WWW.FLEXICON.UK.COM

FLEXICON

FLEXIBLE CONDUIT SOLUTIONS

IRIS Certification

cable protection systems for rail

Flexicon Group Introduction

Flexicon offers…

www.flexicon.uk.com

IRIS Certification

As a market leading UK Manufacturer of Flexible Conduit Systems & Cable Protection Solutions, we can offer over 56 different conduit systems for the Rail Industry.

Based in the heart of the UK, near Birmingham, Flexicon manufactures and supplies it's products from a custom-built manufacturing, warehouse and operational centre.

- *Excellence through engineering*
- *Progression through innovation*
- *Assurance through competence*

- Independently tested products that comply with and exceed relevant global standards
- **Installer** friendly solutions offering time saving innovations
- Precision engineered quality products from the global experts
- Custom made solutions capability - bespoke or made to order assemblies
- Global reach serving our worldwide customer base
- Continuous product development and investment in products for the future

MADE IN THE UK

RoHS REACh BSEN ISO9001 2008 UL CE UNDERGROUND IRIS Certification EN 45545-2 NFPA 130

Contents

Introduction

non-metallic conduit and fittings

metallic conduit and fittings

Accessories

Technical Information

Introduction to Flexicon Range

Flexicon is a World leading supplier of innovative Cable Protection Solutions for Rolling Stock and Infrastructure applications.

Passenger safety and operational integrity are vital characteristics of a modern rail network.

Our knowledge, skills and expertise allows us to offer the ultimate solutions for technically demanding applications in Rail. We have been protecting performance and safety critical power and data cabling installations for many years.

We are focused on bringing Customers the latest solutions and technologies to solve their Cable Protection requirements.

EN 45545-2

NFPA 130

With a dedicated design team, we are at the forefront of material technologies and industrial design to deliver solutions that work not only for today but also for the long term. Our Engineers use their extensive knowledge to drive innovation and develop the future today. Our Technical Director is Chairman of both the IEC (worldwide) and CENELEC (European) committees that prepare conduit standards.

With global reach, we work closely with Customers to become part of the supply chain. We know how important it is to work with suppliers who offer support, expertise and guidance. With our in house design and prototyping facility we can understand, interpret and respond to Customers requirements quickly and easily. Utilising the latest design software & technology we can create models and 3D prototypes to establish technical solutions. On site Manufacturing allows us to respond and control our service levels.

We understand the importance of material properties and how they effect performance and suitability. We have developed specialist conduits, using the latest material technologies, to ensure compliance with the latest international fire performance standards - EN45545 and NFPA 130.

With Flexicon ULTRA™ we have designed the World's Best Conduit fitting. Offering superior performance and reliability, this product has been tested to the extremes to meet the needs of future global transport systems. Flexicon ULTRA™ has been designed to work with all of Flexicon's PA6 and PA12 conduit systems and offers the same level of integrity whether the conduit is fine pitch, coarse pitch, standard weight or heavy weight.

Cable Protection

We know and appreciate the various challenges involved in achieving compliance to the latest legislation, managing and controlling risk, making procurement more efficient whilst striving for continuous improvement across the entire railway system.

With over 56 different Cable Protection systems, in either metallic or non metallic, Flexicon are the leading solutions provider to protect your critical power and data cables from damage caused by mechanical, electrical or environmental influences.

Benefits of Flexible Conduit for Cable Protection in Rail

Why Use Conduit Over Cable?

Ideal for cable protection, management and routing of power and / or data cables.

- **Simplicity -** No need for specialist cables. Standard cables and single core cables can be grouped and protected in one system. Fewer components mean less product inventory throughout the supply chain.
- **Reduced Maintenance -** Systems can be upgraded with minimal disruption. Additional circuits can be added throughout the life of the installation. A range of options to handle future technology changes and compatibility can be easily incorporated.
- **Movement -** Conduit offers a mechanical barrier to the cable from any abrasion during movement which may affect the insulation of the cables and compromise safety / integrity of the electrical terminations.
- **Speed of Installation -** Reduce the number of cable entry points / connections by grouping cables into one system subsequently reducing the installation times.
- **Fixing -** There are a wide range of mounting and fixing solutions. Flexible Conduit can be routed and secured with ease. Flexible Conduit is often used to provide the final connection from fixed equipment, thus providing flexibility during installation and the ability to accommodate last minute design revisions.
- **Segregation -** Reliable protection together with easy management and identification of critical cabling systems.

Applications in Rail

Flexicon offer a range of products for this technically demanding sector. IP ratings, tensile strength characteristics, weight, corrosion resistance, fire performance properties and operating temperature ranges are all factors to consider.

Exterior Vehicle

- FPIHR
- FTCB
- Flexicon ULTRA™ Fittings

CCTV

- LFHUBRD
- FSB fittings
- LFHU

Passenger Information Systems

- LFHU
- LFHUBRD
- FUSSB
- FSB Fittings

Lighting

- FUSSB
- FSS and FSSBRD
- LFHUBRD
- FSB Fittings

Tunnels

- LFHU
- LTPLFH
- FSS
- FPR
- FSSBRD

Rolling Stock and Infrastructure

- High performance products offering superior tensile and impact / compression strength
- Designed to meet the strictest standards – EMC testing / vibration
- Wide product range to meet all applications
- Independently tested to the relevant standards
- Vibration proof
- Anti-tamper

Inter Vehicle Jumper Applications

- FPIHR
- FTCB
- Flexicon ULTRA™ Fittings

Interior Vehicle Applications

- FPR
- FTCB
- FPA
- Flexicon ULTRA™ Fittings

Platform Trackside Power & Signalling

- FPAH
- FPIH
- Flexicon ULTRA™ Fittings

Bogies & Control System

- FPIHR
- FTCB
- Flexicon ULTRA™ Fittings

Auto Couplers

- FPIHR
- Flexicon ULTRA™ Fittings

Rolling Stock

Rolling Stock

Whether it is high speed travel over long distances, regional transit with repeated short journeys or true power solutions such as locomotives to move large masses of material & freight, we have the most reliable Cable Protection solutions to ensure safety and reliability for all types of Rolling Stock.

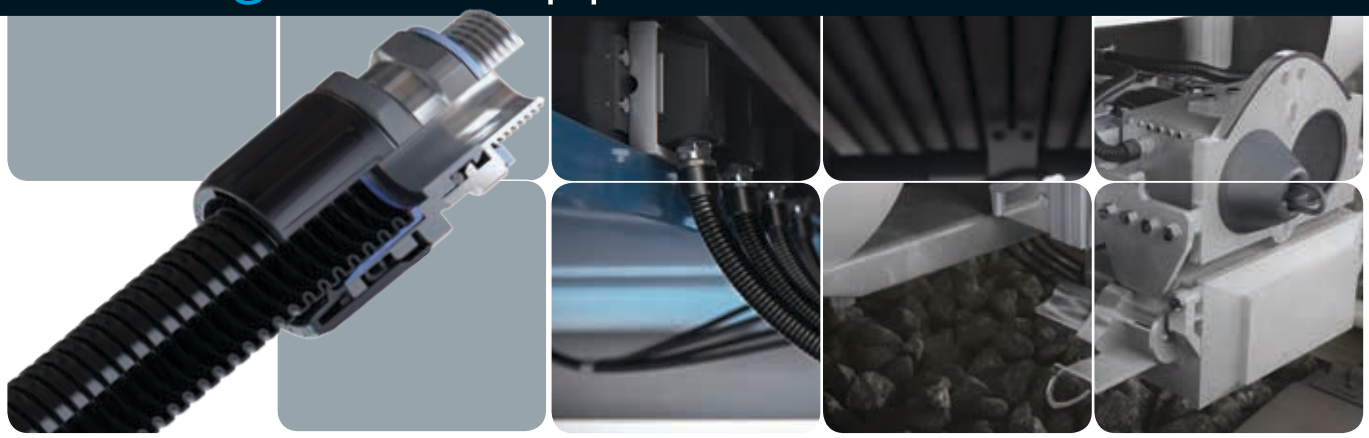
Key Considerations:

- Reliability
- Service Life
- Ease of Maintenance
- Standards & Compliance
- Operating Environment

Applications include

- Propulsion & Control Systems
- Bogies
- HVAC
- Couplers
- Pantograph
- Brake Systems
- Cabs
- Door Modules
- Converters
- ETCS

Rolling Stock Applications



Under Carriages / Bogies

FPIHR Conduits

- Modified Heavy Duty PA12 conduit offering excellent dynamic performance with flexibility & fatigue life combined with Fire Performance.
- UV resistant & high impact strength even at low temperatures
- Excellent Ingress Protection integrity when used with Flexicon ULTRA™
- High Tensile strength & Vibration resistant

EN 45545-2

NFPA 130

- Flexicon ULTRA™ - metallic thread
- Flexicon ULTRA™ - metallic thread with strain relief

Above Carriages / Couplings

FPIHR Conduits

- Modified Heavy Duty PA12 conduit offering excellent dynamic performance with flexibility & fatigue life combined with Fire Performance.
- UV resistant & high impact strength
- Excellent Ingress Protection integrity when used with Flexicon ULTRA™
- High Tensile strength & Vibration resistant

EN 45545-2

NFPA 130

- Flexicon ULTRA™ - metallic thread
- Flexicon ULTRA™ - metallic thread with strain relief

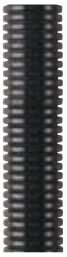
Intercar jumpers

FPIHR Conduits

- Modified Heavy Duty PA12 conduit offering excellent dynamic performance with flexibility & fatigue life combined with Fire Performance.
- UV resistant & high impact strength even at low temperatures
- Excellent Ingress Protection integrity when used with Flexicon ULTRA™
- High Tensile strength & Vibration resistant

EN 45545-2

NFPA 130



- Flexicon ULTRA™ - metallic thread
- Flexicon ULTRA™ - metallic thread with strain relief

Inside Carriages / Passenger Zones

FPR Conduits

- Modified PA6 conduit offering excellent Fire Performance.
- Light weight
- High Tensile strength
- Vibration resistant

EN 45545-2

NFPA 130

- Flexicon ULTRA™ - nylon thread
- Flexicon FPA - nylon thread

Infrastructure

Infrastructure

Whether it is Passenger Information systems, Station Lighting, CCTV and Passenger Safety, Trackside power & signalling, train monitoring & information systems or tunnels, our products provide ideal Cable Protection for infrastructure and track related installations to ensure safety and reliability.

Key Considerations:

- Safety
- Ease of maintenance
- Standards and Compliance
- Operating environment
- Service life expectation

Ticket Machine

CCTV & Passenger Information Systems

Tickets & Barriers

Lifts & Escalators

Lighting

Platfrom Edge Screens

Rail Crossings

Trackside Points Machines

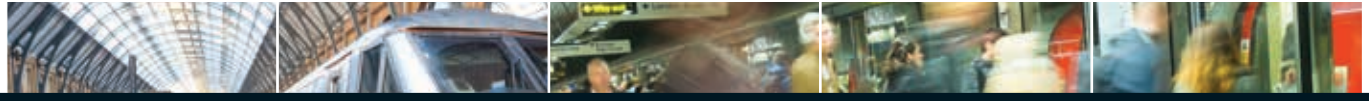
Trackside Signalling

Trackside Power

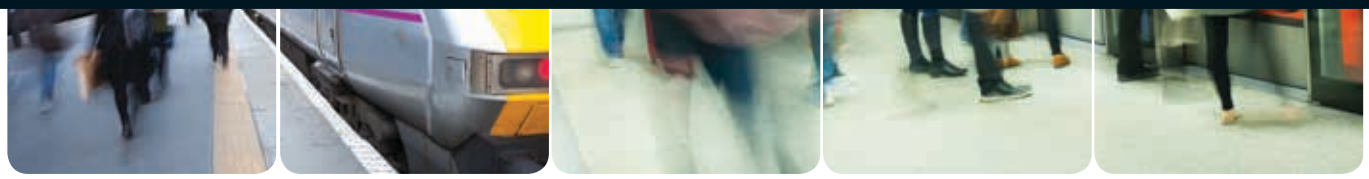
Tunnels

Applications include

- Car Parks
- Trackside Signalling
- Power
- Telecomms
- Passenger Information Systems
- Points Machines
- Lighting
- Depot (Berthing and Maintenance)
- PES – Platform Edge Screens



Infrastructure Applications



Security Systems (CCTV) & Lighting

LFHUBRD Conduits

- Galvanised Steel Conduit with Low Fire Hazard coating and a Stainless Steel overbraid offering excellent mechanical strength, EMC screening, Aesthetic appearance and good Ingress Protection.

EN 45545-2 NFPA 130

Lifts and People Movers (escalators)

LFHU Conduits

- Galvanised Steel Conduit with Low Fire Hazard coating offering excellent mechanical strength and good Ingress Protection.

EN 45545-2 NFPA 130

Passenger Information & Ticketing

FPAS Conduits

- PA6 conduit offering excellent UV resistance and high impact strength.

Trackside – Signalling

FPIH Conduits

- Heavy Duty PA12 conduit offering excellent UV resistance and high Impact strength. Suitable for outdoor areas offering superior Ingress Protection, corrosion resistance and anti-vibration performance. Can be combined with FTCB to achieve EMC performance.

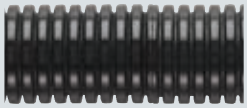
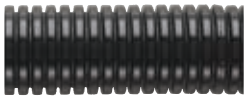
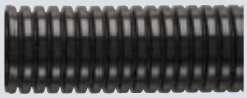
Tunnels

FSS & FSSBRD Conduits

- Stainless Steel conduit offering inherent Fire Performance, high Ingress Protection and corrosion resistance. Braided option also available for enhanced EMC screening.

EN 45545-2 NFPA 130

non-metallic conduit

		Weight	Material	Compression Strength	Temperature Range	High Fatigue Life	Pull Off Strength	Low Temp Impact	Low Fire Hazard	NF F 16-101/2
FPAS		Standard	PA6	75kg	-40˚C to +120˚C	●	40kg	5J @ -40˚C	STANDARD LOW FIRE HAZARD ★	●
		Standard weight, flame retardant nylon (PA6) corrugated flexible conduit.								
FPR*		Standard	PA6*	75kg	-40˚C to +120˚C		40kg	3J @ -40˚C	EXTRA LOW FIRE HAZARD ★★	●
		Standard weight nylon (highly flame retardant PA6) corrugated flexible conduit.								
FPAH		Heavy	PA6	120kg	-40˚C to +120˚C		70kg	5J @ -40˚C	STANDARD LOW FIRE HAZARD ★	●
		Heavy weight, flame retardant, nylon (PA6) corrugated flexible conduit.								
FPI		Standard	PA12	45kg	-50˚C to +110˚C	●	30kg	6J @ -40˚C	STANDARD LOW FIRE HAZARD ★	●
		Standard weight nylon (PA12) corrugated flexible conduit.								
FPIH		Heavy	PA12	60kg	-50˚C to +110˚C	●	50kg	6J @ -40˚C	STANDARD LOW FIRE HAZARD ★	●
		Heavy weight nylon (PA12) corrugated flexible conduit.								
FPIHR*		Heavy	PA12*	60kg	-50˚C to +110˚C	●	50kg	9.8J @ -40˚C	EXTRA LOW FIRE HAZARD ★★	
		Heavy weight nylon highly flame retardant (PA12) corrugated flexible conduit.								
FPADS			PA6	60kg	-40˚C to +120˚C		15kg	5J @ -40˚C		
		Double slit nylon (PA6) corrugated conduit.								
FTCB			Tinned Copper Braid	N/A	-50˚C to +110˚C			3J @ -40˚C	INHERENT LOW FIRE HAZARD ★★★	●
		Tinned copper braided sleeving								
FPRSS*		Standard	PA6* with SS(316) Braid	75kg	-40˚C to +120˚C		100kg	3J @ -40˚C	EXTRA LOW FIRE HAZARD ★★	●
		Standard weight, extra low fire hazard, corrugated nylon (PA6), with stainless steel (316) overbraid.								
FPRTC*		Standard	PA6* with Tinned Copper Braid	75kg	-40˚C to +120˚C		75kg	3J @ -40˚C	EXTRA LOW FIRE HAZARD ★★	●
		Standard weight, extra low fire hazard, corrugated nylon (PA6), with tinned copper overbraid.								
FPISS		Standard	PA12 corrugated, SS(316) overbraid	45kg	-50˚C to +110˚C	●	100kg	6J @ -40˚C	STANDARD LOW FIRE HAZARD ★	●
		Standard weight, corrugated nylon (PA12), with stainless steel (316) overbraid.								
FPIHSS		Heavy	PA12 corrugated, SS(316) overbraid	60kg	-50˚C to +110˚C	●	100kg	6J @ -40˚C	STANDARD LOW FIRE HAZARD ★	●
		Heavy weight, corrugated nylon (PA12), with stainless steel (316) overbraid.								
FPIHRSS*		Heavy	PA12* corrugated, SS(316) overbraid,	60kg	-50˚C to +110˚C	●	100kg	9.8J @ -40˚C	EXTRA LOW FIRE HAZARD ★★	
		Heavy weight, extra low fire hazard, corrugated nylon (PA12), with stainless steel (316) overbraid.								

