution v/v, the cleaning solutions should be thoroughly rinsed off after treatment and the article allowed to dry.

Life expectancy of zinc coatings

The life expectancy of a zinc coating is largely determined by its thickness. Thicker coatings give longer life (the period to first maintenance). When exposed to atmosphere the zinc coating will weather and corrode, leading to a gradual diminution in the coating thickness. Under conditions of normal atmospheric exposure the level of corrosion is low and is typically at a rate which is between 1/10th and 1/40th of that of the steel base.

When subject to conditions of high humidity or condensation, the rate of corrosion of the zinc coating can be increased significantly.

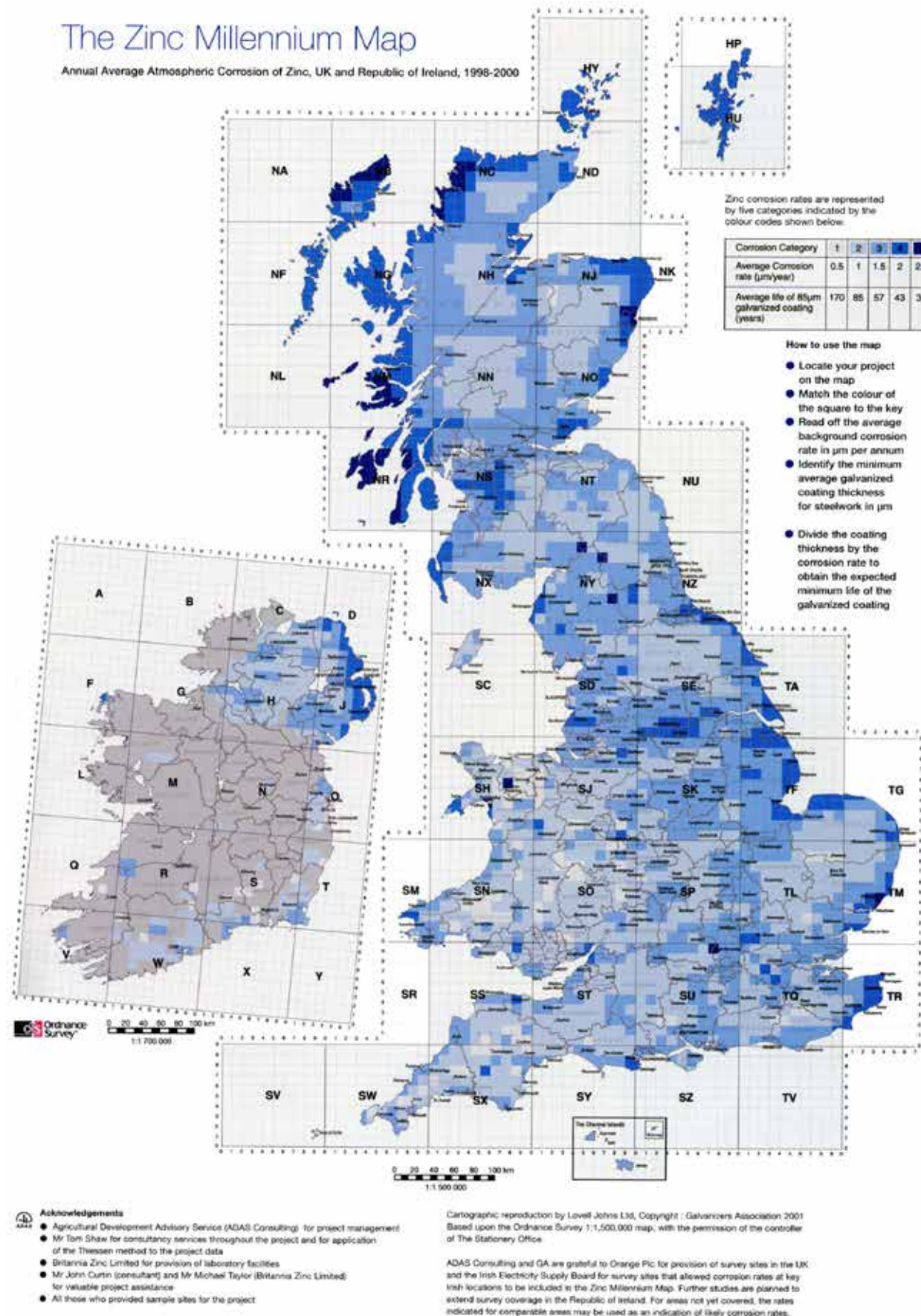
The level of contamination in the atmosphere can also adversely affect the corrosion rate of the zinc coating. The most significant contaminant accelerating the corrosion rate of zinc is sulphur dioxide (SO₂). The resistance of zinc to atmospheric corrosion is dependent on the protective zinc carbonate film which forms on the surface of the zinc.

The sulphur dioxide reacts with moisture to destroy the protective film and this leads to the corrosion of the zinc coating.

