

CATALOGUE

Flexible non-metallic conduit systems

Innovative and efficient cable protection solutions for critical applications



ABB Adaptaflex is a market-leading brand that can be found all over the world, offering flexible conduit systems. Over the last half a century, Adaptaflex has combined innovative design with dedicated manufacture, to offer customers one of the world's broadest ranges of cable protection solutions. With over 6000 products, including specialist metallic and non-metallic flexible conduit systems for the professional protection of cables, Adaptaflex can be used in critical power applications, data centers, equipment, buildings and infrastructures.

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Introduction

Company overview

Adaptaflex flexible conduit systems are used to protect critical power and data cabling. Established in 1972, Adaptaflex has developed into a leading player within the flexible conduit market.

Adaptaflex is a market-leading flexible conduit system brand that can be found all over the world. Combining innovative design with dedicated manufacture it offers customers one of the world's broadest ranges of cable protection products and solutions. With a choice of over 6000 products the range covers metallic and non-metallic flexible conduit systems for the protection of critical power and data cable.

The system solutions from Adaptaflex need to perform in a wide variety of environments, from high temperature to freezing conditions. The products are designed and tested to withstand constant vibrations, water ingress and offer corrosion and chemical resistance. Products are available in many different materials, including halogen free, low smoke and low toxicity materials. An extensive range of engineered solutions are designed to withstand the rigours of some of the most technically-demanding markets. So whatever your project involves, our experience will provide the answer, helping you to specify the correct flexible conduit system.

Markets and industries

Adaptaflex flexible conduit systems are used to protect critical power and data cabling throughout a wide range of markets including:

- Commercial contracting
- Machinery
- Rail/Infrastructure
- Marine
- Mechanical
- Security/CCTV
- Data cabling
- Critical power

Our products are designed and engineered to meet a variety of market application requirements, providing product innovation that saves installation and component costs, improves quality and delivers integrity in the end product.



Introduction

Quality approvals & third party testing

Quality approvals

The company's commitment to independent testing across a wide range of applications has led to an impressive range of certifications and quality approvals:

- BSI Kitemark
- BS EN ISO14001 Environmental standard
- IEC 61386 Conduit standard covering the performance characteristics of flexible conduits
- ISO 60529 IP69 Rated, standard with its AdaptaLok range of non metallic fittings
- Offer non-metallic conduit that is fully compliant to the new dual listed UL 1696 standard. Required for any equipment destined for export to the USA and Canada
- The Hi-Spec PEEK range, designed for the most demanding electrical applications in rail infrastructure, underground and public buildings, is the only non-metallic flexible conduit system fully compliant with both BS 6853 Class 1A requirement and LUL engineering standard 1-085

Industry standards

As one of the world's leading flexible conduit system manufacturers, Adaptaflex has achieved many international approvals, for our manufacturing as well as our product ranges.

Adaptaflex are able to use our experience and knowledge to ensure safety and quality levels are maintained now and in the future.

BSI Kitemark

Adaptaflex manufacture to third party accreditation through the BSI Kitemark scheme. The Kitemark is one of the world's premier symbols of trust, integrity and quality. Manufacturers with the Kitemark are an elite club of some of the world's best companies being annually tested to ensure continued compliance. Having the Kitemark associated with our products illustrates that we have satisfied the most rigorous of quality processes.

ISO9001 Quality standard

Adaptaflex conform to ISO 9001:2000, the internationally recognised standard for Quality Management Systems. This standard reflects the procedures and management processes throughout the whole of the company.

ISO14001 and ISO45001 Environmental standard

Controlling the impact of manufacturing activities on the environment is a major challenge. Again Adaptaflex lead the way by being the first conduit manufacturer to comply with this Standard.

Customer support

All our products are backed up by a full technical support team, sales teams, customer care team and in-house marketing specialists. All dedicated teams working together to ensure that you have the best support in the market place.

Third party testing & approvals

IEC61386 Performance classification standard

Adaptaflex has achieved third party accreditation to the IEC61386 Standard from the British Standards Institution (BSI). IEC61386 conformance guarantees that products meet performance specifications for fatigue life, operating temperature, non-flame propagation, IP ratings amongst other criteria.



Flexible non-metallic conduit systems

Introduction

Adaptaflex have more than 20 different types of non-metallic conduit systems, all providing different technical properties for your cable management applications.

The popular and easy-to-fit Adaptalok system delivers a range of conduits and fittings, specifically designed to maintain system integrity. Fitting types are available in straight, 90°, 45°, with metric, PG, PF, & NPT threads.

We are proud of our best-in-class Adaptalok ATS™ fitting, a unique and innovative solution in flexible conduit systems.

Advantages of non-metallic:

- No corrosion
- Wide variety of fittings - much larger solution choice
- Quicker to install (cut & assemble fittings)
- Lighter in weight compared with metallics
- Better fatigue life
- No memory in case of impact (return to shape)

Most of our conduit systems have industry recognised approvals including British Kitemark, CE Approval, UL 1696, NF, LUL and DIN amongst others.



Flexible non-metallic conduit systems

Introduction to Adaptalok ATS™

Adaptalok ATS™ represents a unique and innovative solution in flexible conduit systems. Until now, manufacturers have produced fittings and seals separately, and assembled them together, or had the customer assemble them. This increases assembly time and introduces the possibility for errors.

Adaptalok ATS™ uses a sophisticated moulding process to mould an internal conduit seal and a face seal washer. This makes installation times very fast, and extremely reliable, because the seals cannot be left out. The conduit system also benefits from the highest IP rating possible.

Additional key features:

- Nylon 66 body
- Lighter in weight
- Quicker to install (cut & assemble fittings)
- Wide variety of fittings - much larger solution choice
- Better fatigue life
- Return to shape



Markets

Power, energy and renewables

Overview

Adaptaflex offers a range of products suited for these markets, providing abrasion, impact and corrosion resistance and ingress protection.

Additionally, the Adaptaflex portfolio consists of a range of high specification systems, including braided EMI screen options.

Adaptaflex Applications Engineers count on a breadth of experience gained internationally across all different market sectors.

A bespoke design service and expert technical knowledge guarantees that Adaptaflex will find the perfect product solution for your application.

Standards, approvals and certifications

Adaptaflex products are approved by a range of recognised industry standards including:

- BSI Kitemark to IEC61386
- CE marked to the Low Voltage Directive
- Fully compliant to BS7671 Wiring Regulations code of practice
- UL/CSA
- UR



Systems recommendations:

- PA conduits (pages 24-26)
- Overbraided conduits (pages 27-28)
- ATS Fittings (pages 34-51)



Markets

Construction and telecommunications

Overview

In these environments there are ever increasing demands not only for quicker and easier to install solutions, but also for increased safety and technical performances to meet the specific needs of municipal buildings. The ability to offer product ranges with enhanced low fire hazard properties for safety, or overbraiding for security and EMI shielding. Where exposed interiors call for design consideration, there is also a choice of conduit in different colours such as white, or different materials such as stainless steel to complement interior styling – Adaptaflex have a range to suit.

Typical applications:

- Office buildings
- Schools
- Hospitals (EMC)
- Retail developments
- Leisure complexes / Sports stadiums

Standards, approvals and certifications

Adaptaflex products are approved by a range of recognised industry standards including:

- BSI Kitemark to IEC61386
- CE marked to the Low Voltage Directive
- Fully compliant to BS7671 Wiring Regulations code of practice



Systems recommendations:

- Low fire hazard PA conduits (page 24-26)
- Peek extreme temperatures conduit (pages 18-19)
- ATS Fittings (pages 34-51)
- PK metallic fittings for Peek conduit (page 19)



Markets

Transport and rail infrastructure

Overview

For more than 30 years we have worked with the foremost manufacturers and suppliers of public transportation systems throughout the world. We understand not just the standards that you need to work to, but also the industry issues that you face including your customer service delivery expectations.

Our systems need to perform in a wide variety of environments - from extreme high temperatures to freezing subzero conditions. Our products can withstand constant vibrations, water ingress, offer corrosion resistance and are available in halogen free, low smoke and low toxicity materials. If your project involves rail stations, infrastructure, signalling, tunnels, surveillance or data and information systems our experience will provide the answer helping you to specify the correct flexible conduit system.

Typical applications:

- Infrastructure projects – stations, tunnels, signalling
- Low fire hazard systems
- Exposed locations
- High impact resistance, low temperature flexing
- EMC Protection for safety critical systems
- OEM packages

Standards, approvals and certifications

Adaptaflex products are approved by a range of recognised industry standards including:

- LUL 1-085
- NF F 16-101/102
- NFPA130
- Deutsche Bahn (DIN 5510)
- BS6853
- Siemens Transportation
- BSI Kitemark to IEC61386
- CE marked to the Low Voltage Directive
- EN 45545-2



Systems recommendations:

- PA conduits (pages 24-26)
- PR enhanced low fire hazard conduit (page 23)
- PF conduit (page 22)
- PK conduits (page 27)
- CP conduit systems (page 23)
- Overbraided conduits (pages 27-28)
- IP66/67/68/69 Adaptalok/ATS Fittings (pages 34-51)



Markets

Machine building OEMs and factory automation

Overview

This market is driven by the needs to meet the best in lean manufacturing. To achieve this every piece of equipment in this sector is pushed for greater efficiency by working more intensely and faster. As a result any conduit installed in these applications will need to provide excellent mechanical strength, flexibility and abrasion resistance, in order to supply the best possible solution to provide protection along the entire length of all the moving parts.

In this hardworking environment of both dynamic and static applications, it is essential that any cable management products continue to deliver performance in areas where resistance to oils and chemicals is paramount. Any downtime in manufacturing can be very costly so products that can offer high ingress protection are fundamental - Adaptaflex can offer a wide range of solutions to meet all of these needs.

Typical applications:

- Metal cutting and fabrication
- Milling machines
- Hoists
- Cranes
- Lifts
- Escalators

Standards, approvals and certifications

Adaptaflex products are approved by a range of recognised industry standards including:

- BSI Kitemark to IEC61386
- CE marked to the Low Voltage Directive
- Fully compliant to BS7671 Wiring Regulations code of practice
- UL/UR
- CSA



Systems recommendations:

- PA conduits (pages 24-26)
- PADL conduit (page 26)
- Overbraided conduits (pages 27-28)
- ATS Fittings (pages 34-51)
- AL fittings (pages 53-64)



Markets

Marine industry

Overview

Safety and reliability are vital considerations within one of the harshest operational environments to be found. Products specified and installed within this sector have to face the particularly damaging effects from the wind, wave and salt spray conditions in exposed areas. Whilst this demands for the most robust of products, it also calls for solutions where vibration and temperature extremes add to the challenge.

Adaptaflex offer a broad range of solutions to suit this sector, with system properties that include resistance to abrasion, impact, corrosion and chemicals, as well as long service life and low fire hazard properties. Utilising Adaptalok sealing systems also offers ingress protection, particularly valuable in pressure washing applications, with our specialist insert seal raising the IP66 to IP67/68/69.

Typical applications:

- Ship/Boat engine rooms
- Ship and dock yards
- Leisure boats and cruisers
- Marina developments
- Ocean-going craft

Standards, approvals and certifications

Adaptaflex products are approved by a range of recognised industry standards including:

- UR
- BSI Kitemark to IEC61386
- CE marked to the Low Voltage Directive



Systems recommendations:

- PA conduits (pages 24-26)
- PR conduit (page 23)
- Adaptaseal systems (pages 66-68)
- AL fittings (pages 53-64)
- IP66/67/68/69 Adaptalok ATS™ Fittings (pages 34-51)



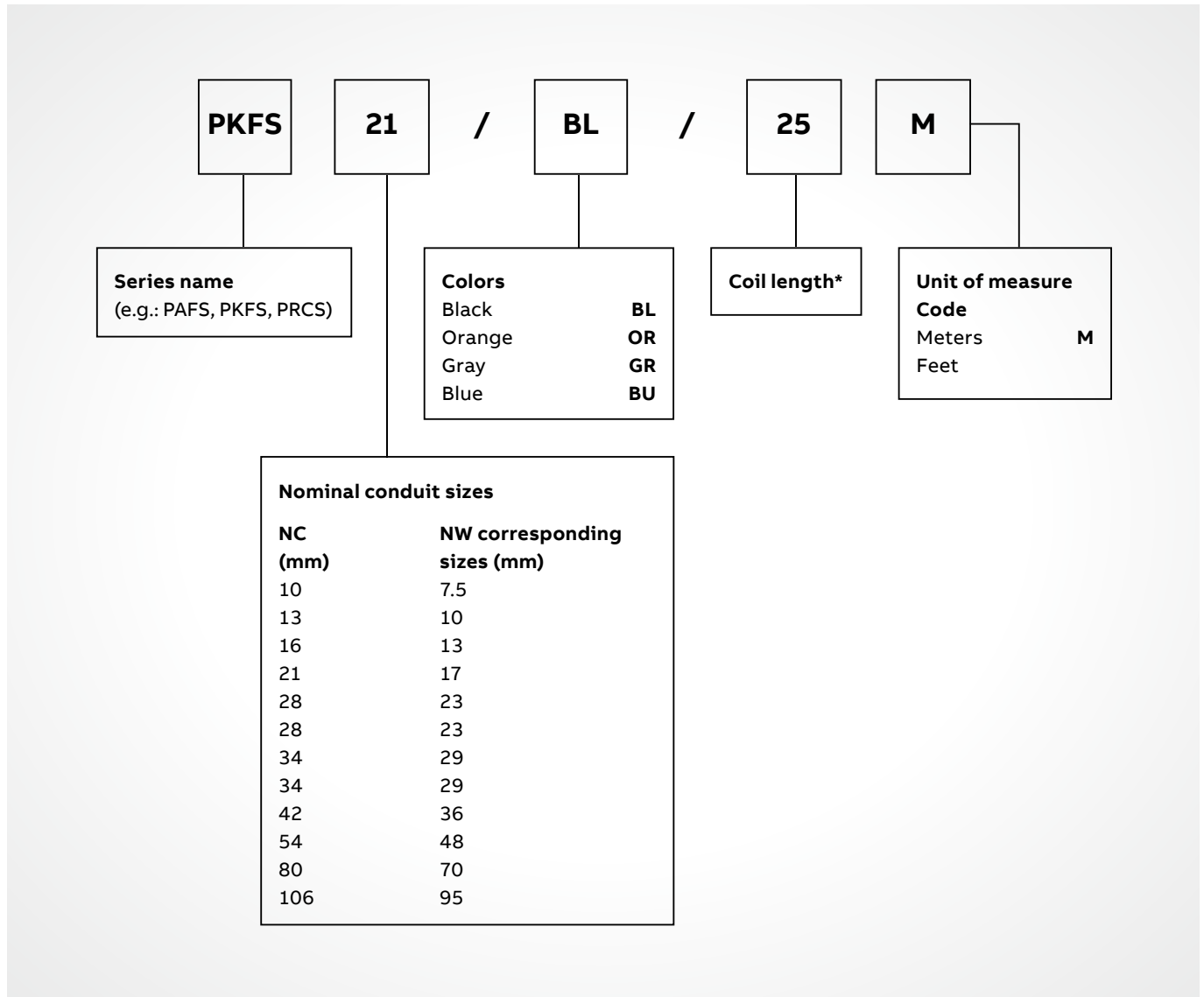




Adaptaflex flexible non-metallic conduits

Systems part number codes structure

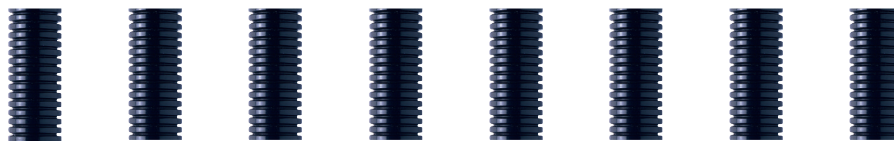
For part number explanation only, not to be used as a configuration tool.