*** Indicates highly flame retardant**

Fire Testing													
DIN 5510	CEI 11170	BS 6853	LUL 1-085	EN 45545-2	NFPA 130	AS/NZS 1530.3	High Abrasion Resistance	Resisitant to Solvents	High UV Resistance	EMC Performance	Rolling Stock	Infrastructure	
						●	●	●	●			▲	FPAS
●	●	●	●	●	●	●	●	●	●		🚆	▲	FPR*
						●	●	●	●			▲	FPAH
								●	●			▲	FPI
							●	●	●		🚆	▲	FPIH
				●	●		●	●	●		🚆	▲	FPIHR*
							●	●	●			▲	FPADS
●	●	●	●	●	●	●	●	●	●	67dB	🚆	▲	FTCB
●	●	●	●	●	●	●	●	●	●	49dB	🚆	▲	FPRSS*
●	●	●	●	●	●	●	●	●	●	67dB	🚆	▲	FPRTC*
							●	●	●	49dB	🚆	▲	FPISS
							●	●	●	49dB	🚆	▲	FPIHSS
				●	●		●	●	●	49dB	🚆	▲	FPIHRSS*

Non-metallic systems are typically lighter, easier to work with and more cost effective to install. With advances in material technologies non-metallic systems can provide an alternative solution where typically only metal systems had been considered previously.

non-metallic conduit and fittings

FPAS

Construction: Standard weight, flame retardant nylon (PA6) corrugated flexible conduit.

Colour: black or grey (RAL 7031). Orange available on request.*

Typical Applications: High levels of corrosion performance ideal for external applications such as passenger information systems & ticketing stations requiring a basic level of fire performance.

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- Temperature range -40˚C to +120˚C (-20˚C to +100˚C for moving applications)
- Lloyd's Register Type Approval
- UL listed / UL recognised
- Low Fire Hazard (LFH), see page 37
- UL 94 V2 flame retardancy
- Halogen, sulphur and phosphorus free
- UV resistant (black)
- Abrasion resistant
- Highly resistant to solvents and oils
- Slit version also available FPAS-S please contact us

FPR

Construction: Standard weight nylon (highly flame retardant PA6) corrugated flexible conduit.

Colour: Black.

Typical Applications: Interior Rolling Stock applications, tunnels and underground applications where extra low fire hazard performance is required.

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- Temperature range -40˚C to +120˚C (-20˚C to +100˚C for moving applications)
- UL recognised
- Lloyd's Register Type Approval
- Extra Low Fire Hazard (LFH)
- Compliant to LUL Std 1-085 - APR 298
- UL 94 V0 flame retardancy
- Halogen, sulphur and phosphorus free
- UV resistant
- Abrasion resistant
- Highly resistant to solvents and oils
- EN45545

FPAH

Construction: Heavy weight, flame retardant, nylon (PA6) corrugated flexible conduit.

Colour: Black.

Typical Applications: Where high mechanical strength combined with high corrosion resistance is required with a basic level of fire performance suitable for external applications.

- High mechanical strength
- High impact resistance
- Temperature range -40˚C to +120˚C
- UL recognised
- Low Fire Hazard (LFH), see page 37
- UL 94 V2 flame retardancy
- Halogen, sulphur and phosphorus free
- UV resistant
- Abrasion resistant
- Highly resistant to solvents and oils

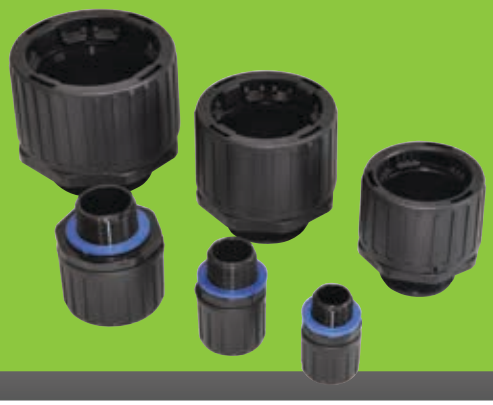
EN 45545-2 NFPA 130

european (NW) sizes	nominal size (mm)	pitch	FPAS part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPR part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPAH part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
7	10	F	FPAS10	50	10.0	6.3	15	FPR10	50	10.0	6.3	15					
8	11	F	FPAS11	50	11.5	8.2	20										
10	13	F	FPAS13	25, 50	13.0	9.8	25	FPR13	50	13.0	9.8	25	FPAH13	50	13.0	9.0	35
12	16	F	FPAS16	25, 50	15.8	11.8	35	FPR16	50	15.8	11.8	35	FPAH16	50	15.8	11.5	45
14	18	F	FPAS18	50	18.5	14.2	40										
	20	C	FPAS20	10, 25, 50	20.0	14.8	45	FPR20	50	20.0	14.8	45					
17	21	F	FPAS21	10, 25, 50	21.2	16.7	45	FPR21	50	21.2	16.7	45					
	21	C											FPAH21	50	21.2	15.5	55
	25	C	FPAS25	10, 25, 50	25.0	19.1	50	FPR25	50	25.0	19.1	50					
23	28	F	FPAS28	10, 25, 50	28.5	22.8	50										
	28	C	FPAS28C*	50	28.5	21.6	50	FPR28	50	28.5	21.7	50	FPAH28	50	28.5	21.3	60
29	34	C	FPAS34	25, 50	34.5	28.1	60	FPR34	50	34.5	28.1	60	FPAH34	25	34.5	27.6	70
29	34	F	FPAS34F	50	34.5	28.8	60										
36	42	C	FPAS42	10, 25, 50	42.5	35.5	70	FPR42	25	42.5	35.5	70	FPAH42	25	42.5	34.6	80
48	54	C	FPAS54	10, 25, 50	54.5	47.2	80	FPR54	25	54.5	47.2	80	FPAH54	25	54.5	46.0	90
56	67	C	FPAS67	10	67.2	56.3	130										

F = fine pitch C = coarse pitch

FPA / FPAX / ULTRA™

Our range of non-metallic conduits below have been designed and engineered for use with our FPA, FPAX and ULTRA™ ranges of fittings. Full details of our FPA range for IP66 applications, and FPAX ranges can be found on our website and in our latest Product & Solutions Guide.



FPI

Construction: Standard weight nylon (PA12) corrugated flexible conduit.

Colour: Black.

Typical Applications: Where continual movement or flexing is required, ideal for applications requiring a basic level of fire performance such as external CCTV.

- Highly flexible
- Exceptional fatigue life
- High impact resistance even at very low temperatures
- UV resistant
- Displays self recovery if crushed
- Temperature range -50˚C to +110˚C
- UL recognised
- Highly resistant to solvents and oils
- Self extinguishing
- Low fire hazard
- Halogen, sulphur and phosphorus free

FPIH

Construction: Heavy weight nylon (PA12) corrugated flexible conduit.

Colour: Black.

Typical Applications: Where continual movement or flexing is required, with a higher mechanical strength even at very low temperatures. Ideal for applications requiring a basic level of fire performance.

- Highly flexible and high fatigue life
- High mechanical strength
- High impact resistance even at very low temperatures
- UV resistant
- Displays self recovery if crushed
- Temperature range -50˚C to +110˚C
- UL recognised
- Highly resistant to solvents and oils
- Self extinguishing
- Low fire hazard
- Halogen, sulphur and phosphorus free

FPIHR

Construction: Heavy weight nylon (PA12) corrugated flexible conduit.

Colour: Black.

Typical Applications: Where continual movement or flexing is required, with a higher mechanical strength even at very low temperatures such as on Bogies or Intercar Jumper assemblies. Rolling Stock applications requiring a superior level of fire performance.

- Highly flexible and high fatigue life
- High mechanical strength
- High impact resistance even at very low temperatures
- UV resistant
- Displays self recovery if crushed
- Temperature range -50˚C to +110˚C
- UL recognised
- Highly resistant to solvents and oils
- Self extinguishing
- Low fire hazard
- Halogen, sulphur and phosphorus free
- EN45545

EN 45545-2 NFPA 130

FPADS

Construction: Double slit nylon (PA6) corrugated conduit.

Colour: Black.

Typical Applications: Retrofit and cable assemblies with pre-terminated plugs. Ideal to enhance personal protection against electric shock and protect vulnerable cabling within enclosures and Power Distribution Units.

- Made from 2 interlocking slit corrugated conduits
- Temperature range -40˚C to +120˚C
- Cables can be inserted laterally
- Provides abrasion resistance and routing of cables for static applications
- Self extinguishing
- Halogen, sulphur and phosphorus free
- UV resistant

FPI part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPIH part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPIHR part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPADS part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
															FPADS11*	50	11.5	6.2	70
FPI13	50	13.0	9.8	25	FPIH13	50	13.0	9.0	25	FPIHR13	50	13.0	9.0	25	FPADS13	50	13.0	7.9	75
FPI16	50	15.8	11.8	30	FPIH16	50	15.8	11.5	35	FPIHR16	50	15.8	11.5	35	FPADS16	50	15.8	10.3	100
FPI21	50	21.2	16.7	35	FPIH21	50	21.2	15.0	45	FPIHR21	50	21.2	15.0	45	FPADS21	50	21.2	13.9	120
FPI28	50	28.5	21.7	45	FPIH28	50	28.5	21.3	50	FPIHR28	50	28.5	21.3	50	FPADS28	50	28.5	20.5	170
FPI34	25	34.5	28.1	55	FPIH34	25	34.5	27.6	60	FPIHR34	25	34.5	27.6	60	FPADS34	25	34.5	26.6	180
FPI42	25	42.5	35.5	60	FPIH42	25	42.5	34.6	70	FPIHR42	25	42.5	34.6	70	FPADS42	25	42.5	32.0	200
FPI54	25	54.5	47.2	70	FPIH54	25	54.5	46.0	80	FPIHR54	25	54.5	46.0	80	FPADS54	25	54.5	43.0	240
FPI67	10	67.2	56.3	120															

NEW

Flexicon ULTRA™ - The World's Best Conduit Fitting!

FPAU system
nylon and metallic threaded options

Integrated Sealing Technology

Featuring **Integrated Sealing Technology**, Flexicon ULTRA™ provides a true one piece solution when it comes to cable protection for technically demanding environments.

With all round teeth to secure the conduit, Flexicon ULTRA™ offers superior dynamic performance providing **Integrity, Strength & Assurance** in one package.

Flexicon ULTRA™ has been engineered to provide unrivalled performance with both fine and coarse pitch conduits.

Fine Pitch

Coarse Pitch

STANDARD LOW FIRE HAZARD ★ IP66 IP67 IP68 IP69

ULTRA™ system
straight

STRAIGHT	STRAIGHT	FLANGE	STRAIGHT	STRAIGHT	STRAIGHT
external thread Fast fit, external threaded fitting with integrated conduit seal. Suitable for knockouts.	**UNEF swivel internal thread** Fast fit fitting with nickel plated brass swivel UNEF internal thread for attachment to circular connectors with integrated conduit seal.	**flange** Fast fit fitting with nylon swivel flange with integrated conduit seal and with 'O' ring face seal.	**swivel brass external thread** Fast fit, swivel, nickel plated brass external threaded fitting with integrated conduit seal. Suitable for knockouts or threaded entries.	**swivel brass internal thread** Fast fit, swivel, nickel plated brass internal threaded fitting with integrated conduit seal.	**cable gland** Fast fit, swivel, nickel plated brass external threaded cable gland fitting with integrated conduit seal. Suitable for knockouts or threaded entries.
IP66 IP67 IP68 IP69	IP66 IP67 IP68 IP69	IP66 IP67 IP68 IP69	IP66 IP67 IP68 IP69	IP66 IP67 IP68 IP69	IP66 IP67 IP68 IP69



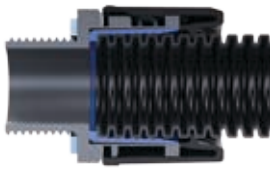



european (NW) sizes	nominal size (mm)	Ext Metric	Int UNEF	Flange	NPB Ext Metric	NPB Ext PG	NPB Int Metric	NPB Metric
10	13	FPAU13-M16			FPAU13-BM16	FPAU13-BPG9	FPAU13-BFM16	FPAU13-BM16-CG
12	16	FPAU16-M16	FPAU16-BU075	FPAU16-FL	FPAU16-BM16	FPAU16-BPG9	FPAU16-BFM16	FPAU16-BM16-CG
12	16	FPAU16-M20	FPAU16-BU100		FPAU16-BM20	FPAU16-BPG11	FPAU16-BFM20	FPAU16-BM20-CG
12	16		FPAU16-BU119					
17	21	FPAU21-M20	FPAU21-BU100	FPAU21-FL	FPAU21-BM20	FPAU21-BPG13	FPAU21-BFM20	FPAU21-BM20-CG
	21		FPAU21-BU119			FPAU21-BPG16		
	21		FPAU21-BU138					
23	28	FPAU28-M25	FPAU28-BU138	FPAU28-FL	FPAU28-BM25	FPAU28-BPG21	FPAU28-BFM25	FPAU28-BM25-CG
	28		FPAU28-BU144					
29	34	FPAU34-M32	FPAU34-BU144	FPAU34-FL	FPAU34-BM32	FPAU34-BPG29	FPAU34-BFM32	FPAU34-BM32-CG
29	34							
36	42	FPAU42-M40	FPAU42-BU200	FPAU42-FL	FPAU42-BM40	FPAU42-BPG36	FPAU42-BFM40	FPAU42-BM40-CG
36	42	FPAU42-M50	FPAU42-BU225		FPAU42-BM50			
48	54	FPAU54-M50	FPAU54-BU200		FPAU54-BM50	FPAU54-BPG48	FPAU54-BFM50	FPAU54-BM50-CG
48	54	FPAU54-M63	FPAU54-BU225		FPAU54-BM63			

NEW

FLEXICON Ultra

THE POWER OF ONE



Properties

- Fast fit - True one piece component
- PA66 Nylon moulded fitting
- Metallic threads made from Nickel Plated Brass
- Retained Face seal details:
  - **– Nylon and Brass external threads include Retained High Performance washer**
  - **– UNEF and Flange supplied with O-ring**
- IP rating: for conduit & fitting **IP66 + IP67 + IP68 (2 bar) + IP68 (72hrs @ 1m) + IP69**
- Vibration and shock tested to EN61373 Cat 2
- Tamper resistant
- Both 90˚ and 45˚ elbows incorporate swept bore to facilitate cable installation and protect cables when installed
- Can be removed using a screwdriver
- All round teeth give high pull off strength 70kg with FPAH21
- Suitable for fine and coarse pitch conduits
- Temperature range:
  conduit fitting: -50˚C to +135˚C
- Low Fire Hazard (LFH)
- Halogen, sulphur and phosphorus free
- UV resistant
- Swivel threads allow assembly without twisting of cables

Industry Approvals

FM58347
BSEN ISO9001 2008

EN 45545-2 NFPA 130

ULTRA™ system 45˚

STANDARD LOW FIRE HAZARD ★ IP66 IP67 IP68 IP69

45˚ELBOW — external thread

Fast fit, external threaded 45 degree elbow fitting with integrated conduit seal. Suitable for knockouts.