Research undertaken by the Galvanizers Association has resulted in the publishing of a series of charts depicting the average atmospheric corrosion rate for zinc for the United Kingdom and Ireland. These charts indicate that the average local atmospheric corrosion rates for zinc have decreased, reflecting the general decrease in the levels of sulphur dioxide in the atmosphere.

Current atmospheric corrosion rates for zinc within the United Kingdom and the Republic of Ireland are given in the Zinc Millennium Map and are in the range of 0.5μm to 2.5μm per year (corrosion categories C2 – C3 to ISO 14713).

Please see overleaf page for Zinc Millennium map.



The corrosion rate for zinc is generally linear for a given local environment. This allows predictions of the life expectancy of a galvanized product, to first maintenance, based on the zinc coating thickness and the zinc corrosion rates given in the Zinc Millennium Map. For example, a hot dip galvanized product with a coating thickness of 55µm will last approximately 110 years in a location where the atmospheric corrosion rate of zinc is 0.5µm per year, and approximately 22 years in a location where the atmospheric corrosion rate is 2.5µm per year.

Further information regarding hot dip galvanizing and the Zinc Millennium Map can be obtained from the Galvanizers Association.

The Zinc Millennium Map provides specific information for the United Kingdom and Ireland. For other locations, reference can be made to BS EN ISO 14713 (Protection against corrosion of iron and steel in structures – Zinc and aluminium coatings – Guidelines).

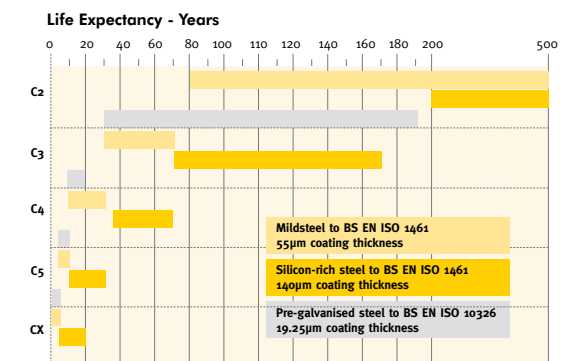
BS EN ISO 14713 provides general guidelines on corrosion rates for zinc in differing environmental conditions, details of which are given in the table below.

Category	Corrosion Rate µm/year	Environment	
C1	rate ≤ 0.1 Very Low	Indoor	Heated spaces with low humidity
		Outdoor	Dry or cold zone with very low pollution and wetness
C2	0.1 < rate ≤ 0.7 Low	Indoor	Varying temperature & relative humidity. Low condensation & pollution
		Outdoor	Temperate zone, atmospheric environment with low pollution e.g. rural areas, small towns.
C3	0.7 < rate ≤ 2 Medium	Indoor	Dry or cold zones, atmospheric environment with short time of wetness e.g. deserts, sub-arctic areas.
		Outdoor	Spaces with moderate frequency of condensation and pollution
C4	2 < rate ≤ 4 High	Indoor	Temperate zone, atmospheric environment with medium pollution or some effect of chlorides e.g. urban areas, coastal areas with low deposition of chlorides.
		Outdoor	Subtropical and tropical zones with an atmosphere with low pollution.
C5	4 < rate ≤ 8 Very High	Indoor	Spaces with high frequency of condensation and high pollution
		Outdoor	Temperate zone, atmospheric environment with high pollution or substantial effect of chlorides e.g. polluted urban areas, coastal areas without spray of salt water.
CX	8 < rate ≤ 25 Extreme	Indoor	Spaces with almost permanent condensation or extensive periods of humidity and very high pollution
		Outdoor	Subtropical and tropical zones (very high time of wetness), atmospheric environment with very high pollution, including accompanying pollution and/or strong effect of chlorides e.g. extreme industrial areas, coastal and offshore areas with occasional contact to salt spray.

The corrosion rates should be considered as an indication only and provide a broad means of estimating the life expectancy of a zinc coating. This information should be treated as a general guide and further information should be sought relating to the specific zinc corrosion rates at the installation site.

Using these broad corrosion rates, the following table shows the life expectancy of galvanized cable management products for corrosion categories C2 to C5.

Life Expectancy for Zinc Coated Products Based on Classification to BS EN ISO 14713



> 2.2.2 Coatings

A number of coatings have been used for the coating of cable management products. By far the most cost effective, versatile, and advantageous is epoxy. Epoxy coatings are based on thermosetting epoxy resins which are applied electrostatically as a powder spray which is cured and hardened in an oven. The powder spray application ensures complete and even coverage of the surface. Epoxy coatings give a thin, hard and durable finish which provides good chemical resistance, excellent adhesion, and coating flexibility. Epoxy coatings are available in a variety of colours. Black is supplied as standard unless otherwise requested.

Epoxy over Mild Steel

Epoxy coatings can be applied directly to mild steel to give a corrosion resistant finish. The steel products are subject to a degreasing treatment to remove all surface contaminants and then epoxy powder coated to a dry film thickness of 75 microns.