— Products variations are available on request, subject to MOQ .

Non-metallic conduit systems

Quick selection guide



Product selection guide

Type	Pitch	Type PK	Type PP	Type PF	Type PF	Type PR	Type CP	Type PA	Type PA
Part number	Fine	PKFS	PPFM	PFFH	PFFS	PRFS	CPFM	PAFH	PAFS
	Coarse	PKCS		PFCH	PFCS	PRCS	CPCM	PACH	PACS
Conduit weight		Standard weight	Medium weight	Heavy weight	Standard weight	Standard weight	Medium weight	Heavy weight	Standard weight
Conduit material		PK	PP	PA12	PA12	PA6	CPe	PA6	PA6
Covering/overbraid		-	-	-	-	-	-	-	-
		Extreme Temp Radiation Res	Chemical Resistant	Low Smoke and High Fire Performance			High and Low Temp	General purpose	

Conduit colour

Black (BL)		■	■	■	■	■	■	■	■
Grey (GR)		-	-	-	-	-	-	■	■
White (W)		-	-	-	-	-	-	-	-

IP rating (with appropriate fitting)

IP40		-	■	-	-	■	■	■	■
IP65		-	-	-	-	-	■	-	-
IP66		■	■	■	■	■	■	■	■
IP67		■	■	■	■	■	■	■	■
P68		-	■	■	■	■	■	■	■
P69		-	-	■	■	■	■	-	■

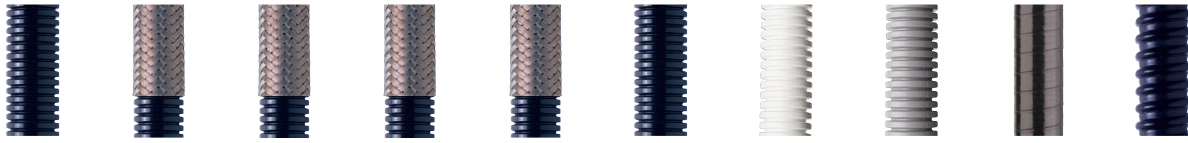
Characteristics

Temperature range

Static applications (°C)		-60 to +260	-20 to +90	-50 to +110	-50 to +110	-40 to +120	-50 to +135	-40 to +120	-40 to +120
Moving applications (°C)		-45 to +260	-5 to +105	-45 to +120	-45 to +120	-5 to +120	-25 to +150	-25 to +150	-25 to +150
UV resistance		Very high	Medium	Very high	Very high	Very high	Very high	Very high	Very high
Flexibility		High	High	High	Very high	High	Very high	Medium	High
Fatigue life		High	Medium	High	Very high	Medium	Very high	Medium	High
Low fire hazard		Super	-	Standard	Standard	Enhanced	Standard	Standard	Standard
Halogen free		■	■	■	■	■	■	■	■
Self extinguishing		■	-	■	■	■	■	■	■
EMI screen		-	-	-	-	-	-	-	-
High mechanical strength		-	-	-	-	-	-	-	-
High abrasion resistance		■	-	■	■	■	-	■	■

Approvals

BSI Kitemark		■	-	■	■	■	■	■	■
CE		■	■	■	■	■	■	■	■
UL / CSA		-	-	■	■	-	-	■	■
DIN 5510-2		■	-	■	■	■	-	■	■
NF F		■	-	■	■	■	■	■	■
LUL 1-085		■	-	-	-	■	-	-	-
UNI CEI 11170		-	-	■	■	-	-	-	-
EN45545-2 to HL2		-	-	■	■	■	-	-	-
EN45545-2 to HL3		-	-	-	-	■	-	-	-



Type PA	Type PKTC	Type PKSS	Type PRTC	Type PRSS	Type KF	Type KF	Type KF	Type RF	Type XF
PAFL-S	PKFSTC	PKFSSS	PRFSTC	PRFSSS	KFM	KFS	KFL	RF	XF
PACL-S	PKCSTC	PKCSSS	PRCSTC	PRCSSS					
Light weight slit	Standard weight	Standard weight	Standard weight	Standard weight	Medium weight	Standard weight	Light weight	Standard weight	Standard weight
PA6	PK	PK	PA6	PA6	PVCu	PVCu	PVCu	PVC	PVC
-	Tinned copper	Stainless steel	Tinned copper	Stainless steel	-	-	-	Plasticised PVC	Plasticised PVC
Easy maintenance	EMI Screen				Self Estinguishing				
■	-	-	-	-	■	-	-	■	■
-	-	-	-	-	-	-	■	■	-
-	-	-	-	-	-	■	-	-	-
-	-	-	-	-	■	■	■	-	-
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-	■	■	■	■	-	-	-	■	-
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-	-	-	-	-	-	-	-	-	-
-40 to	-60 to +260	-60 to +260	-40 to +120	-40 to +120	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-20 to +60
-5 to	-45 to +260	-45 to +260	-5 to +120	-5 to +120	-5 to +60	-5 to +60	-5 to +60	-5 to +60	-5 to +60
Very High	Very high	Very high	Very high	Very high	High	High	High	High	High
High	High	High	High	High	Pliable	Pliable	Pliable	Medium	Medium
High	High	High	Medium	Medium	Low	Low	Low	Medium	Medium
-	Super	Super	Enhanced	Enhanced	-	-	-	-	-
■	■	■	■	■	-	-	-	-	-
■	■	■	■	■	■	■	■	■	■
-	High	Standard	High	Standard	-	-	-	-	-
-	■	■	■	■	-	-	-	-	-
-	■	■	■	■	-	-	-	-	-
■	■	■	■	■	■	■	■	-	-
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-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
26	27	27	28	28	71	71	71	76	74

PEEK hi-spec flexible conduit system

Type “PK”

A unique new range of very high performance non-metallic flexible conduits, providing excellent chemical resistance and superior mechanical properties, often under extreme temperatures.

—
01 PK Tyoe A fitting
fitting – fixed external
male thread /
Polyetherketone
Type PK conduit

For over 40 years Adaptaflex has been manufacturing flexible conduit systems in the UK, and is now a market-leading supplier in its field. This new product range demonstrates the continuing market-led development policy.

Application

PK conduits are manufactured from the specialist polymer PEEK, which can be used in the most demanding applications, where excellent mechanical, thermal and chemical properties are required, often in extreme temperatures. PEEK conduits are ideal for applications such as offshore oil & gas, nuclear, marine, military, petrochemical, heat treatment, aerospace and railways.

PEEK conduits are used with Type PK or Type PBF brass nickel plated fittings.

Features

- Manufactured from PEEK specialist polymer
- Extreme temperature range -60°C to +260°C
- Lowest smoke and toxicity of any thermoplastic
- UL94 V0 flammability rating
- Superior mechanical strength allied to light weight
- London Underground (LUL) approved
- Material is FDA approved
- Uncovered and braided versions
- EMI screening in braided versions

Benefits

- Excellent chemical, thermal and mechanical properties
- Radiation resistant (2000 Mrads)
- Zero halogen, nitrogen, sulphur and phosphorus
- Ideal for applications where weight is a consideration
- Abrasion resistance
- Very low heat release

—
01



PEEK hi-spec non-metallic conduit systems

Type PK conduits and fittings

Polyetherketone Type PK conduit

High specification conduit / Materials: Polyetherketone / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
PKFS13/BL/50M	13	10	Fine	13.2	10.0	35	50
PKFS16/BL/50M	16	13	Fine	16.3	11.7	45	50
PKFS21/BL/50M	21	17	Fine	21.2	16.6	60	50
PKCS28/BL/50M	28	23	Coarse	28.4	21.7	65	50
PKCS34/BL/50M	34	29	Coarse	34.3	27.7	80	50



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

Appropriate fitting

For use with: Peek Type A

IP66 Peek Type A; ATS fittings can be used to ATS operating temperature

IP67 Peek Type A; ATS fittings can be used to ATS operating temperatures

IP68 ATS fittings can be used to ATS operating temperatures

IP69 ATS fittings can be used to ATS operating temperatures

Temperature range

Static applications: -60°C to +260°C

Moving applications: -45°C to +260°C

Flexibility & fatigue life

Medium flexibility – Medium fatigue life

Fire performance & EMI screen

Self extinguishing

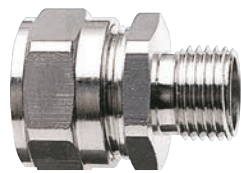
Halogen free



PK Type A fitting

Straight fitting - Fixed external male thread / Materials: Nickel plated brass & silicone

Part no.	Nominal conduit size (mm)	Metric thread
PK13/M16/A	13	M16
PK16/M16/A	16	M16
PK21/M20/A	21	M20
PK28/M25/A	28	M25
PK34/M32/A	34	M32



For insertion into knockouts using a locknut. Locknut supplied separately

Approvals



IP rating

Appropriate fitting

For use with: Peek Type PK

IP66 Peek Type A

IP67 Peek Type A

Temperature range

Static applications: -60°C to +260°C

Moving applications: -45°C to +260°C

Fire performance & EMI screen





2L/78

2L/63

164

Polypropylene non-metallic conduit systems

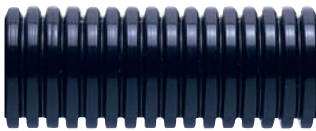
Type PP & conduit & Type PPA fitting

The efficient non-metallic flexible conduits, manufactured from Polypropylene, providing excellent weather and chemical resistance, being the solution against inorganic acids, polyhydric alcohols, neutral and basic salts.

Polypropylene Type PP conduit

Medium weight conduit / Materials: Polypropylene / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
PPFM13/BL/50M	13	10	13.0	9.8	25	50
PPFM16/BL/50M	16	13	15.8	12.1	35	50
PPFM21/BL/50M	21	17	21.2	16.8	40	50
PPFM28/BL/50M	28	23	28.5	23.1	60	50
PPFM34/BL/25M	34	29	34.5	29.1	50	25



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

For use with: Polypropylene Type PPA

IP66

Appropriate fitting

Polypropylene Type PPA

Temperature range

Static applications: -20°C to +90°C

Moving applications: -5°C to +105°C

Flexibility & fatigue life

High flexibility - Medium fatigue life

UV resistance

Medium

Polypropylene Type PPA fitting

Straight fitting - Fixed external male thread / Materials: Polypropylene / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	Metric thread
AL13/M16/PPA/BL	13	M16
AL16/M16/PPA/BL	16	M16
AL21/M20/PPA/BL	21	M20
AL28/M25/PPA/BL	28	M25
AL34/M32/PPA/BL	34	M32



For insertion into knockouts using locknuts. Locknuts supplied
To order quote part number & body colour, e.g. AL21/M20/PPA/BL

Approvals



IP rating

For use with: Polypropylene Type PP

IP66

Appropriate conduit

Yes

Temperature range

Static applications: -20°C to +90°C

Moving applications: -5°C to +105°C

Fitting characteristics



Modified Polyamide 12 non-metallic conduit systems

Type PF conduits

Manufactured from the PA12, PF conduit system provides low fire hazard performance offering a solution for Construction, Transport and Rail infrastructures and Automation.

Type PF - H

Heavyweight conduit / Materials: Modified polyamide 12 / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
PFFH13/BL/50M*	13	10	Fine	13.0	9.7	40	50
PFFH16/BL/50M	16	13	Fine	15.8	11.5	45	50
PFCH21/BL/50M	21	17	Coarse	21.2	15.3	50	50
PFCH28/BL/50M	28	23	Coarse	28.5	21.5	60	50
PFCH34/BL/50M	34	29	Coarse	34.5	27.5	70	25
PFCH42/BL/25M	42	36	Coarse	42.5	35.3	75	25
PFCH54/BL/25M	54	48	Coarse	54.5	46.4	85	25



If interested in different coil lengths, do not hesitate to inquire

*These parts are not covered by the UR certification

Approvals



EN45545-2 HL2 - R22 & R23

IP rating

Appropriate fitting

For use with: PC / ATS / Adaptalok AL / Adaptaseal / Adapting

IP40	Adapting
IP66	PC, ATS, Adaptalok AL, Adaptaseal
IP67	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP68	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP69	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal

Temperature range

Static applications: -50°C to +110°C

Moving applications: -45°C to +120°C

Flexibility & fatigue life

High flexibility – High fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free



Very high

Type PF - S

Standard weight conduit / Materials: Modified polyamide 12 / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
PFFS10/BL/50M*	10	7.5	Fine	10.0	6.2	20	50
PFFS13/BL/50M*	13	10	Fine	13.1	9.8	30	50
PFFS16/BL/50M	16	13	Fine	15.9	11.5	35	50
PFFS21/BL/50M	21	17	Fine	21.2	16.6	40	50
PFCS28/BL/50M	28	23	Coarse	28.4	21.7	50	50
PFCS34/BL/50M	34	29	Coarse	34.5	27.5	60	50
PFCS42/BL/25M	42	36	Coarse	42.7	35.5	65	25
PFCS54/BL/25M	54	48	Coarse	54.3	46.2	75	25



If interested in different coil lengths, do not hesitate to inquire

*These parts are not covered by the UR certification

Approvals



EN45545-2 HL2 - R22 & R23

IP rating

Appropriate fitting

For use with: PC / ATS / Adaptalok AL / Adaptaseal / Adapting

IP40	Adapting
IP66	PC, ATS, Adaptalok AL, Adaptaseal
IP67	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP68	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP69	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal

Temperature range

Static applications: -50°C to +110°C

Moving applications: -45°C to +120°C

Flexibility & fatigue life

Very high flexibility - Very high fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free



Very high

Modified Polyamide 6 and Polyester non-metallic conduit systems

Type PR & CP conduits

PR conduit systems provide enhanced fire performance, making a suitable solution for Construction, Transport and Rail Infrastructures. CP conduit systems can work at extreme temperature yet assuring a high flexibility.