IP66 IP67 IP68 IP69

45˚ELBOW — UNEF swivel internal thread

Fast fit, 45 degree elbow fitting with nickel plated brass swivel UNEF internal thread for attachment to circular connectors with integrated conduit seal.

IP66 IP67 IP68 IP69

FLANGE — flange

Fast fit 45 degree elbow fitting with nylon swivel flange with integrated conduit seal and 'O' ring face seal.

IP66 IP67 IP68 IP69

45˚ELBOW — swivel brass external thread

Fast fit, swivel, 45 degree elbow, nickel plated brass external threaded fitting with integrated conduit seal. Suitable for knockouts or threaded entries.

IP66 IP67 IP68 IP69

45˚ELBOW — swivel brass internal thread

Fast fit, swivel, 45 degree elbow, nickel plated brass internal threaded fitting with integrated conduit seal.

IP66 IP67 IP68 IP69

45˚ELBOW — cable gland

Fast fit, swivel, 45 degree elbow, nickel plated brass external threaded cable gland fitting with integrated conduit seal. Suitable for knockouts or threaded entries.

IP66 IP67 IP68 IP69

Ext Metric	Int UNEF	Flange	NPB Ext Metric	NPB Ext PG	NPB Int Metric	NPB Metric
FPAU16-M20-45	FPAU16-BU100-45 FPAU16-BU119-45	FPAU16-FL-45	FPAU16-BM16-45 FPAU16-BM20-45	FPAU16-BPG13-45 FPAU16-BPG16-45	FPAU16-BFM20-45	FPAU16-BM20-CG-45
FPAU21-M20-45	FPAU21-BU100-45 FPAU21-BU119-45 FPAU21-BU138-45	FPAU21-FL-45	FPAU21-BM20-45	FPAU21-BPG13-45 FPAU21-BPG16-45	FPAU21-BFM20-45	FPAU21-BM20-CG-45
FPAU28-M25-45	FPAU28-BU138-45 FPAU28-BU144-45	FPAU28-FL-45	FPAU28-BM25-45	FPAU28-BPG21-45	FPAU28-BFM25-45	FPAU28-BM25-CG-45
FPAU34-M32-45	FPAU34-BU144-45	FPAU34-FL-45	FPAU34-BM32-45	FPAU34-BPG29-45	FPAU34-BFM32-45	FPAU34-BM32-CG-45
FPAU42-M50-45	FPAU42-BU200-45 FPAU42-BU225-45	FPAU42-FL-45	FPAU42-BM40-45 FPAU42-BM50-45	FPAU42-BPG36-45	FPAU42-BFM50-45	FPAU42-BM40-CG-45
FPAU54-M50-45	FPAU54-BU200-45 FPAU54-BU225-45		FPAU54-BM50-45 FPAU54-BM63-45	FPAU54-BPG48-45	FPAU54-BFM50-45	FPAU54-BM50-CG-45

ULTRA™ fittings

NEW

How to identify a Flexicon ULTRA™ fitting

- 2 Tone colour - Capnut different to Body
- IP69 marked on product
- Blue insert seal with visible ribs within capnut
- Retained Face Sealing Washer

Construction

Non-metallic fittings utilise a barb design providing us the ultimate flexibility in creating solutions such as;

- Thread types - Metric, PG, NPT, UNEF, Strain relief and connection interfaces such as Flanges and Couplers
- Undersize & Oversized Threads thus eliminating the need for reducers or enlargers

Benefits of Barb construction

- Inherent swivel feature allowing easy connection to another thread for termination, eliminating any dynamic stress on the system.
- Reduces wear between the retaining teeth and the conduit, which can often lead to failure.

ULTRA™ installation benefits

Simplicity:
True One piece component fitting with Integrated Sealing Technology.

Speed:
Push whilst twisting conduit. 360 degree teeth provide fast and secure connection.

Assurance:
Lifetime Sealing & Reliability.

Removal with screwdriver possible if required

STANDARD LOW FIRE HAZARD * IP66 IP67 IP68 IP69

ULTRA™ system 90°

90° ELBOW — external thread

Fast fit, external threaded 90 degree elbow fitting with integrated conduit for knockouts.

IP66 IP67 IP68 IP69

90° ELBOW — UNEF swivel internal thread

Fast fit, 90 degree elbow fitting with nickel plated brass swivel UNEF internal thread for attachment to circular connectors with integrated conduit seal.

IP66 IP67 IP68 IP69

FLANGE — flange

Fast fit 90 degree elbow fitting with nylon swivel flange with integrated conduit seal with 'O' ring face seal.

IP66 IP67 IP68 IP69

90° ELBOW — swivel brass external thread

Fast fit, swivel, 90 degree elbow, nickel plated brass external threaded fitting with integrated conduit seal. Suitable for knockouts or threaded entries.

IP66 IP67 IP68 IP69

90° ELBOW — swivel brass internal thread

Fast fit, swivel, 90 degree elbow, nickel plated brass internal threaded fitting with integrated conduit seal.

IP66 IP67 IP68 IP69

90° ELBOW — cable gland

Fast fit, swivel, 90 degree elbow, nickel plated brass external threaded cable gland fitting with integrated conduit seal. Suitable for knockouts or threaded entries.

IP66 IP67 IP68 IP69






Ext Metric	Int UNEF	Flange	NPB Ext Metric	NPB Ext PG	NPB Int Metric	NPB Metric
FPAU13-M16-90			FPAU13-BM16-90	FPAU13-BPG9-90	FPAU13-BFM16-90	FPAU13-BM16-CG-90
FPAU16-M16-90	FPAU16-BU075-90	FPAU16-FL-90	FPAU16-BM16-90	FPAU16-BPG9-90	FPAU16-BFM16-90	FPAU16-BM16-CG-90
FPAU16-M20-90	FPAU16-BU100-90		FPAU16-BM20-90	FPAU16-BPG11-90	FPAU16-BFM20-90	FPAU16-BM20-CG-90
	FPAU16-BU119-90					
FPAU21-M20-90	FPAU21-BU100-90	FPAU21-FL-90	FPAU21-BM20-90	FPAU21-BPG13-90	FPAU21-BFM20-90	FPAU21-BM20-CG-90
	FPAU21-BU119-90			FPAU21-BPG16-90		
	FPAU21-BU138-90					
FPAU28-M25-90	FPAU28-BU138-90	FPAU28-FL-90	FPAU28-BM25-90	FPAU28-BPG21-90	FPAU28-BFM25-90	FPAU28-BM25-CG-90
	FPAU28-BU144-90					
FPAU34-M32-90	FPAU34-BU144-90	FPAU34-FL-90	FPAU34-BM32-90	FPAU34-BPG29-90	FPAU34-BFM32-90	FPAU34-BM32-CG-90
FPAU42-M40-90	FPAU42-BU200-90	FPAU42-FL-90	FPAU42-BM40-90	FPAU42-BPG36-90	FPAU42-BFM50-90	FPAU42-BM40-CG-90
FPAU42-M50-90	FPAU42-BU225-90		FPAU42-BM50-90			
FPAU54-M50-90	FPAU54-BU200-90		FPAU54-BM50-90	FPAU54-BPG48-90	FPAU54-BFM50-90	FPAU54-BM50-CG-90
FPAU54-M63-90	FPAU54-BU225-90		FPAU54-BM63-90			

FPAX T Pieces and Dividers

Construction: Nylon (PA66) moulded fitting. FPAX incorporate internal elastomeric seal(s). Colour black, grey on request.

STANDARD LOW FIRE HAZARD ★ IP66 IP67 IP68 IP69

properties

- Fast fit
- **IP rating: FPAX IP66 + IP67 + IP68 (2 bar)**
  FPAX Divider IP66 + IP67 + IP68 (2 bar) +IP69
- Maintains all the benefits of FPA and FPAX fittings
- Vibration and shock tested to EN61373 Cat 2
- Tamper resistant
- All round teeth give high pull off strength
- Low Fire Hazard (LFH), see page 37
- Halogen, sulphur & phosphorous free
- **Inspection lid facilitates pull through of cables easing installation on the T-piece**
- Rounded internal corners protect cable insulation during installation and use
- Incorporates mounting lugs to aid secure fixing

FPAX

T piece with inspection lid

Fast fit T piece with inspection lid and additional seals for enhanced IP rating.

IP66 IP67 IP68

FPAX NEW

Divider

Fast fit reducing divider with additional seals for enhanced IP ratings

IP66 IP67 IP68 IP69

Reducer/ Stop Plug

Fitting to reduce or blank off any outlets.

IP66 IP67 IP68

european (NW) sizes	Conduit In	Conduit Out x 2 for divider	FPAX	FPAX	Reducer/ Stop Plug
12	16	13	FPAX16T	FPAX16-13-13	FPAX13-R16
17	21	16	FPAX21T	FPAX21-16-16	FPAX16-R21 SP-R21
23	28	21	FPAX28T	FPAX28-21-21	FPAX21-R28 FPAX16-R28 SP-R28
29	34	28	FPAX34T	FPAX34-28-28	FPAX28-R34 FPAX21-R34 FPAX16-R34
36			FPAX42T		FPAX34-R42 FPAX28-R42 FPAX21-R42

FTCB Braided sleeving
tinned copper braid system for EMC screening

NEW

ENHANCED EMC SCREEN ★★

INHERENT LOW FIRE HAZARD ★★★

Properties

- EMC Screening 67dB @ 1Mhz for 20mm
- Minimum optical cover 90%
- Can offer mechanical support
- Can offer abrasion resistance

Overbraid

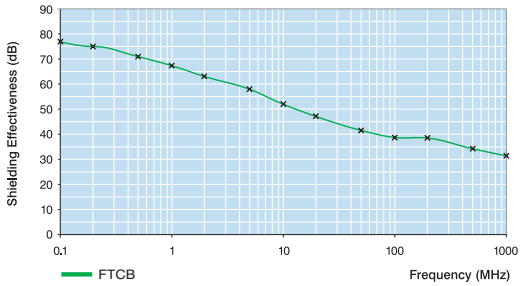
FTCB

NEW

Construction: Tinned copper braided sleeving.

Colour: self colour

Typical Applications: Screening of cables from electromagnetic, electrostatic and RF interference. Can be sleeved over cables before they are drawn into conduits.



FTCB part number	Reel length (m)	Nominal I/D(mm)	Usable ø mm min	Usable ø mm max	Cross sectional area -mm²
FTCB3	100	3.0	2.0	3.5	1.06
FTCB4	100	4.0	3.0	5.0	1.49
FTCB5	100	5.0	4.0	6.0	1.91
FTCB6	100	6.0	5.0	7.0	2.23
FTCB10	50	10.0	7.0	12.0	4.43
FTCB12	50	12.5	11.0	13.0	4.83
FTCB15	50	15.0	13.0	18.0	8.29
FTCB20	50	20.0	17.0	23.0	9.65
FTCB25	50	25.0	22.0	28.0	12.54
FTCB30	25	30.0	27.0	36.0	19.30
FTCB35	25	35.0	30.0	50.0	19.30
FTCB50	25	50.0	45.0	65.0	35.63

Note;

- As the diameter increases towards the maximum expansion the sleeving decreases in length.
- Normally supplied on disposable PVC former or can be supplied in flat form on a reel by request
- Temperature performance of sleeving: -50°C to +300°C

FPA

Construction: Nylon PA66 & Nickel Plated Brass. Colour: Black

Typical Applications: Straight fitting with internal braid clamp assembly for use with braided sleeving inside corrugated conduit.

IP66

IP66 IP67 IP68 IP69

Conduit Size (mm)	FPA part number	FPAX part number	Use with Braid
21	FPA21-M20-SBCA	FPAX21-M20-SBCA	FTCB10, FTCB12, FTCB15
28	FPA28-M25-SBCA	FPAX28-M25-SBCA	FTCB15, FTCB20, FTCB25
34	FPA34-M32-SBCA	FPAX34-M32-SBCA	FTCB20, FTCB25, FTCB30
42	FPA42-M40-SBCA	FPAX42-M40-SBCA	FTCB25, FTCB30, FTCB35

FPRSS system corrugated nylon, stainless steel overbraid

FPRTC system corrugated nylon, tinned copper overbraid

FPISS, FPIHSS, FPIHRSS systems corrugated nylon, stainless steel overbraid

Conduit

FPRSS

Construction: Standard weight, extra low fire hazard, corrugated nylon (PA6), with stainless steel (316) overbraid.

Typical Applications: Metro rail stations for anti-vandal. APR 298.

EN 45545-2 NFPA 130

FPRTC

Construction: Standard weight, extra low fire hazard, corrugated nylon (PA6), with tinned copper overbraid.

Typical Applications: Inside railway carriages where screening is required.

EN 45545-2 NFPA 130

FPISS

Construction: Standard weight, corrugated nylon (PA12), with stainless steel (316) overbraid.

Typical Applications: Moving machinery where low temperatures, abrasion and impacts occur.

FPIHSS

Construction: Heavy weight, corrugated nylon (PA12), with stainless steel (316) overbraid.

Typical Applications: Under railway carriages where low temperatures, abrasion, impact and regular movement occurs.

FPIHRSS

Construction: Heavy weight, extra low fire hazard, corrugated nylon (PA12), with stainless steel (316) overbraid.

Typical Applications: Under railway carriages where extra low fire hazard, low temperatures, abrasion, impact and regular movement occurs.

EN 45545-2 NFPA 130

nominal size (mm)	outside dia (mm)	min inside dia (mm)	min inside bend radius (mm)	FPRSS part number	FPRTC part number	FPISS part number	FPIHSS part number	FPIHRSS part number
16	17.3	11.5	35	FPRSS16-50M	FPRTC16-50M*	FPISS16-50M*	FPIHSS16-50M	FPIHRSS16-50M
20	22.7	15.0	45	FPRSS21-50M	FPRTC21-50M*	FPISS21-50M*	FPIHSS21-50M	FPIHRSS21-50M
25	30.0	21.3	50	FPRSS28-50M	FPRTC28-50M*	FPISS28-50M*	FPIHSS28-50M	FPIHRSS25-50M
32	36.0	27.6	60	FPRSS34-50M	FPRTC34-50M*	FPISS34-25M*	FPIHSS34-25M	FPIHRSS32-25M
40	44.0	35.5	70	FPRSS42-25M*	FPRTC42-25M*	FPISS42-25M*	FPIHSS42-25M*	FPIHRSS40-25M
50	56.0	47.2	80	FPRSS54-25M*	FPRTC54-25M*	FPISS54-25M*	FPIHSS54-25M*	FPIHRSS50-25M

* Indicates parts made to order on request

Fittings

C

fixed external thread nickel plated brass

Multipart compression fitting including conduit retention clip and elastomeric seal. Can be used with knockouts. Braid is locked between inner and outer compression nuts.