Epoxy over Hot Dip Galvanized Mild Steel

Whilst hot dip galvanizing provides a long lasting and cost effective means of protecting steel from corrosion, the performance of the zinc coating can be enhanced by the addition of an epoxy coating. This type of finish is referred to as a duplex coating. The duplex coating can be used to add colour for aesthetic or safety purposes and provide additional protection for the steel in aggressive environments. The epoxy provides resistance to chemical degradation, and the underlying layer of zinc prevents creepage under the epoxy coating. The hot dip galvanized steel products are treated by an acid etch, a chromate pre-treatment and then epoxy powder coated to a dry film thickness of 75 microns.

» 2.2.3 Passivated

Stainless steel is corrosion resistant because of the presence of a thin, dense, self-healing passive chromium-rich layer on the surface of the metal. This protective layer acts as a barrier between the metal and the environment and reduces the rate of dissolution of the metal. If this chromium oxide film is damaged the steel will, in most circumstances, oxidise and reform the protective layer (self-healing). When the surface of stainless steel is subject to mechanical treatments such as grinding or machining stresses, an increased roughness will occur in the outer surface layers damaging the oxide film, occasionally leaving impurities on the surface and preventing the passive film from reforming. This can also happen in general handling.

In addition, many grades of stainless steel are adversely affected by processes such as welding or heat treatment which can result in the formation of surface oxide films which can prevent the natural passive chromium oxide layer from forming. The heat discolouration marks found around the welds of stainless steel products is a form of oxide which does not necessarily adversely influence corrosion resistance unless the material is exposed to the most extremely aggressive environments e.g. when used for acid containment, etc. It should not be necessary to remove this discolouration in situations where the stainless steel offers satisfactory corrosion resistance for a particular installation.

If the passive oxide layer is damaged and the self-healing

process does not occur the stainless steel will corrode, this will take the form of pitting, intercrystalline corrosion, or stress corrosion cracking. The rate of corrosion is accelerated in the presence of chloride compounds. Consequently, it is important to specify the correct grade of stainless steel, to use the correct welding techniques, and to avoid contamination with carbon steel during manufacturing processes. The use of 1.4404 marine grade stainless steel (316 grade) reduces the potential corrosion problems associated with the welding of stainless steel.

As standard, stainless steel Speedway Cable Ladder is treated by means of pickling and passivating. The pickling process removes the surface of the stainless steel by etching in a heated nitric/hydrofluoric acid solution. Pickling will remove surface debris, leaving the stainless steel clean and allowing the passive chromium oxide film to form; the surface of the stainless steel can then be described as being in the passive condition. A further treatment is then applied in which a solution of nitric acid is used to thicken the existing passive layer of chromium oxide whilst reducing the time taken to form the film. The entire process leaves the stainless steel with a uniform dull grey colour.

» 3. Classification to BS EN ISO 61537

For details of the classification of the Speedway Cable Ladder system and Vantrunk Cable Tray system, components and accessories to BS EN ISO 61537 (Cable tray systems and cable ladder systems for cable management) please refer to our Design Team. For details relating to the CE-marking of the Speedway Cable Ladder system, components and accessories, and to the details relating to the Technical File, please refer to our Design Team.

» 4. Reference Standards

The following is a list of the standards relating to the cable management products covered by this catalogue:

BS 729	Replaced by BS EN ISO 1461.	BS EN 10326	Continuously hot-dip coated strip and sheet of structural steels. Technical delivery conditions.
BS 1449 Part 1	Replaced by BS EN 10111, 10130 & 10025.		
BS 1449 Part 2	Replaced by BS EN 10088-2.	BS EN ISO 14713	Protection against corrosion of iron and steel in structures – Zinc and aluminium coatings – Guidelines.
BS EN ISO 1461	Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods (formerly BS 729).	BS EN 10327	Continuously hot dip coated strip & sheet of low carbon steels for cold forming. Technical delivery conditions.
BS 2989	Replaced by BS EN 10147.		
BS 6946	Specification for metal channel cable support systems for electrical installations.	BS EN 50085-1	Cable trunking and cable ducting systems for electrical installations. General requirements (formerly BS 4678 Part 1).
ISO 9223	Corrosion of metals & alloys – Corrosivity of atmospheres.	BS EN 61537	Cable tray systems & cable ladder systems for cable management.
BS EN 10025	Replaced by BS EN 10025-2		
BS EN 10025-2	Hot rolled products of structural steels. Technical delivery conditions for nonalloy structural steels (formerly BS EN 10025:1993).	NEMA VE 1	Metal Cable Tray Systems (also CSA International C22.2 No 126.1-98).
		NEMA VE 2	Cable Tray Installation Guidelines.
BS EN 10088-2	Stainless steels. Technical delivery conditions for sheet/plate and strip for general purposes (formerly BS 1449 Part 2).	BS EN 10346	Continuously hot-dip coated strip & sheet of low carbon steels for cold forming. Technical delivery conditions.
BS EN 10111	Continuously hot rolled low carbon steel sheet & strip for cold forming. Technical delivery conditions.		
BS EN 10130	Cold rolled low carbon flat products for cold forming. Technical delivery conditions.		
BS EN 10147	Replaced by BS EN 10136:2004.		

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