Type PR

Standard weight conduit / Materials: Modified polyamide (nylon) 6 / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
PRFS13/BL/50M	10	7.5	Fine	10.0	6.2	20	50
PRFS16/BL/50M	13	10	Fine	13.0	9.9	30	50
PRFS21/BL/50M	16	13	Fine	15.8	11.7	35	50
PRCS21/BL/50M	21	17	Fine	21.2	16.6	40	50
PRCS28/BL/50M	28	23	Coarse	28.5	21.7	50	50
PRCS34/BL/50M	34	29	Coarse	34.5	27.7	60	50
PRCS42/BL/25M	42	36	Coarse	42.5	35.5	65	25
PRCS54/BL/25M	54	48	Coarse	54.5	46.6	75	25

If interested in different coil lengths, do not hesitate to inquire

Approvals



EN45545-2 HL3 - R22 & R23

IP rating

Appropriate fitting

For use with: PC / ATS / Adaptalok AL / Adaptaseal / Adapting

IP40	Adapting
IP66	PC, ATS, Adaptalok AL, Adaptaseal
IP67	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP68	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP69	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

Flexibility & fatigue life

High flexibility - Medium fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free

UV resistance

Very high



Type CP

Medium weight conduit / Materials: Polyester / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
CPFM13/BL/50M	13	10	Fine	13.0	9.5	25	50
CPFM16/BL/50M	16	13	Fine	15.8	11.3	30	50
CPFM21/BL/50M	21	17	Fine	21.2	16.0	35	50
CPCM28/BL/50M	28	23	Coarse	28.5	21.3	45	50
CPCM34/BL/50M	34	29	Coarse	34.5	27.2	55	50
CPCM42/BL/25M	42	36	Coarse	42.5	34.2	60	25
CPCM54/BL/25M	54	48	Coarse	54.5	46.0	70	25

If interested in different coil lengths, do not hesitate to inquire

Approvals



EN45545-2 HL2 - R22 & R23

IP rating

Appropriate fitting

For use with: PC / ATS / Adaptalok AL / Adaptaseal

IP66	PC, Adaptalok AL, Adaptaseal
IP67	PC, Adaptalok AL + ALS Seal, Adaptaseal
IP68	PC, Adaptalok AL + ALS Seal, Adaptaseal
IP69	PC, Adaptalok AL + ALS Seal, Adaptaseal

Temperature range

Static applications: -50°C to +135°C

Moving applications: -25°C to +150°C

Flexibility & fatigue life

Very high flexibility - Very high fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free

UV resistance

Very high




Polyamide 6 Heavyweight non-metallic conduit systems

Type PA - H conduit



PA conduit systems, manufactured from the versatile PA6, provide an efficient solution to applications where flexibility and durability is required, together with the tough property of the polyamide. Ideal for general purpose applications: lighting systems / industrial commercial wiring, public buildings, machine tools and marine.

Type PA - H

Heavyweight conduit / Materials: Polyamide (nylon) 6 / Colour: Black (BL), Grey (GR)

	Part no.	Nominal conduit size (mm)	NW conduit size	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
	PAFH13/BL/50M*	13	10	Fine	13.0	9.0	35	50
	PAFH16/BL/50M	16	13	Fine	15.8	11.3	45	50
	PACH21/BL/50M	21	17	Coarse	21.2	14.5	60	50
	PACH28/BL/50M	28	23	Coarse	28.5	21.3	70	50
	PACH34/BL/25M	34	29	Coarse	34.5	26.8	75	50
	PACH42/BL/25M	42	36	Coarse	42.5	34.6	90	25
	PACH54/BL/25M	54	48	Coarse	54.5	46.0	95	25

For grey color version state "GR" instead of "BL" in Part no. If interested in different coil lengths, do not hesitate to inquire
*These parts are not covered by the UR certification

Approvals	IP rating	Appropriate fitting	Temperature range	UV resistance
	For use with: PC / ATS / Adaptalok AL / Adaptaseal / Adapting		Static applications: -40°C to +120°C	Very high
			Moving applications: -5°C to +120°C	
	IP40	Adapting	Flexibility & fatigue life	
	IP66	PC, ATS, Adaptalok AL, Adaptaseal	High flexibility – High fatigue life	
IP67	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal	Fire performance & EMI screen		
IP68	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal	Self extinguishing Halogen free		

Polyamide 6 Standard Weight non-metallic conduit systems

Type PA - S conduit

PA conduit systems, manufactured from the versatile PA6, provide an efficient solution to applications where flexibility and durability is required, together with the tough property of the polyamide. Ideal for general purpose applications: lighting systems / industrial commercial wiring, public buildings, machine tools and marine.

Type PA - S

Standard weight conduit / Materials: Polyamide (nylon) 6 / Colour: Black (BL), Grey (GR)

	Part no.	Nominal conduit size (mm)	NW conduit size	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
	PAFS10/BL/50M*	10	7.5	Fine	10.0	6.5	15	50
	PAFS13/BL/50M*	13	10	Fine	13.0	9.6	25	50
	PAFS16/BL/50M	16	13	Fine	15.8	11.8	35	50
	PAFS21/BL/50M	21	17	Fine	21.2	16.5	45	50
	PAFS28/BL/50M	28	23	Fine	28.5	22.6	50	50
	PACS28/BL/50M	28	23	Coarse	28.5	21.7	50	50
	PAFS34/BL/50M	34	29	Fine	34.5	28.8	60	50
	PACS34/BL/50M	34	29	Coarse	34.5	27.7	60	50
	PACS42/BL/25M	42	36	Coarse	42.5	35.2	65	25
	PACS48/BL/25M	48	42	Coarse	48.2	40.9	70	25
	PACS54/BL/25M	54	48	Coarse	54.5	46.5	75	25
	PACS80/BL/10M	80	70	Coarse	79.3	67.0	160	10
	PACS106/BL/10M	106	95	Coarse	106.0	91.5	210	10

Approvals



IP rating

For use with: PC / ATS / Adaptalok AL / Adaptaseal / Adaptaring

IP rating	Appropriate fitting
IP40	Adaptaring & Jumbo
IP65	Adaptalok AL Jumbo + SK Seal
IP66	PC, ATS, Adaptalok AL, Adaptaseal
IP67	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP68	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal
IP69	PC, ATS, Adaptalok AL + ALS Seal, Adaptaseal

Appropriate fitting

Temperature range

Static applications: -40°C to +120°C
Moving applications: -25°C to +150°C

Flexibility & fatigue life

High flexibility – High fatigue life

Fire performance & EMI screen

Self extinguishing
Halogen free

UV resistance

Very high



Polyamide 6 Slit non-metallic conduit systems

Type PA-Slit conduits

Type PA-Slit

Slit conduit / Materials: Polyamide (nylon) 6 / Colour: Black (BL) only

Part no.	Nominal conduit size (mm)	NW conduit size	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Minimum bend radius (mm)	Reel length (m)
PAFL13-S/BL/50M	13	10	Fine	13.0	10.0	25	50
PAFL16-S/BL/50M	16	13	Fine	15.8	11.9	35	50
PAFL21-S/BL/50M	21	17	Fine	21.2	16.8	45	50
PACL28-S/BL/50M	28	23	Coarse	28.5	22.2	50	50
PACL34-S/BL/50M	34	29	Coarse	34.5	27.9	60	50
PACL42-S/BL/25M	42	36	Coarse	42.5	35.2	65	25
PACL54-S/BL/25M	54	48	Coarse	54.5	46.9	75	25



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

N/A

Appropriate fitting

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

UV resistance

Very high

Flexibility & fatigue life

High flexibility – High fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free

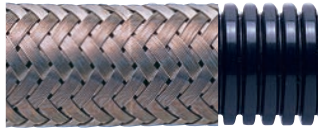
Abrasion Resistant and EMI screening non-metallic conduit systems

Type PKTC & PKSS - Hi-Spec conduits

Type PKTC - Hi-Spec

High specification, high EMI screening conduit / Materials: Polyetherketone conduit, tinned copper overbraid

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
PKFSTC13/BL/25M	13	10	Fine	14.1	10.0	35	25
PKFSTC16/BL/25M	16	13	Fine	17.2	11.7	45	25
PKFSTC21/BL/25M	21	17	Fine	23.6	16.6	60	25
PKCSTC28/BL/25M	28	23	Coarse	30.0	21.7	65	25
PKCSTC34/BL/25M	34	29	Coarse	36.0	27.7	80	25



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

For use with: Hi-Spec Type A & B

IP66

Hi-Spec Type A & B

IP67

Hi-Spec Type A & B

Appropriate fitting

Temperature range

Static applications: -60°C to +260°C

Moving applications: -45°C to +260°C

Flexibility & fatigue life

High flexibility – High fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free

UV resistance

Very high



Type PKSS - Hi-Spec

High specification, standard EMI screening conduit / Materials: Polyetherketone conduit, stainless steel overbraid

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
PKFSSS13/BL/25M	13	10	Fine	14.1	10.0	45	25
PKFSSS16/BL/50M	16	13	Fine	17.2	11.7	55	50
PKFSSS21/BL/50M	21	17	Fine	23.6	16.6	70	50
PKCSSS28/BL/50M	28	23	Coarse	30.0	21.7	85	50
PKCSSS34/BL/25M	34	29	Coarse	36.0	27.7	100	25



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

For use with: Hi-Spec Type A & B

IP66

Hi-Spec Type A & B

IP67

Hi-Spec Type A & B

Appropriate fitting

Temperature range

Static applications: -60°C to +260°C

Moving applications: -45°C to +260°C

Flexibility & fatigue life

High flexibility – High fatigue life

Fire performance & EMI screen

Self extinguishing

Halogen free

UV resistance

Very high



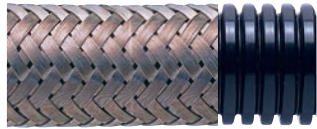
Abrasion Resistant and EMI screening non-metallic conduit systems

Type PRTC & PRSS - Hi-Spec conduits

Type PRTC - Hi-Spec

High specification, high EMI screening conduit / Materials: Polyetherketone conduit, tinned copper overbraid

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
PRFSTC16/BL/50M	16	13	Fine	17.2	11.7	35	50
PRFSTC21/BL/50M	21	17	Fine	23.6	16.6	45	50
PRCSTC28/BL/50M	28	23	Coarse	30.0	21.7	50	50
PRCSTC34/BL/50M	34	29	Coarse	36.0	27.7	60	50
PRCSTC42/BL/25M	42	36	Coarse	43.5	35.1	65	25
PRCSTC54/BL/25M	54	48	Coarse	56.5	46.6	75	25



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

For use with: Hi-Spec Type A & B

IP66

Hi-Spec Type A & B

IP67

Hi-Spec Type A & B

Appropriate fitting

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

Flexibility & fatigue life

High flexibility – Medium fatigue life

Fire performance & EMI screen

Self extinguishing

UV resistance

Very high



Type PRSS - Hi-Spec

High specification, standard EMI screening conduit / Materials: Polyetherketone conduit, stainless steel overbraid

Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
PRFSSS16/BL/50M	16	13	Fine	17.2	11.7	35	50
PRFSSS21/BL/50M	21	17	Fine	23.6	16.6	45	50
PRCSSS28/BL/50M	28	23	Coarse	30.0	21.7	55	50
PRCSSS34/BL/50M	34	29	Coarse	36.0	27.7	70	50
PRCSSS42/25M	42	36	Coarse	43.5	35.1	85	25
PRCSSS54/25M	54	48	Coarse	56.5	46.6	110	25



If interested in different coil lengths, do not hesitate to inquire

Approvals



IP rating

For use with: Hi-Spec Type A & B

IP66

Hi-Spec Type A & B

IP67

Hi-Spec Type A & B

Appropriate fitting

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

Flexibility & fatigue life

High flexibility – Medium fatigue life

Fire performance & EMI screen

Self extinguishing

UV resistance

Very high



Non-metallic conduit systems

Hi-Spec Fittings for overbraided PKTC, PKSS, PRTC & PRSS solutions

PB Type A - Hi-Spec fitting

Straight fitting - Fixed external male thread / Materials: Nickel plated brass



Part no.	Nominal conduit size (mm)	Metric thread
PBF13/M16/A	13	M16
PBF16/M16/A	16	M16
PBF21/M20/A	21	M20
PBC28/M25/A	28	M25
PBC34/M32/A	34	M32
PBC42/M40/A	42	M40

For insertion into knockouts using a locknut

Approvals



IP rating

Appropriate fitting

For use with: Hi-Spec Type PKTC / PKSS / PRTC / PRSS

IP66	Yes
IP67	Yes

Temperature range

Static applications: -60°C to +260°C

Moving applications: -45°C to +250°C

Fire performance & EMI screen



PB Type B - Hi-Spec fitting

Straight fitting - Swivel external male thread / Materials: Nickel plated brass



Part no.	Nominal conduit size (mm)	Nominal dimensions (mm)		Metric thread
		Outer Ø	Length	
PBF13/M16/B	13	30.5	50.0	M16
PBF16/M16/B	16	33.0	57.1	M16
PBF21/M20/B	21	39.0	59.1	M20
PBC28/M25/B	28	49.0	70.0	M25
PBC34/M32/B	34	55.0	75.0	M32
PBC42/M40/B	42	77.0	90.0	M40
PBC54/M50/B	54	90.0	92.0	M50

For insertion into threaded entries & knockouts

Approvals



IP rating

Appropriate fitting

For use with: Hi-Spec Type PKTC / PKSS / PRTC / PRSS

IP66	Yes
IP67	Yes

Temperature range

Static applications: -60°C to +260°C

Moving applications: -45°C to +260°C

Fire performance & EMI screen



Corrosion-resistant composite PC fittings

Introduction

Range overview – Corrosion-resistant composite fittings for light rail and applications in exposed areas.

—
01 Type PCC/PCF –
CS90 – 90° elbow
fitting – swivel
external male thread

—
02 Type PCC/PCF –
S45 – composite 45°
elbow fitting – swivel
external male thread

Offering reduced weight, enhanced strength and providing a smooth, unrestricted internal bore in demanding applications.

Typical applications:

- Areas of potential high impact
- Train bogies
- Areas where additional mechanical need to protect against damage
- Rail infrastructure
- Trackside
- Machinery and equipment

Features:

- PCC – Coarse pitch conduit
- PCF – Fine pitch conduit
- Smooth through bore
- High strength and high impact resistance
- Full swivel function on elbow fittings
- Lightweight
- For insertion into threaded entries and knockouts using a locknut. Locknut supplied separately



Many of our conduit systems have industry recognised approvals including British Kitemark, CE Approval & UL amongst others.

01



02



Non-metallic conduit systems

PC - Type A fittings

PC Type A fitting

Straight fitting - Fixed external male thread / Materials: Nickel plated brass, neoprene seals



Part no.	Nominal conduit size (mm)	Nominal dimensions (mm)		Metric thread
		Outer Ø	Length	
Standard thread length (12mm)				
PCF13/M16/A*	13	22.0	35.5	M16
PCF16/M16/A	16	25.4	37.5	M16
PCF21/M20/A	21	30.0	37.5	M20
PCC28/M25/A	28	38.0	45.5	M25
PCC34/M32/A	34	44.5	48.0	M32
PCC42/M40/A	42	57.0	48.0	M40
PCC54/M50/A	54	70.0	50.0	M50
Short thread length (8mm)				
PCF13/M16S/A*	13	22.0	35.5	M16S
PCF16/M16S/A	16	25.4	37.5	M16S
PCF21/M20S/A	21	30.0	37.5	M20S
PCC28/M25S/A	28	38.0	45.5	M25S
PCC34/M32S/A	34	44.5	48.0	M32S
PCC42/M40S/A	42	57.0	48.0	M40S
PCC54/M50S/A	54	70.0	50.0	M50S

For insertion into threaded entries and knockouts using a locknut. Locknut supplied separately

*These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PADL & PF

IP66	Yes
IP67	Yes
IP68	Yes (4 bar 30mins)
IP69	Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Non-metallic conduit systems

PC - Type CS90 fittings

Type PC fitting

90° Elbow fitting - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass, neoprene seals / Colour: Black (BL) only



Part no.	Nominal conduit size (mm)	Metric thread
Standard thread length (12mm)		
PCF13/M16/CS90	13	M16
PCF16/M16/CS90	16	M16
PCF21/M20/CS90	21	M20
PCC28/M25/CS90	28	M25
PCC34/M32/CS90	34	M32
PCC42/M40/CS90	42	M40
PCC54/M50/CS90	54	M50
Short thread length (9mm)		
PCF13/M16S/CS90	13	M16S
PCF16/M16S/CS90	16	M16S
PCF21/M20S/CS90	21	M20S
PCC28/M25S/CS90	28	M25S
PCC34/M32S/CS90	34	M32S
PCC42/M40S/CS90	42	M40S
PCC54/M50S/CS90	54	M50S

For insertion into threaded entries and knockouts using a locknut. Locknut supplied separately

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PADL & PF

IP66	Yes
IP67	Yes
IP68	Yes (4 bar 30mins)
IP69	Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

PC - Type S45 fittings

Type PC fitting

Composite 45° elbow fitting - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass, neoprene seals / Colour: Black (BL) only



Part no.	Nominal conduit size (mm)	Metric thread
Standard thread length (12mm)		
PCF13/M16/S45*	13	M16
PCF16/M16/S45	16	M16
PCF21/M20/S45	21	M20
PCC28/M25/S45	28	M25
PCC34/M32/S45	34	M32
PCC42/M40/S45	42	M40
PCC54/M50/S45	54	M50
Short thread length (9mm)		
PCF13/M16S/S45*	13	M16S
PCF16/M16S/S45	16	M16S
PCF21/M20S/S45	21	M20S
PCC28/M25S/S45	28	M25S
PCC34/M32S/S45	34	M32S
PCC42/M40S/S45	42	M40S
PCC54/M50S/S45	54	M50S

For insertion into threaded entries and knockouts using a locknut. Locknut supplied separately

*These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PADL & PF

IP66	Yes
IP67	Yes
IP68	Yes (4 bar 30mins)
IP69	Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

Introduction to Adaptalok ATS™

Adaptalok ATS™ represents a unique and innovative solution in flexible conduit systems. Until now, manufacturers have produced fittings and seals separately, and assembled them together, or had the customer assemble them. This increases assembly time and introduces the possibility for errors.