IP67

C-S

swivel external thread nickel plated brass

Multipart compression fitting including conduit retention clip and elastomeric seal. Can be used for knockouts and threaded entries. Braid is locked between inner and outer compression nuts.

IP67

C-90

external thread elbow nickel plated brass

Multipart 90° compression fitting including conduit retention clip and elastomeric seal. Can be used with knockouts. Braid is locked between inner and outer compression nuts.

IP67

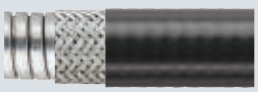
90° elbow

internal and external threaded nickel plated brass elbow

90° elbow which can be screwed onto external threaded fittings.

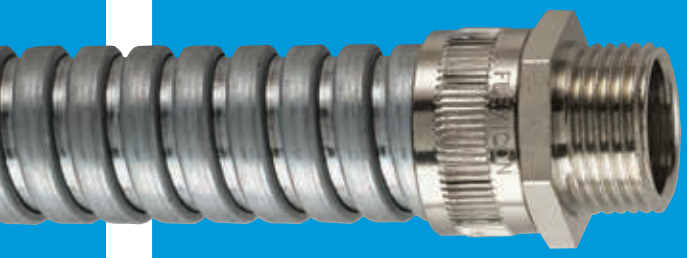
nominal size (mm)	C metric thread part number	C-S metric thread part number	C-S PG thread part number	C-90 metric thread part number	90° elbow metric thread part number
16	BC16-M16-C	BC16-M16-S	BC16-PG11-S		BM90-16M
20	BC21-M20-C	BC21-M20-S	BC21-PG16-S	BC21-M20-C90	BM90-20M
25	BC28-M25-C	BC28-M25-S	BC28-PG21-S		BM90-25M
32	BC34-M32-C	BC34-M32-S	BC34-PG29-S		BM90-32M
40	BC42-M40-C	BC42-M40-S			BM90-40M
50	BC54-M50-C*	BC54-M50-S*			BM90-50M

Metallic conduit

		Material	Compression Strength kg/100mm	Temperature Range	IP Rating	High Fatigue Life	Pull Off Strength	Low Fire Hazard	NF F 16-101/2
FU*		Galvanised Steel	350	-100˚C to +300˚C	IP40		120	●	●
		Galvanised steel, helically wound, flexible conduit.							
SSU*		Stainless Steel	400	-100˚C to +600˚C	IP40		170	●	●
		Stainless steel (grade 316), helically wound, flexible conduit.							
FSU		Galvanised Steel, pvc coated	350	-15˚C to +70˚C	IP54, IP65	●	120		
		Galvanised steel, helically wound, flexible conduit with pvc coating.							
LFHU*		Galvanised steel, LFH coated	350	-25˚C to +90˚C	IP54, IP65		120	●	
		Galvanised steel, helically wound, flexible steel conduit with Low Fire Hazard (LFH) coating.							
FPU		Galvanised Steel, Polyurethane coated	350	-40˚C to +100˚C	IP54, IP65	●	120		
		Galvanised steel, helically wound, flexible steel conduit with low temperature, high abrasion, high fatigue life halog							
LTP		Galvanised steel, pvc coated, liquid tight	400	-20˚C to +105˚C	IP66, IP67, IP68, IP69		130		
		Galvanised steel, helically wound, flexible conduit with smooth oil resistant and high temperature pvc cover.							
LTPLFH*		Galvanised steel, LFH coated, liquid tight	400	-25˚C to +90˚C	IP66, IP67, IP68, IP69		130	●	
		Galvanised steel, helically wound, flexible conduit with smooth oil resistant Low Fire Hazard (LFH) cover.							
LTPHC		Galv steel, thermoplastic elastomer, liquid tight	400	-60˚C to +150˚C	IP66, IP67, IP68, IP69		130		
		Galvanised steel, helically wound, flexible conduit with smooth thermoplastic elastomer (TPE) cover.							
LTPPU		Galv steel, polyurethane coated, liquid tight	400	-40˚C to +100˚C	IP66, IP67, IP68, IP69	●	130		
		Galvanised steel, helically wound, flexible steel conduit with smooth halogen free polyurethane cover.							
LTBRDP		Galv steel, galv steel braid, pvc coated, liquid tight	400	-20˚C to +105˚C	IP66, IP67, IP68, IP69		130		
		Galvanised steel, helically wound, flexible conduit with galvanised steel braid and oil resistant and high temperatu							
LTBRDLFH*		Galv steel, braided core, LFH coated, liquid tight	400	-25˚C to +90˚C	IP66, IP67, IP68, IP69		130	●	
		Galvanised steel, helically wound, flexible conduit with smooth oil resistant Low Fire Hazard (LFH) cover.							
FB*		Galvanised steel, galv steel overbraid	350	-100˚C to +300˚C	IP40		120	●	●
		Galvanised steel, helically wound conduit with galvanised steel overbraid.							
FUSSB*		Galvanised steel, SS316 overbraid	350	-100˚C to +300˚C	IP40		120	●	●
		Galvanised steel, helically wound, flexible conduit with stainless steel (316) overbraid.							
LFHUBRD*		Galv steel, LFH coated, SS316 overbraid	350	-25˚C to +90˚C	IP66, IP67, IP68, IP69		120, 300	●	
		Galvanised steel, helically wound, flexible conduit with extra LFH coating and stainless steel (316) overbraid.							
FSS*		Stainless steel (316L)	1000	-100˚C to +400˚C	IP68		100	●	●
		Stainless steel (Grade 316L) annularly corrugated conduit							
FSSBRD*		Stainless steel (316L) with overbraid	1000	-100˚C to +400˚C	IP68		150	●	●
		Stainless steel (Grade 316L) annularly corrugated conduit, stainless steel (316L) overbraid.							

*** Indicates highly flame retardant**

Fire Testing												
DIN 5510	CEI 11170	BS 6853	LUL 1-085	EN 45545-2	NFPA 130	AS/NZS 1530.3	High Abrasion Resistance	Resisitant to Solvents	High UV Resistance	EMC Performance	Rolling Stock	Infrastructure	
●	●	●	●	●	●	●	●	●	●		●	●	**FU***
●	●	●	●	●	●	●	●	●	●		●	●	**SSU***
												●	**FSU**
		●	●	●	●	●					●	●	**LFHU***
							●	●				●	**FPU**
gen free polyurethane coating.													
									●			●	**LTP**
		●	●	●	●				●		●	●	**LTPLFH***
								●	●			●	**LTPHC**
							●	●	●			●	**LTPPU**
									●	60dB		●	**LTBRDP**
re pvc smooth cover.													
		●	●	●	●	●				60dB	●	●	**LTBRDLFH***
●	●	●	●	●	●	●	●		●	55dB	●	●	**FB***
●	●	●	●	●	●	●	●		●	49dB	●	●	**FUSSB***
		●	●	●	●	●	●		●	49dB	●	●	**LFHUBRD***
●	●	●	●	●	●	●	●	●	●		●	●	**FSS***
●	●	●	●	●	●	●	●	●	●	49dB	●	●	**FSSBRD***



FU & SSU system
galvanised steel and stainless steel

INHERENT LOW FIRE HAZARD ★★★

Conduit

FU

Construction: Galvanised steel, helically wound, flexible conduit.
Colour: zinc, self colour.
Typical Applications: Inherent low fire hazard applications offering high mechanical strength and high temperature performance. Typically interior applications due to IP40 rating such as ticketing machines, carriage interiors. LUL Certificate Number - APR 296.

SSU

Construction: Stainless steel (grade 316), helically wound, flexible conduit.
Colour: stainless steel, self colour.
Typical Applications: As per FU but with enhanced Corrosion performance. Could be used for interior and exterior applications but limited to IP40 rating. Inherently low fire hazard applications such as tunnels. LUL Certificate No. - APR 296

nominal size (mm)	FU part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	SSU part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
10	FU10+	25, 50	9.0	6.8	25	SSU10+	10, 25, 50	9.0	6.8	25
12	FU12	25, 50	13.0	10.2	30	SSU12+	10, 25, 50	13.0	10.2	30
16	FU16	10, 25, 50	16.0	13.0	40	SSU16	10, 25, 50	16.0	13.0	40
16										
20	FU20	10, 25, 50	20.5	16.9	45	SSU20	10, 25	20.5	16.9	45
25	FU25	10, 25, 50	25.0	21.1	55	SSU25	10, 25	25.0	21.1	55
32	FU32	10, 25	32.0	28.1	60	SSU32	10, 25	32.0	28.1	60
40	FU40	10, 25	42.5	37.6	80	SSU40	10	42.5	37.6	80
50	FU50	10, 25	53.0	48.4	90	SSU50	10	53.0	48.4	90
63	FU63	10	62.5	57.5	115	SSU63*	10	62.5	57.5	115
75	FU75	10	77.0	70.0	150			77.0	70.0	150

Fittings for FU/SSU & FSU/FPU & LFHU

** Other thread derivatives or materials available – see full Product & Solutions Guide

M**

fixed external thread nickel plated brass

Two part fitting comprising shell and body with external thread. This fitting can be inserted into a knockout and secured with a locknut.

S**

swivel external thread nickel plated brass

Two part fitting comprising shell and body. The external thread swivels about the main body. Can be used with threaded entries, or knockout secured with a locknut.

P

plain hole connector nickel plated brass

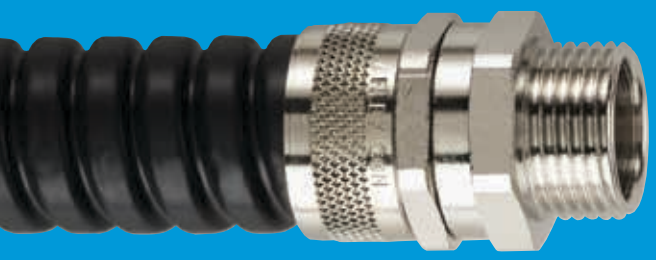
Two part fitting comprising shell and body without thread. The body is fitted through the opposite side of the entry to the conduit and acts as a locking device also providing a smooth entry bush.

F

fixed internal thread nickel plated brass

Two part fitting comprising shell and body with internal thread which can be used to connect with an external thread.

nominal size (mm)	M IP40 FU and SSU part number	M IP54 FSU/LFHU/FPU Part number	S IP40 FU and SSU part number	S IP54 FSU/LFHU /FPU Part number	P hole size (mm)	P IP40 FU and SSU part number	P IP54 FSU/LFHU/FPU Part number	F IP40 FU and SSU part number	F IP54 FSU/LFHU/FPU Part number
10	FU10-M12-M	FSU10-M12-M	FU10-M12-S	FSU10-M12-S	9	FU10-P	FSU10-P		
12	FU12-M16-M	FSU12-M16-M	FU12-M16-S	FSU12-M16-S	12	FU12-P	FSU12-P		
16	FU16-M16-M	FSU16-M16-M	FU16-M16-S	FSU16-M16-S	16	FU16-P	FSU16-P	FU16-M16-F	FSU16-M16-F
16	FU16-M20-M	FSU16-M20-M	FU16-M20-S	FSU16-M20-S				FU16-M20-F	FSU16-M20-F
20	FU20-M20-M	FSU20-M20-M	FU20-M20-S	FSU20-M20-S	20	FU20-P	FSU20-P	FU20-M20-F	FSU20-M20-F
25	FU25-M25-M	FSU25-M25-M	FU25-M25-S	FSU25-M25-S	25	FU25-P	FSU25-P	FU25-M25-F	FSU25-M25-F
32	FU32-M32-M	FSU32-M32-M	FU32-M32-S	FSU32-M32-S	32	FU32-P	FSU32-P	FU32-M32-F	FSU32-M32-F
40	FU40-M40-M	FSU40-M40-M	FU40-M40-S	FSU40-M40-S	40	FU40-P	FSU40-P	FU40-M40-F	FSU40-M40-F
50	FU50-M50-M	FSU50-M50-M	FU50-M50-S	FSU50-M50-S	51	FU50-P	FSU50-P	FU50-M50-F	FSU50-M50-F
63	FU63-M63-M	FSU63-M63-M	FU63-M63-S	FSU63-M63-S	61	FU63-P	FSU63-P	FU63-M63-F	FSU63-M63-F
75	FU75-M75-M	FSU75-M75-M			75	FU75-P			



FSU & FPU system
galvanised steel pvc coated

LFHU system
galvanised steel low fire hazard coated

EXTRA LOW FIRE HAZARD ★★

Conduit

FSU

Construction: Galvanised steel, helically wound, flexible conduit with pvc coating.

Colour: Black. Grey on request.

Typical Applications: High mechanical strength combined with high IP rating suitable for external applications where fire performance is not a consideration such as external car park barriers & systems.

LFHU

Construction: Galvanised steel, helically wound, flexible steel conduit with Low Fire Hazard (LFH) coating.

Colour: Black

Typical Applications: External applications with Low Fire Hazard properties. Suitable for public areas such as Passenger Information Systems, CCTV and underground applications. LUL Certificate Number - APR 297

EN 45545-2 NFPA 130

FPU

NEW

Construction: Galvanised steel, helically wound, flexible steel conduit with low temperature, high abrasion, high fatigue life halogen free polyurethane coating.

Colour: Black and Metallic Blue.

Typical Applications: High abrasion performance combined with low temperature performance applications whilst requiring high IP rating (up to IP65). Suitable for external applications where fire performance is not a requirement.

nominal size (mm)	FSU part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	LFHU part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPU part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
10	FSU10B+	25, 50	10.0	6.8	25										
12	FSU12B	25, 50	14.0	10.2	30	LFHU12B*	25	14.0	10.2	30	FPU12B*	25	14.0	10.2	30
16	FSU16B	10, 25, 50	17.0	13.0	40	LFHU16B	25, 50	17.0	13.0	40	FPU16B	25	17.0	13.0	40
20	FSU20B	10, 25, 50	21.5	16.9	45	LFHU20B	10, 25, 50	21.5	16.9	45	FPU20B	25, 50	21.5	16.9	45
25	FSU25B	10, 25, 50	26.0	21.1	55	LFHU25B	10, 25, 50	26.0	21.1	55	FPU25B	25, 50	26.0	21.1	55
32	FSU32B	10, 25	34.0	28.1	60	LFHU32B	10, 25	34.0	28.1	80	FPU32B	25	34.0	28.1	80
40	FSU40B	10, 25	44.5	37.6	90	LFHU40B	10, 25	44.5	37.6	90	FPU40B*	10	44.5	37.6	90
50	FSU50B	10, 25	55.0	48.4	100	LFHU50B	10, 25	55.0	48.4	100	FPU50B*	10	55.0	48.4	100
63	FSU63B	10	64.5	57.5	115	LFHU63B	10	64.5	57.5	115	FPU63B*	10	64.5	57.5	115
75	FSU75B	10	79.0	70.0	150	LFHU75B	10	79.0	70.0	150	FPU75B*	10	79.0	70.0	150

* Indicates parts made to order on request and may be subject to MOQ and lead time

\+ Double interlock section

Fittings for FSU/FPU & LFHU

C**

external thread nickel plated brass

Multipart compression fitting including elastomeric seal. Can be used for knockouts or threaded entries as fitting rotates until tightened.