Adaptalok ATS™ uses a sophisticated moulding process to mould an internal conduit seal and a face seal washer. This makes installation times very fast, and extremely reliable, because the seals cannot be left out. The conduit system also benefits from the highest IP rating possible.

- Additional key features:
- Nylon 66 body
- Lighter in weight
- Quicker to install (cut & assemble fittings)
- Wide variety of fittings - much larger solution choice
- Better fatigue life
- Return to shape



Non-metallic conduit systems

Manifold box

Type MB



Multiway adapters / Materials: Polyamide (nylon) 66/TPE / Colour: Black (BL) only / Yellow (Y) Elastomer



Part no.	External dimensions lid dia. X height (mm)	External dimensions fixing lugs (mm)	Max threaded entry per face
MB21/BLY	100 x 40	120	M20
MB34/BLY	136 x 55	155	M32

Non metallic enclosure which can be machined to take up to eight Adaptalok ATS™ fittings (or other devices) in a variety of configurations and sizes, e.g. 'Y', 'T', 'X', 'V' etc.

Each box has a removable cover for ease of access. The box seal is moulded, so remains captive. Each manifold is provided with eight blank sides which require drilling/machining to suit the application. Manifolds can be supplied ready drilled to order, subject to minimum order quantities. Threaded fittings with locknuts can be used in each entry.

Approvals	IP rating	Appropriate conduit	Temperature range	UV resistance
 	For use with: All threaded fittings in this catalogue	IP68	Static applications: -50°C to +120°C	Very high
			Moving applications: -45°C to +120°C	
		Yes (2 bar 30mins)		

Non-metallic conduit systems

ATS™ Type A fittings (yellow elastomer)

Type A fitting - yellow elastomer

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66/TPE /
Colour: Black (BL) / Yellow (Y) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PF thread (in)	Part no.	Nominal conduit size (mm)	NPT thread (in)
AT13/M16/A/BLY	13	M16	AT13/PF038/A/BLY	13	3/8	AT13/038/A/BLY	13	3/8
AT16/M16/A/BLY	16	M16	AT16/PF038/A/BLY	16	3/8	AT16/038/A/BLY	16	3/8
AT16/M20/A/BLY	16	M20	AT16/PF050/A/BLY	16	1/2	AT16/050/A/BLY	16	1/2
AT21/M20/A/BLY	21	M20	AT21/PF050/A/BLY	21	1/2	AT21/050/A/BLY	21	1/2
AT21/M25/A/BLY	21	M25	-	-	-	-	-	-
AT28/M25/A/BLY	28	M25	AT28/PF075/A/BLY	28	3/4	AT28/075/A/BLY	28	3/4
AT28/M32/A/BLY	28	M32	-	-	-	-	-	-
AT34/M32/A/BLY	34	M32	AT34/PF100/A/BLY	34	1	AT34/100/A/BLY	34	1
AT34/M40/A/BLY	34	M40	-	-	-	-	-	-
AT42/M40/A/BLY	42	M40	AT42/PF125/A/BLY	42	1 1/4	AT42/125/A/BLY	42	1 1/4
AT54/M50/A/BLY	54	M50	-	-	-	-	-	-
AT54/M63/A/BLY	54	M63	AT54/PF200/A/BLY	48	2	AT54/200/A/BLY	54	2

For insertion into knockouts using a locknut. Locknut supplied with METRIC thread

Approvals



IP rating

Appropriate conduit

IP rating	Appropriate conduit
For use with: Type PA / PR / PADL / PF	
IP40	Yes
IP65	Yes
IP68	Yes
	4 bar 30mins with Heavy Weight Conduits
	2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range

Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Non-metallic conduit systems

ATS™ Type A fittings (blue elastomer)

Type A fitting - blue elastomer

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66/TPE /
Colour: Black (BL) / Blue (B) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	NPT thread (in)
AT13/M16/A/BLB	13	M16	AT13/038/A/BLB	13	3/8
AT16/M16/A/BLB	16	M16	AT16/038/A/BLB	16	3/8
AT16/M20/A/BLB	16	M20	AT16/050/A/BLB	16	1/2
AT21/M20/A/BLB	21	M20	AT21/050/A/BLB	21	1/2
AT21/M25/A/BLB	21	M25	-	-	-
AT28/M25/A/BLB	28	M25	AT28/075/A/BLB	28	3/4
AT34/M32/A/BLB	34	M32	AT34/100/A/BLB	34	1
AT34/M40/A/BLB	34	M40	-	-	-
AT42/M40/A/BLB	42	M40	AT42/125/A/BLB	42	1 1/4
-	-	-	AT48/150/A/BLB	48	1 1/2
AT54/M50/A/BLB	54	M50	-	-	-
AT54/M63/A/BLB	54	M63	AT54/200/A/BLB	54	2

For insertion into knockouts using a locknut. Locknut supplied with METRIC thread

Approvals



IP rating

Appropriate conduit

For use with: Type PA / PR / PADL / PF

IP40	Yes
IP65	Yes
IP68	Yes
	4 bar 30mins with Heavy Weight Conduits
	2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Non-metallic conduit systems

ATS™ Type C90 fittings

Type C90 - yellow elastomer

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66/TPE /
Colour: Black (BL) / Yellow (Y) Elastomer



Part no.	Nominal conduit size		Part no.	Nominal conduit size		Part no.	Nominal conduit size	
	(mm)	Metric thread		(mm)	PF thread (in)		(mm)	NPT thread (in)
AT13/M16/C90/BLY	13	M16	AT13/PF038/C90/BLY	13	3/8	AT13/O38/C90/BLY	13	3/8
AT16/M16/C90/BLY	16	M16	AT16/PF038/C90/BLY	16	3/8	AT16/O38/C90/BLY	16	3/8
AT16/M20/C90/BLY	16	M20	AT16/PF050/C90/BLY	16	1/2	AT16/O50/C90/BLY	16	1/2
AT21/M20/C90/BLY	21	M20	AT21/PF050/C90/BLY	21	1/2	AT21/O50/C90/BLY	21	1/2
AT28/M25/C90/BLY	28	M25	AT28/PF075/C90/BLY	28	3/4	AT28/O75/C90/BLY	28	3/4
AT34/M32/C90/BLY	34	M32	AT34/PF100/C90/BLY	34	1	AT34/O100/C90/BLY	34	1
AT42/M40/C90/BLY	42	M40	AT42/PF125/C90/BLY	42	1 1/4	AT42/O125/C90/BLY	42	1 1/4
AT54/M50/C90/BLY	54	M50	AT54/PF150/C90/BLY	54	1 1/2	AT54/O150/C90/BLY	54	1 1/2
AT54/M63/C90/BLY	54	M63	AT54/PF200/C90/BLY	54	2	AT54/O200/C90/BLY	54	2

For insertion into knockouts using a locknut. Locknut supplied with METRIC thread

Approvals



IP rating

Appropriate conduit

For use with: Type PA / PR / PADL / PF

IP40	Yes
IP65	Yes
IP68	Yes
	4 bar 30mins with Heavy Weight Conduits
	2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Type C90 - blue elastomer

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66/TPE /
Colour: Black (BL) / Blue (B) Elastomer



Part no.	Nominal conduit size		Part no.	Nominal conduit size	
	(mm)	Metric thread		(mm)	PF thread (in)
AT13/M16/C90/BLB	13	M16	AT13/PF038/C90/BLB	13	3/8
AT16/M16/C90/BLB	16	M16	AT16/PF038/C90/BLB	16	3/8
AT16/M20/C90/BLB	16	M20	AT16/PF050/C90/BLB	16	1/2
AT21/M20/C90/BLB	21	M20	AT21/PF050/C90/BLB	21	1/2
AT28/M25/C90/BLB	28	M25	AT28/PF075/C90/BLB	28	3/4
AT34/M32/C90/BLB	34	M32	AT34/PF100/C90/BLB	34	1
AT42/M40/C90/BLB	42	M40	AT42/PF125/C90/BLB	42	1 1/4
AT54/M50/C90/BLB	54	M50	AT54/PF150/C90/BLB	54	1 1/2
AT54/M63/C90/BLB	54	M63	AT54/PF200/C90/BLB	54	2

For insertion into knockouts using a locknut. Locknut supplied with METRIC thread

Approvals



IP rating

Appropriate conduit

For use with: Type PA / PR / PADL / PF

IP40	Yes
IP65	Yes
IP68	Yes
	4 bar 30mins with Heavy Weight Conduits
	2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Non-metallic conduit systems

ATS™ Type 45 fittings

Type 45 - yellow elastomer

45° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66/TPE /
Colour: Black (BL) / Yellow (Y) Elastomer



Part no.	Nominal conduit size		Part no.	Nominal conduit size		Part no.	Nominal conduit size	
	(mm)	Metric thread		(mm)	PF thread (in)		(mm)	NPT thread (in)
AT13/M16/45/BLY	13	M16	AT13/PF038/45/BLY	13	3/8	AT13/O38/45/BLY	13	3/8
AT16/M16/45/BLY	16	M16	AT16/PF038/45/BLY	16	3/8	AT16/O38/45/BLY	16	3/8
AT16/M20/45/BLY	16	M20	AT16/PF050/45/BLY	16	1/2	AT16/O50/45/BLY	16	1/2
AT21/M20/45/BLY	21	M20	AT21/PF050/45/BLY	21	1/2	AT21/O50/45/BLY	21	1/2
AT28/M25/45/BLY	28	M25	AT28/PF075/45/BLY	28	3/4	AT28/O75/45/BLY	28	3/4
AT34/M32/45/BLY	34	M32	AT34/PF100/45/BLY	34	1	AT34/O100/45/BLY	34	1
AT42/M40/45/BLY	42	M40	AT42/PF125/45/BLY	42	1 1/4	AT42/O125/45/BLY	42	1 1/4
-	-	-	AT48/PF150/45/BLY	48	1 1/2	AT48/O150/45/BLY	48	1 1/2
AT54/M50/45/BLY	54	M50	-	-	-	-	-	-

For insertion into knockouts using a locknut. Locknut supplied with METRIC thread

Approvals



IP rating

IP rating	Appropriate conduit
For use with: Type PA / PR / PADL / PF	
IP40	Yes
IP65	Yes
IP68	Yes
	4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range

Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Type 45 - blue elastomer

45° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66/TPE /
Colour: Black (BL) / Blue (B) Elastomer



Part no.	Nominal conduit size		Part no.	Nominal conduit size	
	(mm)	Metric thread		(mm)	PF thread (in)
AT13/M16/45/BLB	13	M16	AT13/PF038/45/BLB	13	3/8
AT16/M16/45/BLB	16	M16	AT16/PF038/45/BLB	16	3/8
AT16/M20/45/BLB	16	M20	AT16/PF050/45/BLB	16	1/2
AT21/M20/45/BLB	21	M20	AT21/PF050/45/BLB	21	1/2
AT28/M25/45/BLB	28	M25	AT28/PF075/45/BLB	28	3/4
AT34/M32/45/BLB	34	M32	AT34/PF100/45/BLB	34	1
AT42/M40/45/BLB	42	M40	AT42/PF125/45/BLB	42	1 1/4
-	-	-	AT48/PF150/45/BLB	48	1 1/2
AT54/M50/45/BLB	54	M50	-	-	-

For insertion into knockouts using a locknut. Locknut supplied with METRIC thread

Approvals



IP rating

IP rating	Appropriate conduit
For use with: Type PA / PR / PADL / PF	
IP40	Yes
IP65	Yes
IP68	Yes
	4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range


Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Non-metallic conduit systems

ATS™ Type SA & Type CS90 fittings



Type SA

Straight fitting - Metal swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

Part no.	Nominal conduit size		Part no.	Nominal conduit size		Part no.	Nominal conduit size		
	(mm)	Metric thread		(mm)	NPT thread (in)		(mm)	PG thread	
	AT13/M16/SA/BL*	13	M16	AT13/038/SA/BL*	13	3/8	AT13/PG9/SA/BL*	13	PG9
	AT16/M16/SA/BL*	16	M16	AT16/038/SA/BL*	16	3/8	AT16/PG11/SA/BL*	16	PG11
	AT21/M20/SA/BL*	21	M20	AT21/050/SA/BL*	21	1/2	AT21/PG16/SA/BL*	21	PG16
	AT28/M25/SA/BL*	28	M25	AT28/075/SA/BL*	28	3/4	AT28/PG21/SA/BL*	28	PG21
	AT34/M32/SA/BL*	34	M32	AT34/100/SA/BL*	34	1	AT34/PG29/SA/BL*	34	PG29
	AT42/M40/SA/BL*	42	M40	AT42/125/SA/BL*	42	1 1/4	AT42/PG36/SA/BL*	42	PG36
	-	-	-	AT48/150/SA/BL*	48	1 1/2	-	-	-
	AT54/M50/SA/BL*	54	M50	AT54/150/SA/BL*	54	1 1/2	AT54/PG48/SA/BL*	54	PG48
	AT54/M63/SA/BL*	54	M63	AT54/200/SA/BL*	54	2	-	-	-


For insertion into threaded entries & knockouts. Order locknuts separately

* = Y (yellow elastomer); B (blue elastomer)

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C
		IP40	Yes	Moving applications: -45°C to +120°C
		IP65	Yes	Fitting characteristics
		IP68	Yes	
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits		
		IP69	Yes	



Type CS90

90° Elbow fitting - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	NPT thread (in)	
	AT13/M16/CS90/BL*	13	M16	AT13/038/CS90/BL*	13	3/8
	AT16/M16/CS90/BL*	16	M16	AT16/038/CS90/BL*	16	3/8
	AT21/M20/CS90/BL*	21	M20	AT21/050/CS90/BL*	21	1/2
	AT28/M25/CS90/BL*	28	M25	AT28/075/CS90/BL*	28	3/4
	AT34/M32/CS90/BL*	34	M32	AT34/100/CS90/BL*	34	1
	AT42/M40/CS90/BL*	42	M40	AT42/125/CS90/BL*	42	1 1/4
	-	-	-	AT48/150/CS90/BL*	48	1 1/2
	AT54/M50/CS90/BLY	54	M50	AT54/150/CS90/BL*	54	1 1/2
	AT54/M63/CS90/BL*	54	M63	AT54/200/CS90/BL*	54	2