IP65

C-S**

external thread nickel plated brass

Multipart compression fitting including elastomeric seal. The external thread swivels about the main body even after tightening.

IP65

C90

external thread elbow nickel plated brass

Multipart 90° compression fitting including elastomeric seal.

IP65

coupler

nickel plated brass

Multi part compression coupler including elastomeric seals to join two conduits.

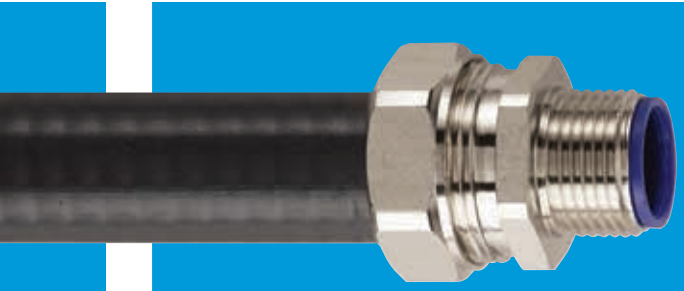
IP65

E

insert nickel plated brass

Single part, machined insert to cap end of conduit.

nominal size (mm)	C** metric thread part number	C** PG thread part number	C** NPT thread part number	C-S** metric thread part number	C90 metric thread part number	coupler part number	E part number
10	FSU10-M12-C						FSU10-E
12	FSU12-M16-C	FSU12-PG9-C		FSU12-M16-C-S	FSU12-M16-C90		FSU12-E
16	FSU16-M16-C	FSU16-PG11-C	FSU16-050-C	FSU16-M16-C-S	FSU16-M16-C90	FSU16-FSU16	FSU16-E
16	FSU16-M20-C	FSU16-PG13-C		FSU16-M20-C-S	FSU16-M20-C90		FSU16-E
20	FSU20-M20-C	FSU20-PG16-C	FSU20-050-C	FSU20-M20-C-S	FSU20-M20-C90	FSU20-FSU20	FSU20-E
25	FSU25-M25-C	FSU25-PG21-C	FSU25-075-C	FSU25-M25-C-S	FSU25-M25-C90	FSU25-FSU25	FSU25-E
32	FSU32-M32-C	FSU32-PG29-C	FSU32-100-C	FSU32-M32-C-S	FSU32-M32-C90	FSU32-FSU32	FSU32-E
40	FSU40-M40-C						FSU40-E
50	FSU50-M50-C						FSU50-E
63							FSU63-E
75							FSU75-E



LTP / LTPAS, LTPHC, LTBRDP

NEW AS ANTI-STATIC NEW ENHANCED EMC SCREEN

galvanised steel, plastic coated liquid tight

Conduit

LTP/ LTPAS

Construction: Galvanised steel, helically wound, flexible conduit with smooth oil resistant and high temperature pvc cover. **Colour:** Black. Grey or Orange on request.

Typical Applications: High mechanical strength combined with extremely high IP rating (IP68 and IP69) suitable for external applications where fire performance is not a consideration such as external car park barriers and systems.

Special Characteristics: Oil resistant and self extinguishing.

LTPAS As per LTP but with an anti-static performance coating

LTPHC

Construction: Galvanised steel, helically wound, flexible conduit with smooth thermoplastic elastomer (TPE) cover. **Colour:** Black.

Typical Applications: High mechanical strength combined with high and low temperature performance, combined with extremely high IP rating (IP68 and IP69) suitable for external applications where fire performance is not a consideration.

Special Characteristics: Wide temperature range performance. Good flexibility at low and high temperatures.

LTBRDP

NEW ENHANCED EMC SCREEN

Construction: Galvanised steel, helically wound, flexible conduit with galvanised steel braid and oil resistant and high temperature pvc smooth cover.

Colour Black.

Typical Applications: Extremely high mechanical strength combined with EMC screening performance, with high IP rating (IP68 and IP69) suitable for external applications where fire performance is not a consideration.

Special Characteristics: Good flexibility and EMC screening.

nominal size (mm)	US trade size (")	outside dia (mm)	inside dia (mm)	LTP part number	reel length (m)	min inside bend radius (mm)	LTPAS part number	reel length (m)	min inside bend radius (mm)	LTPHC part number	reel length (m)	min inside bend radius (mm)	LTBRDP part number	reel length (m)	min inside bend radius (mm)
10	¼	11.8	7.0	LTP10B+	50	35									
12	5/16	14.2	10.0	LTP12B	25, 50	40				LTPHC12B+	25	40			
16	⅜	17.8	12.6	LTP16B	10, 25, 50	45	LTPAS16B*	25	45	LTPHC16B	25	45			
20	½	21.1	16.0	LTP20B	10, 25, 50	65	LTPAS20B*	25	65	LTPHC20B	25	65	LTBRDP20B	25	65
25	¾	26.4	21.0	LTP25B	10, 25, 50	100	LTPAS25B*	25	100	LTPHC25B	25	100	LTBRDP25B	25	100
32	1	33.1	26.5	LTP32B	10, 25, 50	135	LTPAS32B*	25	135	LTPHC32B	25	135	LTBRDP32B	25	120
40	1¼	41.8	35.4	LTP40B	10, 25	175	LTPAS40B*	10	175	LTPHC40B	10	175	LTBRDP40B	10	140
50	1½	47.9	40.4	LTP50B+	10, 25	230	LTPAS50B*+	10	230	LTPHC50B+	10	230	LTBRDP50B+	10	180
63	2	59.7	51.6	LTP63B+	10, 25	280	LTPAS63B*+	10	280	LTPHC63B*+	10	280	LTBRDP63B+	10	

Fittings

IP66 IP67 IP68 IP69

- For LTP specify colour (B = Black, G = Grey)

PG & NPT threads not supplied with insulated throats

C

external thread nickel plated brass

Multipart compression fitting including elastomeric seal. Can be used for knockout or threaded entries as fitting rotates until tightened.

C-S

swivel external thread nickel plated brass

Compression fitting for knockout or threaded entries. Multipart compression fitting including elastomeric seal. The external thread swivels about the main body even after tightening.

C90

external thread nickel plated brass

90° multipart compression fitting including elastomeric seal. Can be used for knockout.

C45

external thread nickel plated brass

45° multipart compression fitting including elastomeric seal. Can be used for knockout.

nominal size (mm)	metric thread part number	for PG thread size	for NPT thread size	metric thread part number	metric thread part number	metric thread part number
10	LTP10-M12-C	PG7				
10	LTP10-M16-C					
12	LTP12-M16-C	PG9		LTP12-M16-S	LTP12-M16-C90	
16	LTP16-M16-C	PG11		LTP16-M16-S	LTP16-M16-C90	
16	LTP16-M20-C	PG13	050 (½")	LTP16-M20-S	LTP16-M20-C90	LTP16-M20-C45
20	LTP20-M20-C	PG16	050 (½")	LTP20-M20-S	LTP20-M20-C90	LTP20-M20-C45
25	LTP25-M25-C	PG21	075 (¾")	LTP25-M25-S	LTP25-M25-C90	LTP25-M25-C45
32	LTP32-M32-C	PG29	100 (1")	LTP32-M32-S	LTP32-M32-C90	LTP32-M32-C45
40	LTP40-M40-C	PG36	125 (1¼")	LTP40-M40-S	LTP40-M40-C90	LTP40-M40-C45
50	LTP50-M50-C	PG42	150 (1½")	LTP50-M50-S	LTP50-M50-C90	LTP50-M50-C45
63	LTP63-M63-C	PG48	200 (2")		LTP63-M63-C90	LTP63-M63-C45

LTPLFH NEW EXTRA LOW FIRE HAZARD ★★, LTPPU NEW / LTPPUAS NEW AS ANTI-STATIC, LTBRDLFH NEW ENHANCED EMC SCREEN ★★ EXTRA LOW FIRE HAZARD ★★

galvanised steel, plastic coated liquid tight

LTPLFH

Construction: Galvanised steel, helically wound, flexible conduit with smooth oil resistant Low Fire Hazard (LFH) cover. **Colour:** black.

Typical Applications: High mechanical strength combined with extremely high IP rating (IP68 and IP69) suitable for internal and external applications where fire performance is a requirement. APR 2020

Special Characteristics: As per LTP but where Extra Low Fire Hazard performance is required.

LTPPU/ LTPPUAS

Construction: Galvanised steel, helically wound, flexible steel conduit with smooth halogen free polyurethane cover. **Colour:** Black (B) and Blue (BU). (RAL 5015)

Typical Applications: High mechanical strength with low temperature and high abrasion resistance, combined with extremely high IP rating (IP68 and IP69) suitable for external applications where fire performance is not a requirement.

Special Characteristics: Low temperature performance, high abrasion and high fatigue life.

LTPPUAS As per LTPPU but with an anti-static performance coating.

LTBRDLFH

Construction: Galvanised steel, helically wound, flexible conduit with smooth oil resistant Low Fire Hazard (LFH) cover. **Colour** Black.

Typical Applications: Extremely high mechanical strength combined with EMC screening performance and low fire hazard performance, with high IP rating (IP68 and IP69) suitable for internal and external applications.

Special Characteristics: As per LTP but where Extra Low Fire Hazard performance is required.

EN 45545-2 NFPA 130

LTPLFH part number	reel length (m)	min inside bend radius (mm)	LTPPU part number	reel length (m)	min inside bend radius (mm)	LTPPUAS part number	reel length (m)	min inside bend radius (mm)	LTBRDLFH part number	reel length (m)	min inside bend radius (mm)	nominal size (mm)
			LTPPU10*	25	35							10
			LTPPU12*	25	40							12
LTPLFH16B	25	60	LTPPU16*	25	45	LTPPUAS16*	25	45				16
LTPLFH20B	10, 25	100	LTPPU20*	25	65	LTPPUAS20*	25	65	LTBRDLFH20B	25	130	20
LTPLFH25B	10, 25	130	LTPPU25*	25	100	LTPPUAS25*	25	100	LTBRDLFH25B	25	200	25
LTPLFH32B	10	180	LTPPU32*	25	135	LTPPUAS32*	25	135	LTBRDLFH32B*	25	270	32
			LTPPU40*	10	175	LTPPUAS40*	10	175				40
			LTPPU50*+	10	230	LTPPUAS50*+	10	230				50
			LTPPU63*+	10	280	LTPPUAS63*+	10	280				63

* Indicates parts made to order on request and may be subject to MOQ and lead time + Double interlock section

coupler

nickel plated brass

Multi part compression coupler including elastomeric seals to join 2 conduits.

C-SS

external thread stainless steel

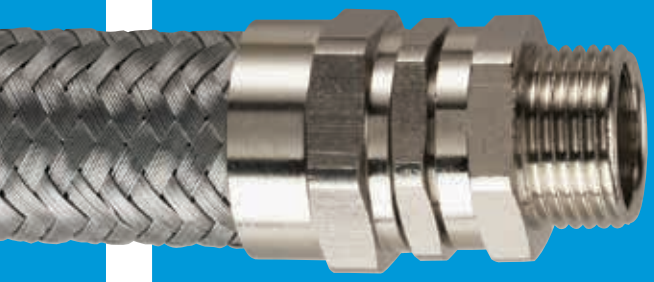
Multipart compression fitting with Stainless Steel (316) body and nut and nickel plated brass insert, including elastomeric seal. Can be used for knockout or threaded entries as fitting rotates until tightened.

C-90-SS

external thread stainless steel (316)

90˚ multipart compression fitting with Stainless Steel (316) body and nut and nickel plated brass insert, including elastomeric seal. Can be used for knockout.

nominal size (mm)	part number	metric thread part number	metric thread part number
10			
10			
12			
16		LTP16-M16-CSS	
16	LTP16-LTP16	LTP16-M20-CSS	LTP16-M20-CSS90
20	LTP20-LTP20	LTP20-M20-CSS	LTP20-M20-CSS90
25	LTP25-LTP25	LTP25-M25-CSS	LTP25-M25-CSS90
32	LTP32-LTP32	LTP32-M32-CSS	LTP32-M32-CSS90
40		LTP40-M40-CSS	
50		LTP50-M50-CSS	
63			



FB, FUSSB system
galvanised steel core and overbraid

LFHUBRD system
galvanised steel core with LFH coating and stainless steel overbraid

STANDARD EMC SCREEN ★
INHERENT LOW FIRE HAZARD ★★★
ENHANCED EMC SCREEN ★★
EXTRA LOW FIRE HAZARD ★★

Conduit

FB

Construction: Galvanised steel, helically wound conduit with galvanised steel overbraid. Colour zinc, self colour.

Typical Applications: Extremely high mechanical strength combined with EMC screening performance and inherently low fire hazard performance. Suitable for internal applications where maximum IP rating of IP40 is required.

FUSSB

Construction: Galvanised steel, helically wound, flexible conduit with stainless steel (316) overbraid.

Typical Applications: Extremely high mechanical strength combined with EMC screening performance and inherently low fire hazard performance. Suitable for internal and external applications where maximum IP rating of IP40 is required. Commonly used in underground stations. LUL Certificate Number - 296.

EN 45545-2 NFPA 130

nominal size (mm)	FB part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
12	FB12	25	14.0	10.2	30
16	FB16	25	17.5	13.0	40
20	FB20	25	21.5	16.9	45
25	FB25	25	26.0	21.1	55
32	FB32	25	34.0	28.1	70
40	FB40	10	43.5	37.6	80
50	FB50	10	54.5	48.4	90

EN 45545-2 NFPA 130

FUSSB part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
FUSSB12*	25	14.0	10.2	30
FUSSB16*	25	17.5	13.0	40
FUSSB20	25	21.5	16.9	45
FUSSB25	25	26.0	21.1	55
FUSSB32	25	34.0	28.1	70
FUSSB40*	10	43.5	37.6	80
FUSSB50*	10	54.5	48.4	90

Fittings for FB, FUSSB & LFHUBRD

** Other thread derivatives or materials available – see full Product & Solutions Guide

M**

fixed external thread nickel plated brass

Two part fitting comprising of shell and body with external thread. This fitting can be inserted into a knockout and secured with a locknut.

IP40 with FB & FUSSB
IP54 with LFHUBRD

S**

swivel external thread nickel plated brass

Two part fitting comprising of shell and body. The external thread swivels about the main body. Can be used with threaded entries, or knockout secured with a locknut.

IP40 with FB & FUSSB
IP54 with LFHUBRD

P

plain hole connector nickel plated brass

Two part fitting comprising of shell and body without thread. The body is fitted through the opposite side of the entry to the conduit and acts as a locking device also providing a smooth entry bush.

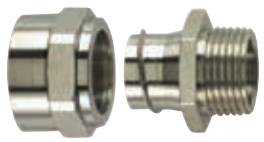
IP40 with FB & FUSSB
IP54 with LFHUBRD

C**

fixed external thread nickel plated brass

Multipart compression fitting including elastomeric seal. Can be used for knockouts. Braid is locked between inner and outer compression nuts.