For insertion into threaded entries & knockouts. Order locknuts separately

* = Y (yellow elastomer); B (blue elastomer)


Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C
		IP40	Yes	Moving applications: -45°C to +120°C
		IP65	Yes	Fitting characteristics
		IP68	Yes	
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits		
		IP69	Yes	

Non-metallic conduit systems

ATS™ Type S45 & Type SFA fittings



Type S45

45° Elbow body - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

	Part no.	Nominal conduit size (mm)	Metric thread	Type S45		
				Part no.	Nominal conduit size (mm)	NPT thread (in)
	AT13/M16/S45/BL*	13	M16	AT13/038/S45/BL*	13	3/8
	AT16/M16/S45/BL*	16	M16	AT16/038/S45/BL*	16	3/8
	AT21/M20/S45/BL*	21	M20	AT21/050/S45/BL*	21	1/2
	AT28/M25/S45/BL*	28	M25	AT28/075/S45/BL*	28	3/4
	AT34/M32/S45/BL*	34	M32	AT34/100/S45/BL*	34	1
	AT42/M40/S45/BL*	42	M40	AT42/125/S45/BL*	42	1 1/4
	-	-	-	AT48/150/S45/BL*	48	1 1/2
	AT54/M50/S45/BLY	54	M50	AT54/150/S45/BL*	54	1 1/2
	AT54/M63/S45/BLY	54	M63	AT54/200/S45/BL*	54	2

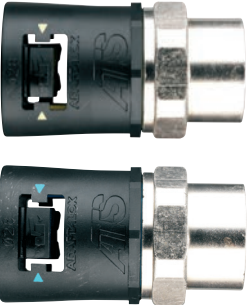
For insertion into threaded entries & knockouts. Order locknuts separately

* = Y (yellow elastomer); B (blue elastomer)

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics 
				For use with: Type PA / PR / PADL / PF	
		IP40	Yes		
		IP65	Yes		
		IP68	Yes		
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			
		IP69	Yes		



Type SFA

Straight fitting - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

	Part no.	Nominal conduit size (mm)	Metric thread	Type SFA		
				Part no.	Nominal conduit size (mm)	NPT thread (in)
	AT13/M16/SFA/BL*	13	M16	AT13/038/SFA/BL*	13	3/8
	AT16/M16/SFA/BL*	16	M16	AT16/038/SFA/BL*	16	3/8
	AT21/M20/SFA/BL*	21	M20	AT21/050/SFA/BL*	21	1/2
	AT28/M25/SFA/BL*	28	M25	AT28/075/SFA/BL*	28	3/4
	AT34/M32/SFA/BL*	34	M32	AT34/100/SFA/BL*	34	1
	AT42/M40/SFA/BL*	42	M40	AT42/125/SFA/BL*	42	1 1/4
	-	-	-	AT48/150/SFA/BL*	48	1 1/2
	AT54/M50/SFA/BLY	54	M50	-	-	-
	AT54/M63/SFA/BLY	54	M63	AT54/200/SFA/BL*	54	2

For attachments to external threads & other fittings

* = Y (yellow elastomer); B (blue elastomer)

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics 
				For use with: Type PA / PR / PADL / PF	
		IP40	Yes		
		IP65	Yes		
		IP68	Yes		
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			
		IP69	Yes		

Non-metallic conduit systems

ATS™ Type CSF90 & Type SF45 fittings

Type CSF90

90° Elbow body - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	NPT thread (in)
AT13/M16/CSF90/BL*	13	M16	AT13/038/CSF90/BL*	13	3/8
AT16/M16/CSF90/BL*	16	M16	AT16/038/CSF90/BL*	16	3/8
AT21/M20/CSF90/BL*	21	M20	AT21/050/CSF90/BL*	21	1/2
AT28/M25/CSF90/BL*	28	M25	AT28/075/CSF90/BL*	28	3/4
AT34/M32/CSF90/BL*	34	M32	AT34/100/CSF90/BL*	34	1
AT42/M40/CSF90/BL*	42	M40	AT42/125/CSF90/BL*	42	1 1/4
-	-	-	AT48/150/CSF90/BL*	48	1 1/2
AT54/M50/CSF90/BL*	54	M50	-	-	-
AT54/M63/CSF90/BL*	54	M63	AT54/200/CSF90/BL*	54	2

For insertion into threaded entries & knockouts. Order locknuts separately
 * = Y (yellow elastomer); B (blue elastomer)

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C	
		IP66	Yes	Moving applications: -45°C to +120°C	
		IP67	Yes		
		IP68	Yes		
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			
		IP69	Yes		

Type SF45

45° Elbow body - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	NPT thread (in)
AT13/M16/SF45/BL*	13	M16	AT13/038/SF45/BL*	13	3/8
AT16/M16/SF45/BL*	16	M16	AT16/038/SF45/BL*	16	3/8
AT21/M20/SF45/BL*	21	M20	AT21/050/SF45/BL*	21	1/2
AT28/M25/SF45/BL*	28	M25	AT28/075/SF45/BL*	28	3/4
AT34/M32/SF45/BL*	34	M32	AT34/100/SF45/BL*	34	1
AT42/M40/SF45/BL*	42	M40	AT42/125/SF45/BL*	42	1 1/4
-	-	-	AT48/150/SF45/BL*	48	1 1/2
AT54/M50/SF45/BL*	54	M50	-	-	-
AT54/M63/SF45/BL*	54	M63	AT54/200/SF45/BL*	54	2

For attaching to external threads & other fittings
 * = Y (yellow elastomer); B (blue elastomer)

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C	
		IP66	Yes	Moving applications: -45°C to +120°C	
		IP67	Yes		
		IP68	Yes		
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			
		IP69	Yes		

Non-metallic conduit systems

ATSTM™ Types SFAJ, CSF90J & SF45J swivel housing fittings

Type SFAJ

Straight fitting - Swivel housing / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread
AT16/M16/SFAJ/BLY	16	M16
AT21/M20/SFAJ/BLY	21	M20
AT28/M25/SFAJ/BLY	28	M25
AT34/M32/SFAJ/BLY	34	M32
AT42/M40/SFAJ/BLY	42	M40
AT54/M50/SFAJ/BLY	54	M50
AT54/M63/SFAJ/BLY	54	M63

Swivel metal housing for use with Jacob PERFECT cable glands

Type CSF90J

90° Elbow body - Swivel Housing / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread
AT16/M16/CSF90J/BLY	16	M16
AT21/M20/CSF90J/BLY	21	M20
AT28/M25/CSF90J/BLY	28	M25
AT34/M32/CSF90J/BLY	34	M32
AT42/M40/CSF90J/BLY	42	M40
AT54/M50/CSF90J/BLY	54	M50
AT54/M63/CSF90J/BLY	54	M63

Type SF45

45° Elbow body - Swivel housing / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y) Elastomer



Part no.	Nominal conduit size (mm)	Metric thread
AT16/M16/SF45J/BLY	16	M16
AT21/M20/SF45J/BLY	21	M20
AT28/M25/SF45J/BLY	28	M25
AT34/M32/SF45J/BLY	34	M32
AT42/M40/SF45J/BLY	42	M40
AT54/M50/SF45J/BLY	54	M50
AT54/M63/SF45J/BLY	54	M63

Swivel metal housing for use with Jacob PERFECT cable glands

Approvals



IP rating Appropriate conduit

For use with: Type PA / CP / PR / PF	
IP40	Yes
IP65	Yes
IP68	Yes
4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits	
IP69	N/A

Temperature range

Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

ATS™ Type SFA - UNEF fittings

—
Type SFA - UNEF

Straight body - Swivel internal female thread / Materials: Polyamide (nylon) 66, aluminium/TPE / Colour: Black (BL) / Yellow (Y) Elastomer

	Part no.	Nominal conduit size (mm)	Connector UNEF thread	Part no.	Nominal conduit size (mm)	Connector UNEF thread
	AT13/U063/SFA/BL*	13	3/8" - 24	AT21/U144/SFA/BL*	21	1 7/16" - 18
	AT13/U075/SFA/BL*	13	3/4" - 20	AT21/U175/SFA/BL*	21	1 3/4" - 18
	AT13/U088/SFA/BL*	13	7/8" - 20	AT28/U088/SFA/BL*	28	7/8" - 20
	AT16/U063/SFA/BL*	16	3/8" - 24	AT28/U094/SFA/BL*	28	1 5/16" - 20
	AT16/U075/SFA/BL*	16	3/4" - 20	AT28/U100/SFA/BL*	28	1" - 20
	AT16/U081/SFA/BL*	16	1 3/16" - 20	AT28/U119/SFA/BL*	28	1 3/16" - 18
	AT16/U088/SFA/BL*	16	7/8" - 20	AT28/U138/SFA/BL*	28	1 3/8" - 18
	AT16/U094/SFA/BL*	16	1 5/16" - 20	AT28/U144/SFA/BL*	28	1 7/16" - 18
	AT16/U100/SFA/BL*	16	1" - 20	AT28/U175/SFA/BL*	28	1 3/4" - 18
	AT16/U119/SFA/BL*	16	1 3/16" - 18	AT28/U200/SFA/BL*	28	2" - 16
	AT16/U131/SFA/BL*	16	1 5/16" - 18	AT28/U225/SFA/BL*	28	2 1/4" - 16
	AT21/U075/SFA/BL*	21	3/4" - 20	AT34/U100/SFA/BL*	34	1" - 20
	AT21/U088/SFA/BL*	21	7/8" - 20	AT34/U119/SFA/BL*	34	1 3/16" - 18
	AT21/U094/SFA/BL*	21	1 5/16" - 20	AT34/U144/SFA/BL*	34	1 7/16" - 18
	AT21/U100/SFA/BL*	21	1" - 20	AT34/U175/SFA/BL*	34	1 3/4" - 18
	AT21/U113/SFA/BL*	21	1 1/8" - 18	AT34/U200/SFA/BL*	34	2" - 16
	AT21/U119/SFA/BL*	21	1 3/16" - 18	AT42/U175/SFA/BL*	42	1 3/4" - 18
	AT21/U131/SFA/BL*	21	1 5/16" - 18	AT42/U200/SFA/BL*	42	2" - 16
	AT21/U138/SFA/BL*	21	1 3/8" - 18	-	-	-

For coupling to UNEF circular connectors
* = Y (yellow elastomer); B (blue elastomer)
Blue version MTO, subject to MOQ

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C	
		IP40	Yes	Moving applications: -45°C to +120°C	
		IP65	Yes		
		IP68	Yes		
			4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits		
		IP69	Yes		

Non-metallic conduit systems

ATS™ Type CSF90 - UNEF fittings

Type CSF90 - UNEF









90° Elbow body - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL) / Yellow (Y) Elastomer

	Part no.	Nominal conduit size (mm)	Connector UNEF thread	Part no.	Nominal conduit size (mm)	Connector UNEF thread
	AT13/U075/CSF90/BL*	13	3/4" - 20	AT21/U175/CSF90/BL*	21	1 3/4" - 18
	AT13/U088/CSF90/BL*	13	7/8" - 20	AT28/U088/CSF90/BL*	28	7/8" - 20
	AT16/U063/CSF90/BL*	16	5/8" - 24	AT28/U094/CSF90/BL*	28	1 5/16" - 20
	AT16/U075/CSF90/BL*	16	3/4" - 20	AT28/U100/CSF90/BL*	28	1" - 20
	AT16/U081/CSF90/BL*	16	1 3/16" - 20	AT28/U119/CSF90/BL*	28	1 3/4" - 18
	AT16/U088/CSF90/BL*	16	7/8" - 20	AT28/U138/CSF90/BL*	28	1 3/8" - 18
	AT16/U094/CSF90/BL*	16	1 5/16" - 20	AT28/U144/CSF90/BL*	28	1 7/16" - 18
	AT16/U100/CSF90/BL*	16	1" - 20	AT28/U175/CSF90/BL*	28	1 3/4" - 18
	AT16/U119/CSF90/BL*	16	1 3/16" - 18	AT28/U200/CSF90/BL*	28	2" - 16
	AT16/U131/CSF90/BL*	16	1 5/16" - 18	AT28/U225/CSF90/BL*	28	2 1/4" - 16
	AT21/U075/CSF90/BL*	21	3/4" - 20	AT34/U100/CSF90/BL*	34	1" - 20
	AT21/U088/CSF90/BL*	21	7/8" - 20	AT34/U119/CSF90/BL*	34	1 3/16" - 18
	AT21/U094/CSF90/BL*	21	1 5/16" - 20	AT34/U144/CSF90/BL*	34	1 7/16" - 18
	AT21/U100/CSF90/BL*	21	1" - 20	AT34/U175/CSF90/BL*	34	1 3/4" - 18
	AT21/U113/CSF90/BL*	21	1 1/8" - 18	AT34/U200/CSF90/BL*	34	2" - 16
	AT21/U119/CSF90/BL*	21	1 3/16" - 18	AT42/U175/CSF90/BL*	42	1 3/4" - 18
	AT21/U131/CSF90/BL*	21	1 5/16" - 18	AT42/U200/CSF90/BL*	42	2" - 16
	AT21/U138/CSF90/BL*	21	1 3/8" - 18	-	-	-

For coupling to UNEF circular connectors

* = Y (yellow elastomer); B (blue elastomer)

Blue version MTO, subject to MOQ


Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics 
     	 Intertek	For use with: Type PA / PR / PADL / PF IP40 IP65 IP68 IP69	Yes Yes Yes Yes	Static applications: -50°C to +120°C Moving applications: -45°C to +120°C	

Non-metallic conduit systems



ATS™ Type SF45 - UNEF fittings

Type SF45 - UNEF

45° Elbow body - Swivel internal female thread / Materials: Polyamide (nylon) 66, aluminium/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

	Part no.	Nominal conduit size (mm)	Metric thread	Nominal conduit size		NPT thread
				(mm)	(mm)	
	AT13/U063/SF45/BL*	13	5/8" - 24	AT21/U144/SF45/BL*	21	1 7/16" - 18
	AT13/U075/SF45/BL*	13	3/4" - 20	AT21/U175/SF45/BL*	21	1 3/4" - 18
	AT13/U088/SF45/BL*	13	7/8" - 20	AT28/U088/SF45/BL*	28	7/8" - 20
	AT16/U063/SF45/BL*	16	5/8" - 24	AT28/U094/SF45/BL*	28	1 5/16" - 20
	AT16/U075/SF45/BL*	16	3/4" - 20	AT28/U100/SF45/BL*	28	1" - 20
	AT16/U081/SF45/BL*	16	1 3/16" - 20	AT28/U119/SF45/BL*	28	1 3/16" - 18
	AT16/U088/SF45/BL*	16	7/8" - 20	AT28/U138/SF45/BL*	28	1 3/8" - 18
	AT16/U094/SF45/BL*	16	1 5/16" - 20	AT28/U144/SF45/BL*	28	1 7/16" - 18
	AT16/U100/SF45/BL*	16	1" - 20	AT28/U175/SF45/BL*	28	1 3/4" - 18
	AT16/U119/SF45/BL*	16	1 3/16" - 18	AT28/U200/SF45/BL*	28	2" - 16
	AT16/U131/SF45/BL*	16	1 5/16" - 18	AT28/U225/SF45/BL*	28	2 1/4" - 16
	AT21/U075/SF45/BL*	21	3/4" - 20	AT34/U100/SF45/BL*	34	1" - 20
	AT21/U088/SF45/BL*	21	7/8" - 20	AT34/U119/SF45/BL*	34	1 3/16" - 18
	AT21/U094/SF45/BL*	21	1 5/16" - 20	AT34/U144/SF45/BL*	34	1 7/16" - 18
	AT21/U100/SF45/BL*	21	1" - 20	AT34/U175/SF45/BL*	34	1 3/4" - 18
	AT21/U113/SF45/BL*	21	1 1/8" - 18	AT34/U200/SF45/BL*	34	2" - 16
	AT21/U119/SF45/BL*	21	1 3/16" - 18	AT42/U175/SF45/BL*	42	1 3/4" - 18
	AT21/U131/SF45/BL*	21	1 5/16" - 18	AT42/U200/SF45/BL*	42	2" - 16
	AT21/U138/SF45/BL*	21	1 3/8" - 18	-	-	-

For coupling to UNEF circular connectors
 * = Y (yellow elastomer); B (blue elastomer)
 Blue version MTO, subject to MOQ



Approvals 	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C Moving applications: -45°C to +120°C
		IP40	Yes	Fitting characteristics 
		IP65	Yes	
IP68	Yes 4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			
		IP69	Yes	

Non-metallic conduit systems






ATS™ Type U swivel couplers

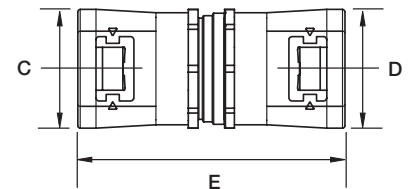
Type U

Straight PA66 body - Swivel coupler / Materials: Polyamide (nylon) 66/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

	Part no.	Nominal conduit size (mm)	Nominal dimensions / Conduit size (mm)		
			C	D	E
	AT13/A/U/BL*	13	21.2	21.2	70.0
	AT16/A/U/BL*	16	23.2	23.2	76.0
	AT21/A/U/BL*	21	30.2	30.2	82.0
	AT28/A/U/BL*	28	37.2	37.2	86.5
	AT34/A/U/BL*	34	44.2	44.2	89.0
	AT42/A/U/BL*	42	54.2	54.2	110.4
	AT48/A/U/BL*	48	65.0	65.0	118.2
	AT54/A/U/BL*	54	66.2	66.2	125.0

For coupling to corrugated flexible conduit
 * = Y (yellow elastomer); B (blue elastomer)
 Blue version MTO, subject to MOQ

Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
  	 Intertek	For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C	
		IP40	Yes	Moving applications: -45°C to +120°C	
		IP65	Yes		
		IP68	Yes		
			4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits		
		IP69	Yes		






Non-metallic conduit systems

ATS™ Type FL/A panel mounting fittings

Type FL/A

Straight panel mounting-swivel flange / Materials: Polyamide (nylon) 66/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

	Part no.	Nominal conduit size (mm)
	AT16/FL/A/BL*	16
	AT21/FL/A/BL*	21
	AT28/FL/A/BL*	28
With integral face seal * = Y (yellow elastomer); B (blue elastomer) Blue version MTO, subject to MOQ		




Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
		For use with: Type PA / PR / PADL / PF		Static applications: -50°C to +120°C	
		IP40	Yes	Moving applications: -45°C to +120°C	
		IP65	Yes		
		IP68	Yes		
			Yes		
		4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			
		IP69	Yes		

Non-metallic conduit systems

ATSTM™ Types FL/C90 and FL/45 panel mounting fittings




Panel mounting Type FL/C90

90° Elbow body - Panel mounting swivel flange / Materials: Polyamide (nylon) 66/TPE / Colour: Black (BL) / Yellow (Y), Blue (B) Elastomer

		Part no.	Nominal conduit size (mm)	
		AT13/FL/C90/BL*	13	
		AT16/FL/C90/BL*	16	
		AT21/FL/C90/BL*	21	
		AT28/FL/C90/BL*	28	
		For panel mounting via 2 hole fixing & integral face seal * = Y (yellow elastomer); B (blue elastomer) Blue version MTO, subject to MOQ		
Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	
		For use with: Type PA / PR / PADL / PF	Temperature range	
		IP40	Yes	Static applications: -50°C to +120°C
		IP65	Yes	Moving applications: -45°C to +120°C
		IP68	Yes	Fitting characteristics
		IP69	Yes	
	4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			

Panel mounting Type FL45

45° Elbow body - Panel mounting swivel flange / Materials: Polyamide (nylon) 66/TPE / Colour: Black (BL) / Yellow (W), Blue (B) Elastomer

		Part no.	Nominal conduit size (mm)	
		AT16/FL/45/BL*	16	
		AT21/FL/45/BL*	21	
		AT28/FL/45/BL*	28	
			With integral face seal * = Y (yellow elastomer); B (blue elastomer) Blue version MTO, subject to MOQ	
Approvals	Blue Elastomer version only	IP rating	Appropriate conduit	
		For use with: Type PA / PR / PADL / PF	Temperature range	
		IP40	Yes	Static applications: -50°C to +120°C
		IP65	Yes	Moving applications: -45°C to +120°C
		IP68	Yes	Fitting characteristics
		IP69	Yes	
	4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits			

Non-metallic conduit systems

ATS™ Type T fittings

Type T

3 Way 'T' piece / Materials: Polyamide (nylon) 66 / Colour: Black (BL), Grey (GR) / Yellow (Y) Elastomer



		Nominal dimensions / Conduit size (mm)				
	Part no.	A	B	C	D	E
21T	AT211316/T/BLY	82	129	21	16	13
	AT211321/T/BLY	82	122	21	21	13
	AT211613/T/BLY	83	129	21	13	16
	AT211616/T/BLY	83	129	21	16	16
	AT211621/T/BLY	83	122	21	21	16
	AT212113/T/BLY	75	129	21	21	13
	AT211616/T/BLY	83	129	21	16	16
	AT212121/T/BLY	75	122	21	21	21
28T	AT212821/T/BLY	82	152	21	21	28
	AT281321/T/BLY	88	141	28	21	13
	AT281328/T/BLY	88	129	28	28	13
	AT281621/T/BLY	90	141	28	21	16
	AT281628/T/BLY	90	129	28	28	16
	AT282121/T/BLY	93	141	28	21	21
	AT282128/T/BLY	93	129	28	28	21
	AT282828/T/BLY	82	129	28	28	28
34T	AT341634/T/BLY	98	139	34	34	16
	AT342128/T/BLY	104	150	34	28	21
	AT342134/T/BLY	104	139	34	34	21
	AT343434/T/BLY	91	139	34	34	34

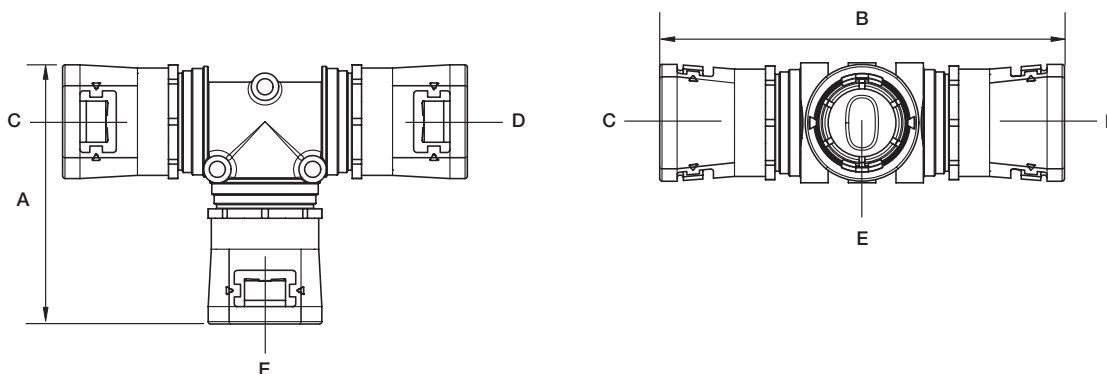
Approvals



IP rating	Appropriate conduit
For use with: Type PA / PR / PADL / PF	
IP66	Yes
IP67	Yes
IP68	Yes 4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range
Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Fitting characteristics




Non-metallic conduit systems

ATS™ Type Y fittings

Type Y

3 Way 'T' piece / Materials: Polyamide (nylon) 66, / Colour: Black (BL), Grey (GR) / Yellow (Y) Elastomer

		Nominal dimensions/conduit size (mm)					
	Part no.	A	B	C	D	E	
	28Y	AT282113/Y/BLY	107.1	117.8	28	21	13
		AT282116/Y/BLY	110.6	117.8	28	21	16
		AT282121/Y/BLY	116.4	129.9	28	21	21
		AT282813/Y/BLY	108.7	124.6	28	28	13
		AT282816/Y/BLY	112.2	124.6	28	28	16
		AT282821/Y/BLY	116.6	124.6	28	28	21
		AT282828/Y/BLY	165.0	119.0	28	28	28

Approvals


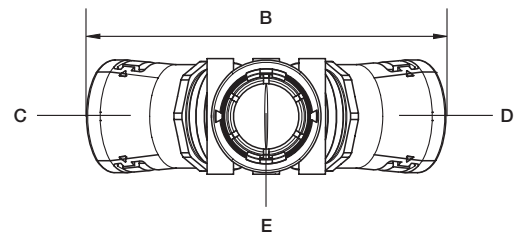
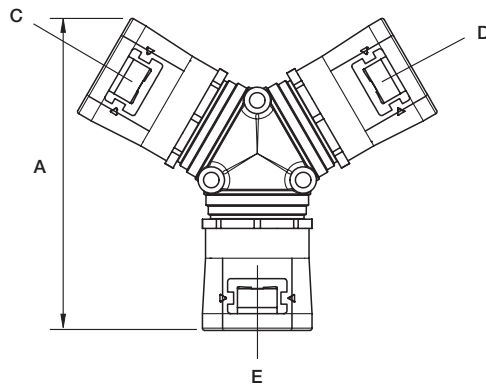


IP rating	Appropriate conduit
For use with: Type PA / PR / PADL / PF	
IP40	Yes
IP65	Yes
IP68	Yes 4 bar 30mins with Heavy Weight Conduits 2 bar 30mins with Standard Weight Conduits
IP69	Yes

Temperature range

Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Fitting characteristics

Non-metallic conduit systems

Adaptalok AL Type A fittings

Type A

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL10/M12/A/BL*	10	M12	AL10/PG7/A/BL*	10	PG7
-	-	-	AL10/PG9/A/BL*	10	PG9
AL13/M16/A/BL	13	M16	AL13/PG9/A/BL*	13	PG9
AL13/M20/A/BL*	13	M20	AL13/PG11/A/BL*	13	PG11
-	-	-	AL13/PG13/A/BL*	13	PG13,5
AL16/M16/A/BL	16	M16	AL16/PG9/A/BL	16	PG9
AL16/M20/A/BL	16	M20	AL16/PG11/A/BL	16	PG11
-	-	-	AL16/PG13/A/BL	16	PG13,5
-	-	-	AL16/PG16/A/BL	16	PG16
AL21/M20/A/BL	21	M20	AL21/PG11/A/BL	21	PG11
-	-	-	AL21/PG13/A/BL	21	PG13,5
AL21/M25/A/BL	21	M25	AL21/PG16/A/BL	21	PG16
AL28/M25/A/BL	28	M25	AL28/PG21/A/BL	28	PG21
AL28/M32/A/BL	28	M32	-	-	-
AL34/M32/A/BL	34	M32	AL34/PG29/A/BL	34	PG29
AL34/M40/A/BL	34	M40	-	-	-
AL42/M40/A/BL	42	M40	AL42/PG36/A/BL	42	PG36
AL42/M50/A/BL	42	M50	-	-	-
AL54/M50/A/BL	54	M50	AL54/PG48/A/BL	54	PG48
AL54/M63/A/BL	54	M63	-	-	-

Part no.	Nominal conduit size (mm)	PF thread	Part no.	Nominal conduit size (mm)	NPT thread (in)
AL10/PF025/A/BL*	10	¼"	-	-	-
AL13/PF038/A/BL*	13	⅜"	AL13/038/A/BL*	13	⅜"
AL16/PF038/A/BL	16	⅜"	AL16/038/A/BL	16	⅜"
AL16/PF050/A/BL	16	½"	AL16/050/A/BL	16	½"
AL21/PF050/A/BL	21	½"	AL21/050/A/BL	21	½"
AL28/PF075/A/BL	28	¾"	AL28/075/A/BL	28	¾"
AL34/PF100/A/BL	34	1"	AL34/100/A/BL	34	1"
AL42/PF125/A/BL	42	1 ¼"	AL42/125/A/BL	42	1 ¼"
AL54/PF150/A/BL	54	1 ½"	AL54/150/A/BL	54	1 ½"
AL54/PF200/A/BL	54	2"	-	-	-

For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY

*These parts are not covered by the UR certification

Approvals



KMS5161



LOW VOLTAGE Directive



NF



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



For ALS Seal see page 79

Non-metallic conduit systems

Adaptalok AL Type C90 fittings

Type C90

90° elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL10/M12/C90/BL*	10	M12	AL10/PG7/C90/BL*	10	PG7
AL13/M16/C90/BL*	13	M16	AL13/PG9/C90/BL*	13	PG9
AL16/M16/C90/BL	16	M16	AL16/PG9/C90/BL	16	PG9
AL16/M20/C90/BL	16	M20	AL16/PG11/C90/BL	16	PG11
-	-	-	AL16/PG13/C90/BL	16	PG13,5
AL21/M20/C90/BL	21	M20	AL21/PG13/C90/BL	21	PG31,5
-	-	-	AL21/PG16/C90/BL	21	PG16
AL28/M25/C90/BL	28	M25	AL28/PG21/C90/BL	28	PG21
AL34/M32/C90/BL	34	M32	AL34/PG29/C90/BL	34	PG29
AL42/M40/C90/BL	42	M40	AL42/PG36/C90/BL	42	PG36
AL54/M50/C90/BL	54	M50	AL54/PG48/C90/BL	54	PG48
AL54/M63/C90/BL	54	M63	-	-	-

Part no.	Nominal conduit size (mm)	PF thread (in)	Part no.	Nominal conduit size (mm)	NPT thread (in)
AL13/PFO38/C90/BL*	13	3/8	AL13/038/C90/BL*	13	3/8
AL16/PFO38/C90/BL	16	3/8	-	-	-
AL16/PFO50/C90/BL	16	1/2	AL16/050/C90/BL	16	1/2
AL21/PFO50/C90/BL	21	1/2	AL21/050/C90/BL	21	1/2
AL28/PFO75/C90/BL	28	3/4	AL28/075/C90/BL	28	3/4
AL34/PF100/C90/BL	34	1	AL34/100/C90/BL	34	1
AL42/PF125/C90/BL	42	1 1/4	AL42/125/C90/BL	42	1 1/4
AL54/PF150/C90/BL	54	1 1/2	AL54/150/C90/BL	54	1 1/2
AL54/PF200/C90/BL	54	2	AL54/200/C90/BL	54	2

For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY

*These parts are not covered by the UR certification

Approvals



For ALS Seal see page 79

IP rating

For use with: Type PA / CP / PR / PF

IP rating	Appropriate conduit
IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C
 Moving applications: -45°C to +120°C