IP65 with LFHUBRD



	for use with FB & FUSSB	for use with LFHUBRD	for use with FB & FUSSB	for use with LFHUBRD	for use with FB & FUSSB	for use with LFHUBRD	for use with LFHUBRD
12	FB12-M16-M	FSB12-M16-M	FB12-M16-S	FSB12-M16-S	FB12-P	FSB12-P	
16	FB16-M16-M	FSB16-M16-M	FB16-M16-S	FSB16-M16-S	FB16-P	FSB16-P	FSB16-M16-C
16	FB16-M20-M	FSB16-M20-M	FB16-M20-S	FSB16-M20-S			FSB16-M20-C
20	FB20-M20-M	FSB20-M20-M	FB20-M20-S	FSB20-M20-S	FB20-P	FSB20-P	FSB20-M20-C
25	FB25-M25-M	FSB25-M25-M	FB25-M25-S	FSB25-M25-S	FB25-P	FSB25-P	FSB25-M25-C
32	FB32-M32-M	FSB32-M32-M	FB32-M32-S	FSB32-M32-S	FB32-P	FSB32-P	FSB32-M32-C
40	FB40-M40-M	FSB40-M40-M	FB40-M40-S	FSB40-M40-S	FB40-P	FSB40-P	
50	FB50-M50-M	FSB50-M50-M	FB50-M50-S	FSB50-M50-S	FB50-P	FSB50-P	

FSS system
stainless steel corrugated conduit

FSSBRD system
stainless steel corrugated conduit with overbraid

Conduit

LFHUBRD

Construction: Galvanised steel, helically wound, flexible conduit with extra LFH coating and stainless steel (316) overbraid.

Typical Applications: Extremely high mechanical strength combined with EMC screening performance, extra low fire hazard performance and high IP rating (IP65). Suitable for internal and external applications. Commonly used in underground stations. LUL Certificate Number - 297.

EN 45545-2 NFPA 130

LFHUBRD part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
LFHUBRD20	25	22.7	16.9	45
LFHUBRD25	25	27.2	21.1	55
LFHUBRD32	25	35.2	28.1	70
LFHUBRD40	10	45.7	37.6	80

FSS

NEW

Construction: Stainless steel (316L) annularly corrugated conduit

Typical Applications: Inherent Low Fire hazard performance with superior Ingress Protection (IP68) and excellent corrosion resistance. Metro rail stations and tunnels.

Colour: Self colour or also available in Black

EN 45545-2 NFPA 130

FSSBRD

NEW

Construction: Stainless steel (316L) annually corrugated conduit with stainless steel (316L) overbraid.

Typical Applications: Inherent Low Fire hazard performance with superior Ingress Protection (IP68), excellent corrosion resistance and enhanced EMC performance together with abrasion resistance. Metro rail stations and tunnels.

Colour: Self colour

EN 45545-2 NFPA 130

nominal size (mm)	FSS metric thread part number	Reel length	outside dia (mm)	min inside dia (mm)	min bend radius (static)	FSSBRD metric thread part number	Reel length	outside dia (mm)	min inside dia (mm)	min bend radius (static)
20	FSS20	25	21.6	16.2	45	FSSBRD20	25	21.6	16.2	60
25	FSS25	25	26.8	20.2	55	FSSBRD25	25	28.3	20.2	70

Fittings for FSS & FSSBRD

C-S

swivel external thread nickel plated brass

Multipart compression fitting including elastomeric seal can be used for knockouts or threaded entries. Braid is locked between inner and outer compression nuts.

IP65 with LFHUBRD

metric thread part number
FSB16-M16-C-S
FSB16-M20-C-S
FSB20-M20-C-S
FSB25-M25-C-S
FSB32-M32-C-S

C90

external thread elbow nickel plated brass

Multipart 90° compression fitting including elastomeric seal. Braid is locked between inner and outer compression nuts.

IP65 with LFHUBRD

metric thread part number
FSB16-M16-C90
FSB16-M20-C90
FSB20-M20-C90
FSB25-M25-C90
FSB32-M32-C90

C

fixed external thread nickel plated brass

Multipart compression fitting including conduit retention clip and polyester seal. Can be used with knockouts. Braid is locked between inner and outer compression nuts.

Colour: Self colour or also available in Black

IP68

nominal size (mm)	for use with FSS	for use with FSSBRD
20	FSS20-M20-C	FSSBRD20-M20-C
25	FSS25-M25-C	FSSBRD25-M25-C

C-S

swivel external thread nickel plated brass

Multipart compression fitting including conduit retention clip and polyester seal. Can be used for knockouts and threaded entries. Braid is locked between inner and outer compression nuts.

IP68

for use with FSSBRD
FSSBRD20-M20-S
FSSBRD25-M25-S

Cable Gland Fittings NEW

cable strain relief and enhanced IP rating for Flexicon conduits

Strain Relief fittings for metallic conduits

For applications that require the conduit system to provide strain relief and enhanced IP rating to the cables being mechanically protected.

properties

- Combined properties of conduit fitting and cable gland
- Cable strain relief
- Additional IP rating on cable inside conduit*
- Nickel plated brass fittings
- Cable gland properties: IP68 (10 bar) + IP69
- Temperature range
  -40˚C to +100˚C for static applications
  -20˚C to +100˚C for dynamic applications
- EMC cable gland version on request

Conduit size (mm)	Part Number	Suitable for the following conduits	Conduit	Fitting	IP rating of conduit system	IP rating of cable gland	Clamping range of cable gland
16	FSU16-BM16-CG	FU & SSU			IP40	IP68 (10 bar)+IP69	4.5-10mm
20	FSU20-BM20-CG						7-13mm
25	FSU25-BM25-CG						9-17mm
32	FSU32-BM32-CG						11-21mm
16	FSU16-BM16-CG	FSU, LFHU and FPU			IP65	IP68 (10 bar)+IP69	4.5-10mm
20	FSU20-BM20-CG						7-13mm
25	FSU25-BM25-CG						9-17mm
32	FSU32-BM32-CG						11-21mm
16	LTP16-BM16-CG	LTP, LTPHC, LTPAS, LTPLFH LTBRDP, LTBRDLFH, LTPPU and LTPPUAS			IP66+IP67+ IP68 (5 bar)+IP69	IP68 (10 bar)+IP69	4.5-10mm
20	LTP20-BM20-CG						7-13mm
25	LTP25-BM25-CG						9-17mm
32	LTP32-BM32-CG						11-21mm
16	FSB16-BM16-CG	FB & FUSSB			IP40	IP68 (10 bar)+IP69	4.5-10mm
20	FSB20-BM20-CG						7-13mm
25	FSB25-BM25-CG						9-17mm
32	FSB32-BM32-CG						11-21mm
16	FSB16-BM16-CG	LFHUBRD			IP65	IP68 (10 bar)+IP69	4.5-10mm
20	FSB20-BM20-CG						7-13mm
25	FSB25-BM25-CG						9-17mm
32	FSB32-BM32-CG						11-21mm

*IP rating up to IP68 (10 bar), IP69 dependent on cable used

Converters and Couplers

90° elbow

internal and external threaded nickel plated brass 90° elbow

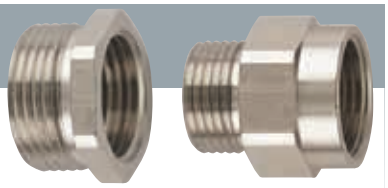
threads	part number
PG7	BM90-PG7
M16	BM90-16M
M20	BM90-20M
M25	BM90-25M
M32	BM90-32M
M40	BM90-40M
M50	BM90-50M

couplers

nickel plated brass internally threaded

thread	metric thread part number
M16	B-M16-C
M20	B-M20-C
M25	B-M25-C
M32	B-M32-C
M40	B-M40-C
M50	B-M50-C
M63	B-M63-C
M75	B-M75-C

thread converters



nickel plated brass thread convertors, reducers and enlargers external and internal thread.

Metric Internal Threads

	external thread	internal thread	M16	M20	M25	M32	M40	M50
Metric - Metric	M16			B-M16-M20				
	M20		B-M20-M16		B-M20-M25			
	M25			B-M25-M20		B-M25-M32		
	M32			B-M32-M20	B-M32-M25		B-M32-M40	
	M40					B-M40-M32		
	M50					B-M50-M32	B-M50-M40	
	M63						B-M63-M40	B-M63-M50
PG - Metric	PG7		B-PG7-M16	B-PG7-M20				
	PG9		B-PG9-M16	B-PG9-M20				
	PG11		B-PG11-M16	B-PG11-M20				
	PG13.5		B-PG13-M16	B-PG13-M20				
	PG16		B-PG16-M16	B-PG16-M20	B-PG16-M25			
	PG21			B-PG21-M20	B-PG21-M25	B-PG21-M32		
	PG29			B-PG29-M20	B-PG29-M25	B-PG29-M32	B-PG29-M40	
	PG36					B-PG36-M32	B-PG36-M40	
	PG42							
	PG48						B-PG48-M40	
NPT - Metric	⅜" NPT		B-038-M16					
	½" NPT			B-050-M20				
	¾" NPT			B-075-M20	B-075-M25			
	1" NPT					B-100-M32		

PG Internal Threads

	external thread	internal thread	PG7	PG9	PG11	PG13.5	PG16	PG21	PG29	PG36
Metric - PG	M16		B-M16-PG7	B-M16-PG9	B-M16-PG11					
	M20		B-M20-PG7	B-M20-PG9	B-M20-PG11	B-M20-PG13	B-M20-PG16	B-M20-PG21		
	M25							B-M25-PG21		
	M32							B-M32-PG21		
	M40								B-M40-PG29	
	M50									B-M50-PG36
PG - PG	PG7			B-PG7-PG9						
	PG9		B-PG9-PG7		B-PG9-PG11					
	PG11		B-PG11-PG7	B-PG11-PG9		B-PG11-PG13				
	PG13.5		B-PG13-PG7	B-PG13-PG9	B-PG13-PG11		B-PG13-PG16			
	PG16		B-PG16-PG7	B-PG16-PG9	B-PG16-PG11	B-PG16-PG13		B-PG16-PG21		
	PG21				B-PG21-PG11	B-PG21-PG13	B-PG21-PG16		B-PG21-PG29	
	PG29						B-PG29-PG16	B-PG29-PG21		B-PG29-PG36
	PG36								B-PG36-PG29	
	PG42									B-PG42-PG36
	PG48									B-PG48-PG36

Conduit Fixing Accessories

properties

- Suitable for use with flexible and pliable conduits
- Clips and F-Clamps manufactured from nylon PA66
- Temperature Range -50° to 135°
- UV resistant
- Low Fire Hazard see page 37
- Halogen, Sulphur & Phosphorous Free
- Self extinguishing
- For installation instructions see page 40

Fixings

conduit clips

nylon conduit clip with integral lid - black or grey

FCLAMP (NEW)

non-metallic, heavy duty conduit clamp

Nylon PA66, conduit fixing clamp for corrugated conduit.

FCLAMP-CP (NEW)

plated steel cover plate for use with FCLAMP

FCLAMP-WP (NEW)

plated steel weld plate to fix FCLAMP

FCLAMP-EWP (NEW)

plated steel elongated weld plate to fix FCLAMP

FCLAMP-BOLT

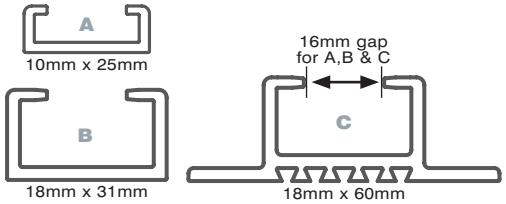
fixing bolts to secure FCLAMPs

For information on stacking bolts consult our website.

Conduit size (mm)	conduit clip for corrugated	conduit clip for plain or rigid	part number	part number	part number	part number	part number
10	FCL10						
13	FCL13						
16	FCL16	FCL16B-P	FCLAMP-3-16	FCLAMP-CP3	FCLAMP-WP3	FCLAMP-EWP3	FCLAMP-BOLT3
18	FCL18	FCL18B-P					
20	FCL20	FCL20B-P					
21	FCL21	FCL21B-P	FCLAMP-3-21	FCLAMP-CP3	FCLAMP-WP3	FCLAMP-EWP3	FCLAMP-BOLT3
25	FCL25	FCL25B-P					
26		FCL26B-P					
28	FCL28		FCLAMP-4-28	FCLAMP-CP4	FCLAMP-WP4	FCLAMP-EWP4	FCLAMP-BOLT4
32		FCL33B-P					
34	FCL34		FCLAMP-5-34	FCLAMP-CP5	FCLAMP-WP5	FCLAMP-EWP5	FCLAMP-BOLT5
42	FCL42		FCLAMP-6-42	FCLAMP-CP6	FCLAMP-WP6	FCLAMP-EWP6	FCLAMP-BOLT6
54	FCL54		FCLAMP-7-54	FCLAMP-CP7	FCLAMP-WP7	FCLAMP-EWP7	FCLAMP-BOLT7
67			FCLAMP-7-67	FCLAMP-CP7	FCLAMP-WP7	FCLAMP-EWP7	FCLAMP-BOLT7
80			FCLAMP-8-80	FCLAMP-CP8	FCLAMP-WP8	FCLAMP-EWP8	FCLAMP-BOLT8

mounting channel (NEW)

suitable for mounting FCL & FCL-P conduit clips and F-CLAMPS.
Supplied in 0.6m, 1.2m or 2.4m lengths.
For rail dimensions or for other lengths consult us or visit our website.



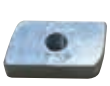
size	aluminium	galv steel	HD galv steel slotted	stainless steel
a	MRALA-#			
b	MRALB-#	MRGSB-#	MRHDGSLT-#	MRSSB-#
c	MRALC-#			

mounting channel fixing accessories (NEW)

used to fix positions of FCL clips and F-Clamps on mounting rail and prevent movement.

Spacer suitable for use with mounting channel to space conduit clips. Can also be used to provide a fixing point for Cable ties for added security.