Non-metallic conduit systems

Adaptalok AL Type 45 and push-in fittings

Type 45

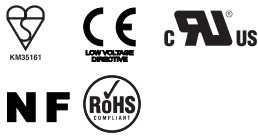
45° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/45/BL*	13	M16	AL13/PG9/45/BL*	13	PG9
AL16/M16/45/BL	16	M16	AL16/PG11/45/BL	16	PG11
AL16/M20/45/BL	16	M20	AL16/PG13/45/BL	16	PG13,5
AL21/M20/45/BL	21	M20	AL21/PG13/45/BL	21	PG13,5
-	-	-	AL21/PG16/45/BL	21	PG16
AL28/M25/45/BL	28	M25	AL28/PG21/45/BL	28	PG21
AL34/M32/45/BL	34	M32	AL34/PG29/45/BL	34	PG29
AL42/M50/45/BL	42	M40	AL42/PG36/45/BL	42	PG36
AL54/M50/45/BL	54	M50	AL54/PG48/45/BL	54	PG48
AL54/M63/45/BL	54	M63	-	-	-

For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY
 *These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF	
IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C
 Moving applications: -45°C to +120°C

Push-in

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)
AL16/KM20/A/BL	16
AL21/KM20/A/BL	21

Inserts into a 20mm knockout, panel thickness up to 4mm, no locknut required

Approvals



IP rating

Appropriate conduit

IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF	
IP40	More offered when fitted with ALS Seal Yes

Temperature range

Static applications: -50°C to +120°C
 Moving applications: -45°C to +120°C

For ALS Seal see page 79

Non-metallic conduit systems

Adaptalok AL 3 way couplers and swivel couplers





3-Way Coupler

3-Way PA66 fitting / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size combination (mm)
AL131010/Y/BL	13x10x10
AL161313/Y/BL	16x13x13
AL211616/Y/BL	21x16x16
AL282121/Y/BL	28x21x21

For coupling three corrugated flexible conduits

Approvals
   

IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF / PK	
IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range
Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C





Swivel coupler

Straight PA66 body swivel coupler / Materials: Polyamide (nylon) 66 + aluminium / Colour: Black (BL)




Part no.	Nominal conduit size (mm)
AL13/A/U/BL	13
AL16/A/U/BL	16
AL21/A/U/BL	21
AL28/A/U/BL	28
AL34/A/U/BL	34
AL42/A/U/BL	42
AL54/A/U/BL	54

For coupling two corrugated flexible conduits

Approvals
   

IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF	
IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range
Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Fitting characteristics


For ALS Seal see page 79

Non-metallic conduit systems

Adaptalok AL Types FL/A, FL/C90 and FL/90 panel mounting fittings

Type FL/A

Straight panel mounting swivel flange / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)
AL16/FL/A/BL	16
AL21/FL/A/BL	21
AL28/FL/A/BL	28
AL54/FL/A/BL	54

With integral face seal

Approvals



IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF	
IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range
Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Fitting characteristics



Type FL/C90

90° Elbow body - Panel mount swivel flange / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)
AL13/FL/C90/BL	13
AL16/FL/C90/BL	16
AL21/FL/C90/BL	21
AL28/FL/C90/BL	28

For panel mounting via 2 hole fixing & integral face seal

Type FL/90

90° Elbow body - Panel mount flange / Materials: Polyamide (nylon) 66 / Colour: Black (BL), Grey (GR)



Part no.	Nominal conduit size (mm)
AL34/FL/90/BL	34
AL42/FL/90/BL	42
AL54/FL/90/BL	54

For panel mounting via 4 hole fixing & integral face seal

Approvals



IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF	
IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range
Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Fitting characteristics (FLC/90 ONLY)



Non-metallic conduit systems

Adaptalok AL Types FL/45 and jumbo panel mounting fittings

Type FL/45

45° Panel mounting swivel flange / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)
AL16/FL/45/BL	16
AL21/FL/45/BL	21
AL28/FL/45/BL	28
AL54/FL/45/BL	54

With integral face seal

Approvals	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
	For use with: Type PA / CP / PR / PF		Static applications: -50°C to +120°C	
	IP66	Yes	Moving applications: -45°C to +120°C	
	IP67	Yes + ALS Seal		
	IP68	Yes + ALS Seal		
	IP69	Yes + ALS Seal		

Jumbo Type FL/A

Straight panel mounting swivel flange / Materials: Polyamide (nylon) 66 / Colour: Black (BL)



Part no.	Nominal conduit size (mm)
ADC80/FL/A/BL	80
ADC106/FL/A/BL	106

For coupling to UNEF circular connectors

Approvals	IP rating	Appropriate conduit	Temperature range
	For use with: Type PA / CP / PR / PF		Static applications: -50°C to +120°C
	IP40	Yes	Moving applications: -45°C to +120°C
	IP65	Yes + ALS Seal	

Non-metallic conduit systems

Adaptalok AL Types SA & CS90 fittings

Type SA

Straight fitting - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/SA/BL*	13	M16	AL13/PG9/SA/BL*	13	PG9
AL16/M16/SA/BL	16	M16	AL16/PG11/SA/BL	16	PG11
AL21/M20/SA/BL	21	M20	AL21/PG13/SA/BL	21	PG13,5
-	-	-	AL21/PG16/SA/BL	21	PG16
AL28/M25/SA/BL	28	M25	AL28/PG21/SA/BL	28	PG21
AL34/M32/SA/BL	34	M32	AL34/PG29/SA/BL	34	PG29
AL42/M40/SA/BL	42	M40	AL42/PG36/SA/BL	42	PG36
AL54/M50/SA/BL	54	M50	AL54/PG48/SA/BL	54	PG48
AL54/M63/SA/BL	54	M63	-	-	-

For insertion into threaded entries & knockouts using a locknut. Order locknut separately

*These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Type CS90

90° Elbow fitting - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/CS90/BL*	13	M16	AL13/PG9/CS90/BL*	13	PG9
AL16/M16/CS90/BL	16	M16	AL16/PG11/CS90/BL	16	PG11
AL21/M20/CS90/BL	21	M20	AL21/PG13/CS90/BL	21	PG13,5
-	-	-	AL21/PG16/CS90/BL	21	PG16
AL28/M25/CS90/BL	28	M25	AL28/PG21/CS90/BL	28	PG21
AL34/M32/CS90/BL	34	M32	AL34/PG29/CS90/BL	34	PG29
AL42/M40/CS90/BL	42	M40	AL42/PG36/CS90/BL	42	PG36
AL54/M50/CS90/BL	54	M50	AL54/PG48/CS90/BL	54	PG48
AL54/M63/CS90/BL	54	M63	-	-	-

For insertion into threaded entries & knockouts using a locknut. Order locknut separately

*These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

Adaptalok AL Types S45 & SFA fittings

Type S45 - Adaptalok

45° Elbow body - Swivel external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/S45/BL*	13	M16	AL13/PG9/S45/BL*	13	PG9
AL16/M16/S45/BL	16	M16	AL16/PG11/S45/BL	16	PG11
AL21/M20/S45/BL	21	M20	AL21/PG13/S45/BL	21	PG13,5
-	-	-	AL21/PG16/S45/BL	21	PG16
AL28/M25/S45/BL	28	M25	AL28/PG21/S45/BL	28	PG21
AL34/M32/S45/BL	34	M32	AL34/PG29/S45/BL	34	PG29
AL42/M40/S45/BL	42	M40	AL42/PG36/S45/BL	42	PG36
AL54/M50/S45/BL	54	M50	AL54/PG48/S45/BL	54	PG48
AL54/M63/S45/BL	54	M63	-	-	-

For insertion into threaded entries & knockouts using a locknut. Order locknut separately

*These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Type SFA - Adaptalok

Straight body - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/SFA/BL	13	M16	AL13/PG9/SFA/BL	13	PG9
AL16/M16/SFA/BL	16	M16	AL16/PG11/SFA/BL	16	PG11
AL21/M20/SFA/BL	21	M20	AL21/PG13/SFA/BL	21	PG13,5
-	-	-	AL21/PG16/SFA/BL	21	PG16
AL28/M25/SFA/BL	28	M25	AL28/PG21/SFA/BL	28	PG21
AL34/M32/SFA/BL	34	M32	AL34/PG29/SFA/BL	34	PG29
AL42/M40/SFA/BL	42	M40	AL42/PG36/SFA/BL	42	PG36
AL54/M50/SFA/BL	54	M50	AL54/PG48/SFA/BL	54	PG48
AL54/M63/SFA/BL	54	M63	-	-	-

For attaching to external threads & other fittings

Swivel internal female thread Black (BL) as standard or Grey (GR) - RAL 7031

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

Adaptalok AL Types CSF90 & SF45 fittings

Type CSF90

90° Elbow fitting - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/CSF90/BL	13	M16	AL13/PG9/CSF90/BL	13	PG9
AL16/M16/CSF90/BL	16	M16	AL16/PG11/CSF90/BL	16	PG11
AL21/M20/CSF90/BL	21	M20	AL21/PG13/CSF90/BL	16	PG13,5
-	-	-	AL21/PG16/CSF90/BL	21	PG16
AL28/M25/CSF90/BL	28	M25	AL28/PG21/CSF90/BL	28	PG21
AL34/M32/CSF90/BL	34	M32	AL34/PG29/CSF90/BL	34	PG29
AL42/M40/CSF90/BL	42	M40	AL42/PG36/CSF90/BL	42	PG36
AL54/M50/CSF90/BL	54	M50	AL54/PG48/CSF90/BL	54	PG48

For attachment to external threads & other fittings

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Type SF45

45° Elbow fitting - Swivel internal female thread / Materials: Polyamide (nylon) 66, nickel plated brass thread / Colour: Black (BL)



Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
AL13/M16/SF45/BL	13	M16	AL13/PG9/SF45/BL	13	PG9
AL16/M16/SF45/BL	16	M16	AL16/PG11/SF45/BL	16	PG11
AL21/M20/SF45/BL	21	M20	AL21/PG13/SF45/BL	16	PG13,5
-	-	-	AL21/PG16/SF45/BL	21	PG16
AL28/M25/SF45/BL	28	M25	AL28/PG21/SF45/BL	28	PG21
AL34/M32/SF45/BL	34	M32	AL34/PG29/SF45/BL	42	PG29
AL42/M40/SF45/BL	40	M40	AL42/PG36/SF45/BL	48	PG36
AL54/M50/SF45/BL	50	M50	AL54/PG48/SF45/BL	54	PG48
AL54/M63/SF45/BL	63	M63	-	-	-

For attachment to external threads & other fittings

*These parts are not covered by the UR certification

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

Adaptalok AL Type A - UNEF fittings

Type AL

Straight body - Swivel internal female thread / Materials: Polyamide (nylon) 66 & aluminium / Colour: Black (BL) only



Part no.	Nominal conduit size (mm)	Connector UNEF thread	Part no.	Nominal conduit size (mm)	Connector UNEF thread
AL13/U063/A/000620	13	5/8" - 24	AL21/U144/A/000620	21	1 7/16" - 18
AL13/U075/A/000620	13	3/4" - 20	AL21/U175/A/000620	21	1 3/4" - 18
AL13/U088/A/000620	13	7/8" - 20	AL28/U094/A/000620	28	1 5/16" - 20
AL16/U063/A/000620	16	5/8" - 24	AL28/U100/A/000620	28	1" - 20
AL16/U075/A/000620	16	3/4" - 20	AL28/U119/A/000620	28	1 3/16" - 18
AL16/U081/A/000620	16	13/16" - 20	AL28/U138/A/000620	28	1 3/8" - 18
AL16/U088/A/000620	16	7/8" - 20	AL28/U144/A/000620	28	1 7/16" - 18
AL16/U094/A/000620	16	15/16" - 20	AL28/U175/A/000620	28	1 3/4" - 18
AL16/U100/A/000620	16	1" - 20	AL34/U100/A/000620	34	1" - 20
AL16/U119/A/000620	16	1 3/16" - 18	AL34/U119/A/000620	34	1 3/16" - 18
AL16/U131/A/000620	16	1 5/16" - 18	AL34/U144/A/000620	34	1 7/16" - 18
AL21/U075/A/000620	21	3/4" - 20	AL34/U175/A/000620	34	1 3/4" - 18
AL21/U088/A/000620	21	7/8" - 20	AL34/U200/A/000620	34	2" - 16
AL21/U094/A/000620	21	15/16" - 20	AL42/U200/A/000620	42	2" - 16
AL21/U100/A/000620	21	1" - 20			
AL21/U113/A/000620	21	1 1/8" - 18			
AL21/U119/A/000620	21	1 3/16" - 18			
AL21/U131/A/000620	21	1 5/16" - 18			

For coupling to UNEF circular connectors

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



For ALS Seal see page 79

Non-metallic conduit systems

Adaptalok AL Type C90 - UNEF fittings

Type AL

90° Elbow fitting - Swivel internal female thread / Materials: Polyamide (nylon) 66 & aluminium / Colour: Black (BL) only



Part no.	Nominal conduit size (mm)	Connector UNEF thread	Part no.	Nominal conduit size (mm)	Connector UNEF thread
AL13/U063/C90/000620	13	5/8" - 24	AL21/U144/C90/000620	21	1 7/16" - 18
AL13/U075/C90/000620	13	3/4" - 20	AL21/U175/C90/000620	21	1 3/4" - 18
AL13/U088/C90/000620	16	7/8" - 20	AL28/U088/C90/000620	28	7/8" - 20
AL16/U063/C90/000620	16	5/8" - 24	AL28/U094/C90/000620	28	1 5/16" - 20
AL16/U075/C90/000620	16	3/4" - 20	AL28/U100/C90/000620	28	1" - 20
AL16/U081/C90/000620	16	1 3/16" - 20	AL28/U119/C90/000620	28	1 3/16" - 18
AL16/U088/C90/000620	16	7/8" - 20	AL28/U138/C90/000620	28	1 3/8" - 18
AL16/U094/C90/000620	16	1 5/16" - 20	AL28/U144/C90/000620	28	1 7/16" - 18
AL16/U100/C90/000620	16	1" - 20	AL28/U175/C90/000620	28	1 3/4" - 18
AL16/U119/C90/000620	16	1 3/16" - 18	AL28/U200/C90/000620	28	2" - 16
AL16/U131/C90/000620	16	1 5/16" - 18	AL28/U225/C90/000620	28	2 1/4" - 16
AL21/U075/C90/000620	21	3/4" - 20	AL34/U100/C90/000620	34	1" - 20
AL21/U088/C90/000620	21	7/8" - 20	AL34/U119/C90/000620	34	1 3/16" - 18
AL21/U094/C90/000620	21	1 5/16" - 20	AL34/U144/C90/000620	34	1 7/16" - 18
AL21/U100/C90/000620	21	1" - 20	AL34/U175/C90/000620	34	1 3/4" - 18
AL21/U113/C90/000620	21	1 1/8" - 18	AL34/U200/C90/000620	34	2" - 16
AL21/U119/C90/000620	21	1 3/16" - 18	AL42/U175/C90/000620	42	1 3/4" - 18
AL21/U131/C90/000620	21	1 5/16" - 18	AL42/U200/C90/000620	42	2" - 16
AL21/U138/C90/000620	21	1 3/8" - 18	-	-	-

For coupling to UNEF circular connectors

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



For ALS Seal see page 79

Non-metallic conduit systems

Adaptalok AL Type 45 - UNEF fittings

Type AL

45° Elbow fitting - Swivel internal female thread / Materials: Polyamide (nylon) 66 & aluminium / Colour: Black (BL) only