Universal channel rail adaptor - suitable for mounting F-Clamps when used with channel rails such as Unistrut®, Halfen and Hilti.

material	MRFAL	MRFAM	MRFAH	SPACER	UNIVERSAL
					
stainless steel			MRFAHSS		
aluminium	CN-AL-M6	MRFAMA-M6	MRFAHA		
nickel plated brass			MRFAHNPB		
BZP steel	CN-GS-M6	MRFAMBZP-M6			MRFAU
PA66 - Grey				CSG-CT	

- enter desired length e.g 1.2m #=1.2M * Anodised ALU on request

EC

end cap

Nylon PA66 end cap to snap over end of conduit and provide a smooth entry bush to prevent snagging and sharp edges, and provide a neat finish when no connectors are used.

to fit nominal conduit sizes	End Cap
10	
13	
16	EC16B
18	
20	
21	EC21B
25	
28	EC28B
34	EC34B
42	EC42B
54	EC54B
67	
80	

REC

NEW

rubber end cap

Thermoplastic elastomer cap used to seal end of conduit. Can be cut to size depending on size of cable. Can be additionally secured using cable tie (not supplied).

part number	to fit conduit size	outlet ID mm
REC10	10	0-7
REC13	11	0-7
REC16	16	0-11
REC21	21	0-15
REC28	28	0-21
REC34	34	0-25
REC42	42	0-34
REC54	54	0-46
REC67	67	0-52
REC80	80	0-62

metallic fixing clips

plated steel with black pvc liner or stainless steel. LFH liner available on request

to fit conduit size	part number	part number
10	FCC10	FCC10-SS*
12	FCC12	FCC12-SS*
16	FCC16	FCC16-SS
20	FCC20	FCC20-SS
25	FCC25	FCC25-SS
32	FCC32	FCC32-SS
40	FCC40	FCC40-SS
50	FCC50	FCC50-SS*
63	FCC63	
75	FCC75	
80	FCC80	
106	FCC106	

earthing washers

shake proof washer | **earth tag washer**

metric thread part number	metric thread part number
SPW16	
SPW20	ET-M20
SPW25	ET-M25
SPW32	

metric locknuts

nickel plated brass, plated steel, stainless steel, nylon black or grey

nickel plated brass part number	nickel plated EMC part number	plated steel part number	stainless steel part number	nylon part number
B-M12				LM12-N#
B-M16		S-M16	SS-M16	LM16-N#
B-M20	B-M20-EMC	S-M20	SS-M20	LM20-N#
B-M25	B-M25-EMC	S-M25	SS-M25	LM25-N#
B-M32	B-M32-EMC	S-M32	SS-M32	LM32-N#
B-M40	B-M40-EMC	S-M40	SS-M40	LM40-N#
B-M50		S-M50	SS-M50*	LM50-N#
B-M63		S-M63	SS-M63*	LM63-N#
B-M75				

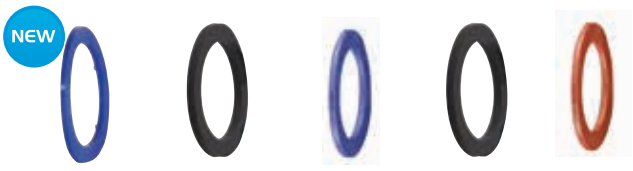
PG locknuts

nickel plated brass, nylon black or grey

nickel plated brass part number	nylon part number
B-PG7	PG7-N#
B-PG9	PG9-N#
B-PG11	PG11-N#
B-PG13	PG13-N#
B-PG16	PG16-N#
B-PG21	PG21-N#
B-PG29	PG29-N#
B-PG36	PG36-N#
B-PG42	PG42-N#
B-PG48	PG48-N#

sealing washers

Polyester Elastomer, Neoprene and fibre face sealing washers



Polyester Elastomer Metric	Neoprene Metric	High Performance Metric	Neoprene PG	Fibre PG
NEW				
metric thread part number	metric thread part number	metric thread part number	PG thread part number	PG thread part number
	SW12	FW12	SWPG7	FWPG7
RSW16	SW16	FW16	SWPG9	FWPG9
RSW20	SW20	FW20	SWPG11	FWPG11
RSW25	SW25	FW25	SWPG13	FWPG13
RSW32	SW32	FW32	SWPG16	FWPG16
RSW40	SW40	FW40	SWPG21	FWPG21
RSW50	SW50	FW50	SWPG29	FWPG29
RSW63*	SW63	FW63	SWPG36	FWPG36
			SWPG42	
			SWPG48	FWPG48

Product Testing & Approvals

Compliance with international railway standards

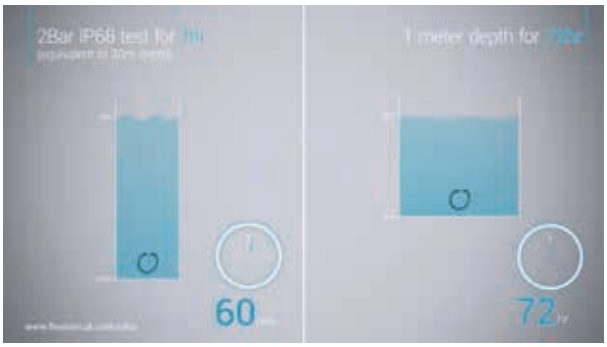
Our products have been designed to be compliant with the main international standards including EN, NFF, DIN, BS, ASTM to name but a few, and we have extensive third party and in house testing to support product performance.

Flexicon has been assessed and certified in accordance with the International Railway Industry Standard (IRIS) for the activities of Design and Development and Manufacturing for the scope of certification: 20 (Single railway components) Design, development and manufacture of Flexible Conduit Cable Protection Systems.

Flexicon are RISQS verified so buyers can quickly establish and assess our Safety Management, Capacity, Quality Management and Corporate legislation compliance.

EN 45545-2 NFPA 130

Tested to Extremes

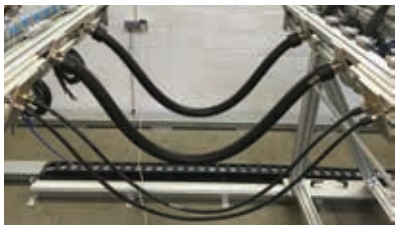


Our products have been tested to the extremes to ensure suitability for technically demanding environments.

For example, to demonstrate the Ingress Protection performance to IP68 we've tested our products for Ingress Protection to 1 metre depth for a period of 72 hours, far beyond the requirements of the BS EN IEC 60529.

We've also tested our products for 2 Bar (equivalent to 20 metre depth) for a period of 1 hour. These tests are conducted at minimum bend radius.

Customer Tests



Testing rig with FPIHR

FPIHR different sizes

FPIHR with Flexicon fittings

Fatigue Life – Simulation of minimum 35 years service – >1million cycles

Customers are looking for confidence and reassurance in the materials / products they are using and often specify performance tests that are far in excess of any product standards which may be too generic or perhaps not arduous enough due to specific hazards or risks. A good example is a fatigue life test to represent a service life of 35 years for conduit used for Intercar jumpers. This test was conducted over 1 million cycles with no point of failure so we can clearly demonstrate servicable lifetimes beyond 1 million cycles.

Product Testing & Approvals

Other Product Testing

- Vibration and Shock Testing to EN 61373 Cat 2
- UV testing to UL 1660, 1,000 hour xenon arc
- Extended UV testing, 13,000 hour xenon arc
- 1,000 hours salt spray testing for corrosion
- UL 94 flammability testing
- Electrical insulation testing to EN 61386 and ASTM D 495 and 3638
- Direct lightning strike of conduit and fixed fittings
- Low temperature impact testing
- EMC screening performance
- Anti-static testing
- Food contact testing to EU 10 2011

International and National Conduit Standards

- BS EN IEC 61386-1 Conduit Systems, generally accepted worldwide other than North America
- BS EN IEC 61386-23 Flexible Conduit Systems
- BS EN IEC 61386-22 Pliable Conduit Systems
- AS/NZS 2053, Australia and New Zealand but based on IEC 61386
- UL 1660, Non-metallic UL listed conduit for N America
- UL 360, Metallic UL listed conduit for N America
- UL 514B, UL listed conduit fittings for N America
- UL 1669, Non-metallic UL recognised conduit systems for N America

Datasheets & Technical Info

We pride ourselves on the rigorous testing and approvals we apply to our products.

To give you confidence and help you select the correct products for your application we can provide Technical datasheets for all our products, documenting performance properties and key specification information.

Our datasheets are available on request and provide supplementary information on;

- Key Dimensions - Line Drawing (Full 3D CAD models also available)
- Construction and Materials
- Product Features & Applications
- Testing and Approvals - Report details and Test Certificate Numbers
- Performance data - e.g. HL Classifications, LOI % etc

Fire Performance

The reaction of products in the event of a fire is critical when it comes to effective product specification. There are recognised national and international standards related to products performance and reaction to fire. Flexicon can offer a wide range of conduit systems which have been independently tested.

Low Fire Hazard systems are required to protect the public, personnel and property in the event of a fire and are demanded by specifiers, Industry Bodies, Train and Network Operators, fire services and even insurers.

At Flexicon we define a Low Fire Hazard product by having <u>all</u> of the following properties:

- **Highly Flame Retardant** to prevent a fire starting or limit its development if one does start.
- **Low Smoke** emission in the event of a fire to enable personnel to see their way to escape.
- **Low Toxicity** in the event of a fire to ensure personnel are not overcome during their escape.
- **Halogen Free** gives an indication of low smoke and low toxicity. It also rules out halogen acid gas emission - a fact that is of interest to insurers as acid smoke can destroy computer equipment and damage the structure of a building. Halogens are Fluorine, Chlorine, Bromine and Iodine.

Our product development programme involves extensive testing to the latest Rail Industry standards to ensure the safety of our products, thus providing confidence for specifiers and consultants when it comes to their reaction to fire.

EN 45545 - European Fire Safety

This new European standard is replacing existing national standards in Europe and consists of 7 parts.

Conduit performance is quoted to EN 45545-2. R22 is for interior parts and R23 is for exterior parts.

There are three defined levels of performance related to the reaction of fire, HL1, HL2 and HL3. HL3 is the highest level of performance when it comes to the reaction to fire, and will be specified for higher risk applications.

Flexicon products tested to;

BS 6853 - UK Standard

This standard relates to passenger rolling stock and are classified into two main categories depending on the operating environment.

Category I relates to Underground applications, which is then sub divided into 2 parts, depending on operating conditions.

Category II relates to Surface stock.

LUL 1-085 - London Underground Standard

This standard is used by London Underground to control the materials used throughout their Underground System.

This standard considers flammability, smoke and toxic fume emissions and includes tests from BS 6853.

Products approved for use have APR numbers. Flexicon's range of conduit systems have 6 Certificates, covering 11 products as Authorised for use.

Certificate No. 296, conduit types FU, SSU and FUSSB.
Certificate No. 297, conduit types LFHU, LFHUBRD and LFHP.
Certificate No. 298, conduit types FPR and FPRSS.
Certificate No. 658, conduit type LTBRDLFH.
Certificate No. 2020, conduit type LTPLFH.
Certificate No. 2624, EXD barrier glands.

NFPA 130 - North American Standard

This standard is used by US Rail authorities.
Tests called up by NFPA 130 are ASTM E 162 (for flammability) and ASTM E 662 (for smoke). Other North American standards are: ASTM E 1354 Heat Load, Boeing BSS 7239 Toxicity

NF F 16-101/2 - French Standard

This standard is used by the French and Belgian Railways and consists of an Ignition rating (I) and a Fume Rating (F).
The lower the number the higher the level of performance when it comes to the reaction to fire. I2 F2 offers more protection than I3 F2.

DIN 5510 - German Standard

This standard is used by the German Railways and consists of three elements including Flame Spread, Smoke evolution and Flaming droplets.
Products categorisation looks like this: S4 / SR2 / ST2.

AS/NZS 1530.3 - Australian Standard

This standard is used by Australian Rail.

CEI 11170 - Italian Standard

This standard is used by the Italian Rail. Products categorisation looks like this: LR4.

Methods of Assessing Fire Performance

Flame Retardancy The minimum requirement is self-extinguishing according to the worldwide conduit system standard BS EN IEC 61386 where a vertical sample of conduit is exposed to a 1kW burner and must extinguish within 30 seconds of the removal of the flame. The char must not have travelled more than a certain distance up the sample and there must be no flaming droplets. Fittings are tested by means of a 750°C glow wire test.

To assess how flame retardant a material is, the normal test method is to measure the Limiting Oxygen Index (LOI) according to BS EN ISO 4589-2 which determines the percentage of oxygen that needs to be present to support combustion. The higher the LOI percentage, the greater the flame retardancy of the material. Oxygen present in normal air is approx. 21%.

Another method is the glow wire test, BS EN IEC 60695-2, which applies a glow wire to a plaque of material at 750°C, 850°C or 960°C.

UL94 is an Underwriters Laboratories standard that measures the rate of burning up a vertical test plaque, category V0 is the most flame retardant followed by V1 and V2. There is a category HB but this indicates that the material is flammable even along a horizontal test plaque.

Low Smoke emission There are a number of fire tests, mainly from the rail industry, where a specified sample of material is burnt under controlled conditions in a given size smoke chamber and the smoke obscuration of a defined beam of light is measured. Although the different tests are similar, the results and the requirements are different.

Low Toxicity There are a number of fire tests, mainly from the rail industry, where a specified sample of material is burnt under controlled conditions in a given size smoke chamber and the fumes are analysed for various gases, the concentration of each gas is then multiplied by its toxic potency to give a toxicity index. Although the different tests are similar, the results and the requirements are different.

If halogens, sulphur or phosphorus are present in a material, it is unlikely to pass the low toxicity tests.

Halogen Free The Halogens are fluorine, chlorine, bromine and iodine. Chlorine is the most common in PVC, fluorine is in fluoro-polymers and bromine appears in flame retardants. All of them give off highly toxic fumes and thick smoke. A material cannot be considered as Low Fire Hazard if it contains halogen. However a halogen free material is not necessarily Low Fire hazard as it may not be low toxicity, low smoke and highly flame retardant.

Halogen content is assessed by various chemical tests and analytical techniques.

Classification of Low Fire Hazard performance (LFH)

Inherently Low Fire Hazard

These products are made entirely from metals so there is no non-metallic material to burn or create smoke or toxic fumes.

Inherently Low Fire Hazard products include; FU, SSU, FB, FUSSB, FTCB, FSS, FSSBRD and metal fittings.

Extra Low Fire Hazard

These products have a Limiting Oxygen Index of greater than 34% as well as being low smoke and low toxicity.

Extra Low Fire Hazard products include; LFHU, LFHUBRD, LTPLFH, LTBRDLFH, LFHP, FPR, FPRSS, FPIHR, FPIHRSS and FPRTC.

Standard Low Fire Hazard

These products have a Limiting Oxygen Index of greater than 22% as well as being low smoke and low toxicity.

Standard Low Fire Hazard products include; FPAS, FPAH, FPI, FPISS, FPIH, FPIHSS and PA66 fittings.

Standards and Approvals

Information

FM58347
BSEN ISO9001 2008

ISO 9001

Flexicon is accredited to ISO 9001 2008 by the British Standards Institution (BSI) for the design and manufacture of conduit systems and accessories. Certificate No FM58347.

BS EN IEC 61386

BS EN IEC 61386

BS EN IEC 61386 is the new worldwide standard for conduit systems and is superceding the previous European conduit standard EN 50086. Flexicon were one of the first companies in the UK to have its products tested to the new standard.

Our Technical Director, Ian Gibson, is the chairman of both the IEC (worldwide) and CENELEC (European) committees that prepare conduit standards.

CE

Flexicon are marked with the CE mark to show that they comply with the essential requirements of the relevant European Directives.

RoHS

All Flexicon's products meet the requirements of the European RoHS Directive, Restriction of Hazardous substances. This precludes the use of certain toxic materials and heavy metals.

REACH

All Flexicon products in the catalogue meet the requirement of the European REACH regulation, Regulation, Evaluation, Authorisation and restriction of Chemicals.

Lloyds Register of Shipping Type Approval

Specific conduit systems from Flexicon have Lloyds Register of Shipping Type Approval having been assessed for suitability for marine and other arduous applications.

Standards Australia (AS)

Standards Australia (AS)

Standards Australia is Australia's peak standards body. It co-ordinates standardisation activities, develops internationally aligned Australian Standards and facilitates the accreditation of other Standards Development Organisations. Certain conduit systems have been tested and approved to the relevant parts of the Australian Standard AS2053.

WEEE

Flexicon's conduit products are not covered by the European WEEE Directive, Waste Electrical and Electric Equipment.

North American Approvals

Most of Flexicon's nylon conduits and fittings have UL (Underwriters Laboratories) recognition for component use within UL listed equipment. File No. E229161.

Some nylon conduits have cUL listing to the UL standard UL1660 and CSA standard C22.2 No. 227.2.1. File No. 246572.

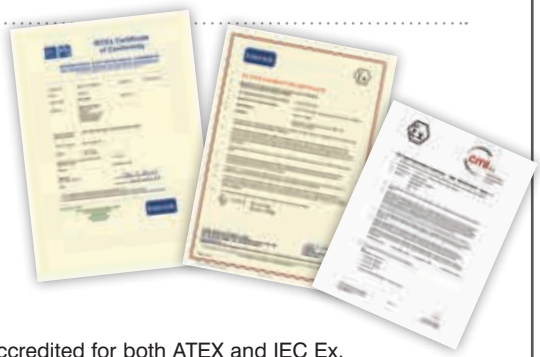
Some nylon fittings have cUL listing to UL514B and CSA standard C22.2 No. 18.3-04. File No. E247502.

LTPUL conduit is UL listed to UL360 and CSA approved.

FPC conduits and MPC fittings are UL recognised to UL1696 and CSA standard 22.2 No. 227 for use in USA and Canada. File No. E229161.

We have tested a selection of our products for UV performance against UL 1660 test criteria (see UL Test Report No. 13CA50836)

Hazardous Area Approvals



Flexicon's EXD glands have been independently tested and accredited for ATEX IECEx Ex d, Ex e and Ex t applications. We also have GOST approvals.

Our LTP EX e fittings have been tested and accredited for both ATEX and IEC Ex.

Hazardous area products

IEC 60079-1, EX d Flameproof glands
IEC 60079-7, EX e Increased Safety glands and conduit fittings
IEC 60079-31, EX t Dust Ignition Protection glands and conduit fittings

IECEx factory approval for the manufacture of EX d, EX e and EX t products
EN 60079-1, EX d Flameproof glands
EN 60079-7, EX e Increased Safety glands and conduit fittings

ATEX factory approval for the manufacture of EX d and EX e products

RIA & Rail Alliance

Flexicon is an active member of the Railway Industry Association and also the Rail Alliance.

UK MOD

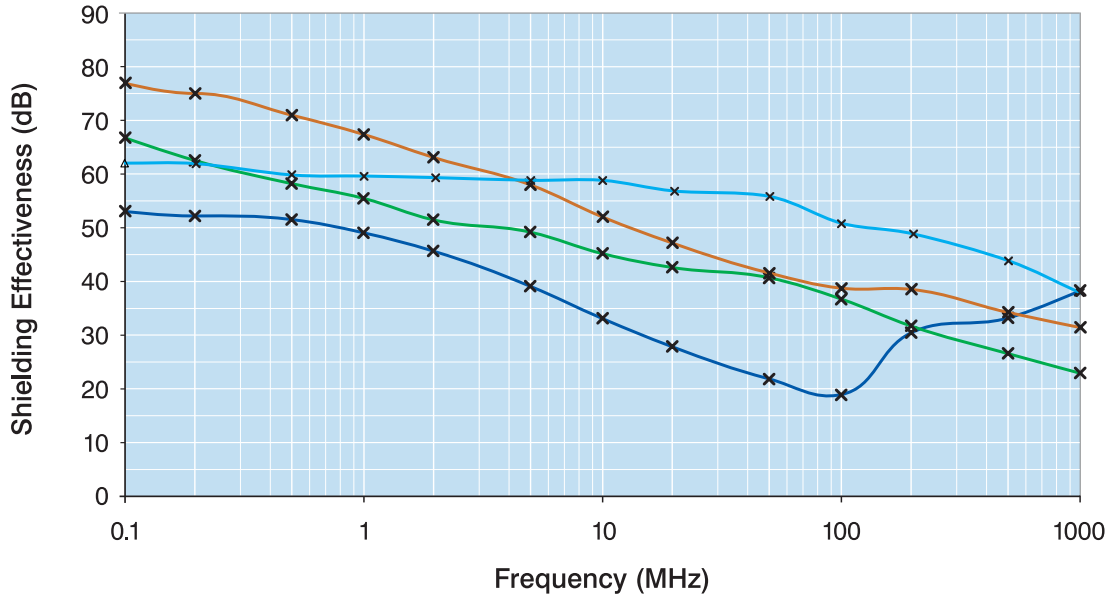
Flexicon is a registered supplier to the UK Ministry of Defence NCAGE No. U5256 and holds NATO codification numbers for specific conduits.

BEAMA Member

BEAMA Limited is the UK's trade body for manufacturers of electrical installation and cable management products. It stands for the British Electrotechnical and Allied Manufacturers Association.

EMC & Installation Instructions

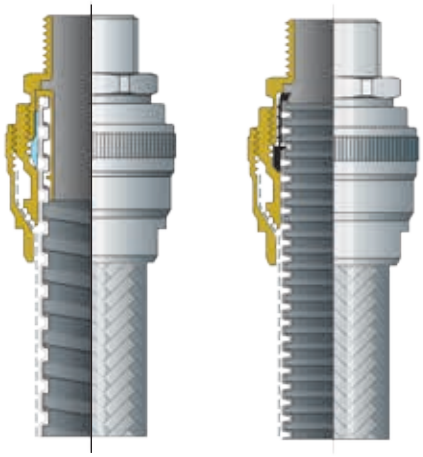
EMC Screening Performance



Braid Material		Part number
Galv Steel		LTBRDP & LTBRDLFH
Galv Steel		FB
Stainless Steel		LFHUBRD, FUSSB, FPRSS, FPISS, FPIHSS, FPIHRSS, FSSBRD
Tinned Copper		FPRTC, FTCB

Flexicon has classified EMC screening of our products as follows;

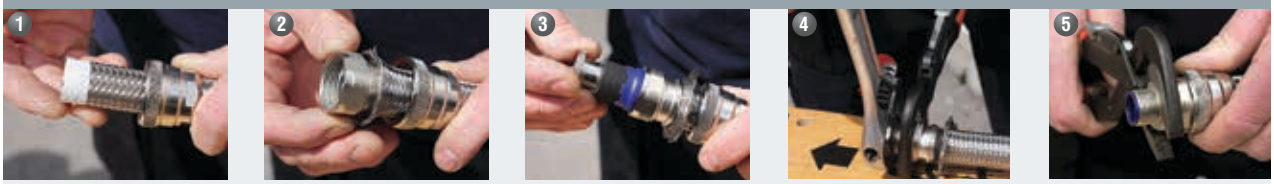
STANDARD EMC SCREEN ★	ENHANCED EMC SCREEN ★★	SUPER EMC SCREEN ★★★
Standard 50dB @ IMHz	Enhanced 60dB @ IMHz	Super 70dB @ IMHz



LFHUBRD FPRTC

Braided Fittings

Type C Braided Fittings



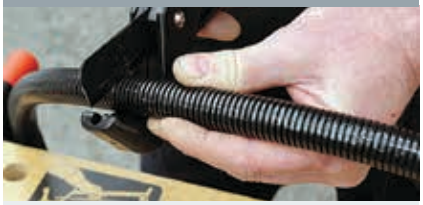
Our type-C braided fittings consist of an outer compression nut, an inner compression nut, an elastomeric seal, an insert and a body. Firstly place the outer compression nut on the conduit as per 1. Remove the tape securing the braid and pull back to allow the inner compression nut to be fitted as per 2. Next, fit the elastomeric seal (note the orientation) and screw the insert into the end of the conduit until this gives a secure fit as per 3.

Bring the body to mate with the inner compression nut and secure. Next, bring the back shell to mate with the inner compression nut to secure the braid as per 4. Metal fittings should be tightened with grips or spanner to ensure securing and IP rating as per 5.

Installation Instructions

Cutting Conduit

Non-Metallic



Non-metallic conduits to 34mm can be easily cut with Flexicon Conduit Cutters, part no. CC01. Use CC02 for sizes up to 67mm. Drop the blade into a corrugation and squeeze and twist until conduit is cut 50% through. Cut the remaining 50% without twisting to achieve a square cut.

Metallic

Metallic conduits should be cut with a fine tooth (32 TPI) hacksaw or bandsaw. Ensure you make a straight vertical cut. Our clamping vice, part no. BSB makes the use of a hacksaw much easier.

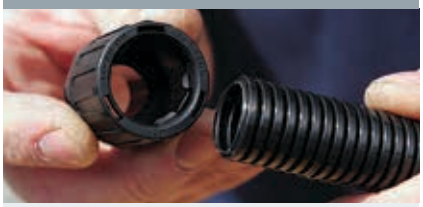
Overbraided

Cutting of overbraided conduit is made much easier by tightly wrapping self adhesive tape around the conduit and sawing through the middle of the tape. The tape should be removed if EMC screening is required. Ensure you make a straight vertical cut.

Conduit length is measured under light tension. When cutting an exact number of lengths from a reel (e.g. 5 x 5m from 25m) please take into account the length tolerance of the reel and each cut length.

Non-Metallic Fittings

FPA and ULTRA™ Fitting



Our range of non-metallic conduit fittings, Flexicon ULTRA™, Flexilok®, FPA and FPAX are all push fit fittings which are quick to assemble once you have cut the conduit to length.

FPA and ULTRA™

For ULTRA™, Flexilok® and FPA fittings simply push the conduit into the end of the fitting with a slight twist until it will go no further. Pull back slightly to ensure the locking teeth mechanism has engaged with the corrugations.

FPAX

The FPAX fitting features a conduit seal to provide the ultimate IP rating up to IP69. This simply fits onto the end of the conduit before the fitting is connected to the conduit. To aid assembly moisten this seal. An FPA fitting cannot be uprated to IP69 with the addition of a seal. Pull back slightly to ensure the locking teeth mechanism has engaged with the corrugations.

To remove the ULTRA™, FPA or FPA fittings simply insert a small screwdriver into the screwdriver slot and move the screwdriver handle towards the “off” position. Remove the screwdriver then manually twist the cap further towards the off position - the fitting can then be released from the conduit. Once removed, the fitting can be reused by simply twisting the cap so that the screwdriver slot lines up with the ON position.

WATCH THE VIDEO

Metallic Fittings

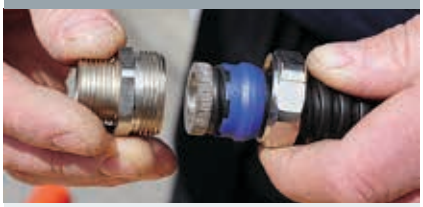
FSU Conduit

Our fitting's components are supplied part assembled to illustrate how they go together. Our C type fittings consist of a compression nut, an elastomeric seal, an insert and a body.

Insert being fitted

Firstly place the back nut on the conduit followed by the seal (note the orientation). Next, screw the insert into the end of the conduit until this gives a secure fit.

Attaching the body



Bring the body to mate with the back nut. Metal fittings should be tightened with grips or spanner to ensure security and IP rating.

IP Rating and Technical Guidance

IP ratings guide

(Ingress Protection to BS EN IEC 60529)

IP40

1st digit – protection against solid objects

0	No protection
1	Protected against objects greater than 50mm
2	Protected against objects greater than 12mm
3	Protected against objects greater than 2.5mm
4	Protected against objects greater than 1.0mm
5	Ingress of dust is not totally prevented but dust does not enter in harmful quantities
6	No ingress of dust

IP40

2nd digit – protection against water

0	No protection
1	Protected against falling drops
2	Protected against drops falling at 15°
3	Low pressure spray – similar to shower head at up to 60° from vertical
4	Low pressure spray – similar to shower head – from any angle for 5 minutes
5	Medium pressure jet – similar to garden hose – from any angle for 3 minutes
6	High pressure jet – similar to fire hose – from any angle for 3 minutes
7	Submersion at 1 metre for 30 minutes
8	Higher water pressure eg: 2 bar for 2 hours. Conduits are tested in-house at up to 10 bar. (equivalent to 100m underwater)
9	Steam clean, high pressure high temp jet wash

Buyer beware

IP tests are type tests of short duration and do not guarantee long term performance. EN 60529 states that equipment conforming to to IP67 or IP68 cannot be assumed to meet IP66 and that the manufacturer shall declare the pressure and duration of the test, for example, FPAX 2 bar for 2 hours.

Technical guidance

Application advice

Flexicon can offer impartial advice on which of our wide range of conduit systems are most suited to your application. Factors which may be important include:-

Standards, performance and approvals

Flexicon conduits and fittings are manufactured by Flexicon to comply with the IEC and European conduit standard BS EN IEC 61386 - see classification table below.

Certain tests are carried out internally by Flexicon, other testing is carried out externally by accredited test laboratories. Specific test reports are available upon request.

Vibration and shock testing to EN61373 Cat 2.

Certain conduit systems have been tested and approved to the relevant parts of the Australian Standard AS2053. Where product performance data over and above the requirements of BS EN IEC 61386 is provided e.g: Low Fire Hazard testing and EMC screening, other appropriate standards have been used.

Cable glands are manufactured to EN 50262.

- Compression strength
- Tensile strength
- Impact strength
- Temperature range
- Flexibility
- Fatigue life
- Electrical insulation or continuity
- IP rating
- Chemical resistance
- Corrosion resistance
- Abrasion resistance
- UV resistance
- Anti vibration
- Fire performance
- EMC screening
- Dimensions
- Weight

Classification of conduit systems to BS EN IEC 61386

Level	1st digit Compression Strength N/50mm	2nd digit Impact Strength Joules at min temp	3rd digit Minimum Temp deg C	4th digit Maximum Temp deg C	5th digit Conduit Type	6th digit Electrical Properties	7th digit IP Rating Solids	8th digit IP Rating Water	9th digit Corrosion Resistance (water)	10th digit Tensile Strength N	11th digit Flame Propagation	12th digit Suspended Load N/48hr
0						None declared		0	None declared	None declared		
1	V. Light (125)	V. Light (0.5)	5	60	Rigid	Continuous		1	Low in & out	V. Light (100)	Non Flame Propagating	V. Light (20)
2	Light (320)	Light (1)	-5	90	Pliable	Insulating		2	Medium in & out	Light (250)	Flame Propagating	Light (30)
3	Medium (750)	Medium (2)	-15	105	Pliable self recoving	Continuous + Insulating	3	3	Medium in & high out	Medium (500)		Medium (150)
4	Heavy (1250)	Heavy (6)	-25	120	Flexible		4	4	High in & out	Heavy (1000)		Heavy (450)
5	V. Heavy (4000)	V. Heavy (20)	-45	150			5	5		V. Heavy (2500)		V. Heavy (850)
6				250			6	6				
7				400				7				

Flexicon Make it Simple

Flexicon are all about innovation, not only in our products, but also in the ways that we deliver product information to our customers.

www.flexicon.uk.com

NEW

flexiapp – find-a-conduit

Try our new smart phone app and find the perfect conduit for your requirements!

NEW

Flexicon 3D CAD Models

Powered by Cadenas, our Parts Community provides technical information on all of our conduits, fittings and accessories. From CAD models, dimensional diagrams and 3D PDFs to part numbers, sizes and downloadable datasheets - all available in one place.

Visit http://flexicon.partcommunity.com for further information, or follow the link on the Flexicon website.

Latest Flexicon Product & Solutions Guide

Our Product and Solutions guide for flexible and pliable conduit systems, features many new products - 100 pages showcasing over 4,000 products covering 56 different conduit systems.

Contact us for your copy now - sales@flexicon.uk.com or visit our website to view on-line.

Errors, omissions and amendments excepted

Information given in this catalogue is for guidance only as our policy is one of continuous development and specifications may change. Flexicon is not liable for claims arising from product misuse.

Terms and Conditions of Sale

Products are supplied subject to Flexicon terms and conditions of sale. These can be viewed on our website www.flexicon.uk.com

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