Part no.	Nominal conduit size (mm)	Connector UNEF thread
AL13/U063/45/000620	13	5/8" - 24
AL13/U075/45/000620	13	3/4" - 20
AL16/U081/45/000620	16	1 3/16" - 20
AL16/U094/45/000620	16	1 5/16" - 20
AL16/U131/45/000620	16	1 7/16" - 18
AL21/U100/45/000620	21	1" - 20
AL21/U119/45/000620	21	1 3/16" - 18
AL21/U138/45/000620	21	1 3/8" - 18
AL21/U144/45/000620	21	1 7/16" - 18
AL21/U175/45/000620	21	1 3/4" - 18
AL28/U088/45/000620	28	7/8" - 20
AL28/U094/45/000620	28	1 5/16" - 20
AL28/U144/45/000620	28	1 7/16" - 18
AL34/U144/45/000620	34	1 7/16" - 18
AL34/U175/45/000620	34	1 3/4" - 18

For coupling to UNEF circular connectors

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes + ALS Seal
IP68	Yes + ALS Seal
IP69	Yes + ALS Seal

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



For ALS Seal see page 79




Non-metallic conduit systems

Adaptaseal Types A & C90 fittings

Type A

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)

	Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG thread
	ASF10/M16/A/BL	10	M16	ASF10/PG9/A/BL	10	PG9
	ASF13/M16/A/BL	13	M16	ASF13/PG9/A/BL	13	PG9
	ASF16/M16/A/BL	16	M16	ASF16/PG11/A/BL	16	PG11
	ASF16/M20/A/BL	16	M20	ASF16/PG13/A/BL	16	PG13,5
	ASF21/M20/A/BL	21	M20	ASF21/PG16/A/BL	21	PG16
	ASC21/M20/A/BL	21	M20	ASC21/PG16/A/BL	21	PG16
	ASF28/M25/A/BL	28	M25	ASF28/PG21/A/BL	28	PG21
	ASC28/M25/A/BL	28	M25	ASC28/PG21/A/BL	28	PG21
	ASF34/M32/A/BL	34	M32	ASF34/PG29/A/BL	34	PG29
	ASC34/M32/A/BL	34	M32	ASC34/PG29/A/BL	34	PG29
	ASC42/M40/A/BL	42	M40	ASC42/PG36/A/BL	42	PG36
	ASC54/M50/A/BL	54	M50	ASC54/PG48/A/BL	54	PG48

For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY
PF & NPT thread sizes available. MTO terms apply

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF


IP66	Yes
IP67	Yes
IP68	Yes (2 bar 30mins)
IP69	Yes

Temperature range

Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C

Type C90

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)

	Part no.	Nominal conduit size (mm)	Metric thread	Part no.	Nominal conduit size (mm)	PG Thread
	ASF10/M16/C90/BL	10	M16	ASF10/PG9/C90/BL	10	PG9
	ASF13/M16/C90/BL	13	M16	ASF13/PG9/C90/BL	13	PG9
	ASF16/M16/C90/BL	16	M16	ASF16/PG11/C90/BL	16	PG11
	ASF16/M20/C90/BL	16	M20	ASF16/PG13/C90/BL	16	PG13,5
	ASF21/M20/C90/BL	21	M20	ASF21/PG16/C90/BL	21	PG16
	ASC21/M20/C90/BL	21	M20	ASC21/PG16/C90/BL	21	PG16
	ASF28/M25/C90/BL	28	M25	ASF28/PG21/C90/BL	28	PG21
	ASC28/M25/C90/BL	28	M25	ASC28/PG21/C90/BL	28	PG21
	ASF34/M32/C90/BL	34	M32	ASF34/PG29/C90/BL	34	PG29
	ASC34/M32/C90/BL	34	M32	ASC34/PG29/C90/BL	34	PG29
	ASC42/M40/C90/BL	42	M40	ASC42/PG36/C90/BL	42	PG36
	ASC54/M50/C90/BL	54	M50	ASC54/PG48/C90/BL	54	PG48

For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY
PF & NPT thread sizes available. MTO terms apply

Approvals



IP rating

Appropriate conduit

For use with: Type PA / CP / PR / PF

IP66	Yes
IP67	Yes
IP68	Yes (2 bar 30mins)
IP69	Yes

Temperature range


Static applications: -40°C to +120°C
Moving applications: -5°C to +120°C

Non-metallic conduit systems


Adaptaseal Types C90 & 90 panel mounting and type T fittings

Type FLC90/FL90

90° Elbow body - Panel mount swivel flange / Materials: Polyamide (nylon) 66/TPE / Colour: Black (BL) only


	Part no.	Nominal conduit size (mm)
	ASF13/FL/C90/BL	13
	ASF16/FL/C90/BL	16
	ASF21/FL/C90/BL	21
	ASC21/FL/C90/BL	21
	ASF28/FL/C90/BL	28
	ASC28/FL/C90/BL	28
	ASF34/FL/90/BL*	34
	ASC34/FL/90/BL*	34
	ASC42/FL/90/BL*	42
	ASC54/FL/90/BL*	54

For panel mounting via 2/4 hole fixing & integral face seal
*These sizes are fixed panel mounting - non swivel


Approvals	IP rating	Appropriate conduit	Temperature range
	For use with: Type PA / CP / PR / PF		Static applications: -40°C to +120°C
	IP66	Yes	Moving applications: -5°C to +120°C
	IP67	Yes	
	IP68	Yes (2 bar 30mins)	
	IP69	Yes	

Type T

Inspection T-piece / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)
	ASF10X3/T/BL	10
	ASF13X3/T/BL	13
	ASF16X3/T/BL	16
	ASF21X3/T/BL	21
	ASC21X3/T/BL	21
	ASF28X3/T/BL	28
	ASC28X3/T/BL	28
	ASF34X3/T/BL	34
	ASC34X3/T/BL	34

For connection to corrugated flexible conduit


Approvals	IP rating	Appropriate conduit	Temperature range
	For use with: Type PA / CP / PR / PF		Static applications: -50°C to +120°C
	IP66	Yes	Moving applications: -45°C to +120°C
	IP67	Yes	

Non-metallic conduit systems

Adaptaseal Types RK Reducers & Type AWS anti-vibration washers

Type RK

Reducing kit / Materials: Polyamide (nylon) 66 & neoprene rubber / Colour: Black (BL) only

	Nominal conduit size (mm)	Conduit pitch	Part no.				
			Reducing to conduit size 10	Reducing to conduit size 13	Reducing to conduit size 16	Reducing to conduit size 21	Reducing to conduit size 28
	10	Fine	-	-	-	-	-
	13	Fine	RK13-10	-	-	-	-
	16	Fine	RK16-10	RK16-13	-	-	-
	21	Fine	RK21-10	RK21-13	RK21-16	-	-
	21	Coarse	RK21-10	RK21-13	RK21-16	-	-
	28	Fine	-	RK28-13	RK28-16	RK28-21	-
	28	Coarse	-	RK28-13	RK28-16	RK28-21	-
	34	Fine	-	-	-	RK34-21	RK34-28
	34	Coarse	-	-	-	RK34-21	RK34-28

For connection to a reduced conduit size

Approvals



IP rating

Appropriate conduit

Temperature range

For use with: Type PA / CP / PR / PF

Static applications: -40°C to +120°C

IP66 Yes

Moving applications: -5°C to +120°C


IP67 Yes

IP68 Yes (2 bar 30mins)

IP69 Yes

Type AWB

Anti-vibration washer / Materials: Acetal (POM) / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)
	AWB13	13
	AWB16	16
	AWB21	21
	AWB28	28
	AWB34	34


Prevents fitting loosening under vibration
Also suitable for Adapting range

Non-metallic conduit systems

Adapting Types A & C90 fittings

Type A

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 & acetal (POM) / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	Metric thread	Nominal conduit size (mm)		
				Part no.	Nominal conduit size (mm)	PG thread
	AR13/M16/A/BL	13	M16	-	-	-
	AR16/M16/A/BL	16	M16	AR16/PG11/A/BL	16	PG11
	AR16/M20/A/BL	16	M20	AR16/PG13/A/BL	16	PG13,5
	AR21/M20/A/BL	21	M20	AR21/PG16/A/BL	21	PG16
	AR28/M25/A/BL	28	M25	AR28/PG21/A/BL	28	PG21
	AR34/M32/A/BL	34	M32	AR34/PG29/A/BL	34	PG29
	AR42/M40/A/BL	42	M40	AR42/PG36/A/BL	42	PG36
	AR54/M50/A/BL	54	M50	-	-	-

For insertion into threaded entries & knockouts. Locknut supplied with METRIC THREAD ONLY
PF & NPT thread sizes available. MTO terms apply

Approvals



IP rating

For use with: Type PA / CP / PR / PF

IP40

Appropriate conduit

Yes

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

Fitting characteristics



Type C90

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66, nickel plated brass thread/TPE / Colour: Black (BL)

	Part no.	Nominal conduit size (mm)	Metric thread
AR16/M16/C90/BL	16	M16	
AR16/M20/C90/BL	16	M20	
AR21/M20/C90/BL	21	M20	
AR28/M25/C90/BL	28	M25	
AR34/M32/C90/BL	34	M32	
AR42/M40/C90/BL	42	M40	
AR54/M50/C90/BL	54	M50	

For insertion into knockouts. Locknut supplied with METRIC THREAD ONLY
PF & NPT thread sizes available. MTO terms apply

Approvals



IP rating

For use with: Type PA / CP / PR / PF

IP40

Appropriate conduit

Yes

Temperature range

Static applications: -50°C to +120°C

Moving applications: -45°C to +120°C

Fitting characteristics



Non-metallic conduit systems

Adaptaring Type T fittings




Type T

Rotational inspection T-piece / Materials: Polyamide (nylon) 66 & neoprene rubber / Colour: Black (BL) only




Part no.	Nominal conduit size (mm)
AR13X3/T/BL	13
AR16X3/T/BL	16
AR21X3/T/BL	21
AR28X3/T/BL	28
AR34X3/T/BL	34

For connection to corrugated flexible conduit

Approvals
  

IP rating	Appropriate conduit
For use with: Type PA / CP / PR / PF	
IP40	Yes

Temperature range
Static applications: -50°C to +120°C
Moving applications: -45°C to +120°C
Fitting characteristics


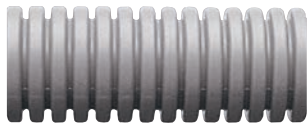


Non-metallic conduit systems

Korifit Type KF PVCu conduits

Type KF - L

Lightweight conduit / Materials: PVCu / Colour: Grey (GR) only



Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
KFL16/50M	16	13	Fine	15.8	12.1	25	50
KFL20/50M	20	17	Fine	19.8	14.5	30	50
KFL25/50M	25	22	Fine	24.8	19.9	40	50

Type KF - S

Standard weight conduit / Materials: PVCu / Colour: White (W) only



Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
KFS16/W/50M	16	13	Fine	15.8	11.9	25	50
KFS20/W/50M	20	17	Fine	19.8	14.3	30	50
KFS25/W/50M	25	22	Fine	24.8	19.7	40	50

Type KF - M

Medium weight conduit / Materials: PVCu / Colour: Black (BL) only



Part no.	Nominal conduit size (mm)	NW conduit size (mm)	Conduit pitch	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
KFM16/50M	16	13	Fine	15.8	11.9	25	50
KFM20/50M	20	17	Fine	19.8	14.3	30	50
KFM25/50M	25	22	Fine	24.8	19.7	40	50

Approvals



IP rating

For use with: Korifit KC & KF

IP40

IP65

Appropriate fitting

Korifit KC

Korifit KC

Temperature range

Static applications: -5°C to +60°C

Moving applications: -5°C to +60°C

Flexibility & fatigue life

Pliable - Low fatigue life

Fire performance & EMI screen

Self extinguishing

UV resistance


High

Non-metallic conduit systems





Korifit KC Types A & C90 fittings

Type KC/A

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL)


	Part no.	Nominal conduit size (mm)	Metric thread
	KC16/M16/A/BL	16	M16
	KC16/M20/A/BL	16	M20
	KC20/M20/A/BL	20	M20
	KC25/M25/A/BL	25	M25

For insertion into threaded entries & knockouts. Locknut supplied




Approvals	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
  	IP40	Yes	Static applications: -5°C to +60°C Moving applications: -5°C to +60°C	
For use with: Korifit Type KF				

Type KC/C90

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	Metric thread
	KC16/M16/C90/BL	16	M16
	KC20/M20/C90/BL	20	M20
	KC25/M25/C90/BL	25	M25

For insertion into threaded entries & knockouts. Locknut supplied

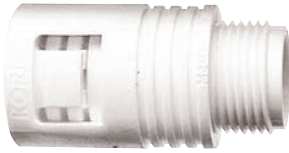
Approvals	IP rating	Appropriate conduit	Temperature range
  	IP40	Yes	Static applications: -5°C to +60°C Moving applications: -5°C to +60°C
For use with: Korifit Type KF			

Non-metallic conduit systems

Korifit KF Type A fittings & couplers

Type KF/A

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL), White (W)



Part no.	Nominal conduit size (mm)	Metric thread
KF16/M16/A/*	16	M16
KF16/M20/A/W	16	M20
KF20/M20/A/*	20	M20
KF25/M25/A/*	25	M25

* Black (BL), White (W)
For insertion into threaded entries & knockouts. Locknut supplied
To order quote part number & body colour, e.g. KF16/M16/A/BL

Approvals



IP rating	Appropriate conduit
For use with: Korifit Type KF	
IP65	Yes

Temperature range
Static applications: -5°C to +60°C
Moving applications: -5°C to +60°C

Fitting characteristics



Coupler

Straight one piece coupler / Materials: Polyamide (nylon) 66 / Colour: White (W) only



Part no.	Nominal conduit size (mm)	NW conduit size (mm)
KF2020/W	20	17

For coupling two corrugated flexible conduits

Approvals



IP rating	Appropriate conduit
For use with: Korifit Type KF	
IP65	Yes


Temperature range
Static applications: -5°C to +60°C
Moving applications: -5°C to +60°C



Non-metallic conduit systems

Xtraflex XF PVC conduits

PVC Type XF

Standard weight conduit / Materials: PVCu spiral with plasticised PVC covering / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
	XF12/30M	12	14.5	10	25	30
	XF16/30M	16	16.5	12	30	30
	XF20/30M	20	20.5	16	35	30
	XF25/30M	25	27.5	22	50	30
	XF32/30M	32	33.5	28	60	30
	XF40/30M	40	44.0	38	80	30
	XF50/30M	50	57.5	50	105	30


Approvals	IP rating	Appropriate fitting	Temperature range	UV resistance
 	For use with: Type XF		Static applications: -5°C to +60°C	High
	IP65	Type XF	Moving applications: -5°C to +60°C	
			Flexibility & fatigue life	
			Very high flexibility - Medium fatigue life	
			Fire performance & EMI screen	
			Self extinguishing	

Non-metallic conduit systems

Xtraflex XF Types D & C90 fittings

Type D

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	Metric thread
	XF12/M16/D	12	M16
	XF16/M16/D	16	M16
	XF16/M20/D	16	M20
	XF20/M20/D	20	M20
	XF25/M25/D	25	M25
	XF32/M32/D	32	M32
	XF40/M40/D	40	M40
	XF50/M50/D	50	M50

For insertion into threaded entries & knockouts. Locknuts supplied with METRIC THREAD ONLY

Approvals



IP rating

For use with: Xtraflex Type XF

IP65

Appropriate conduit

Yes

Temperature range

Static applications: -5°C to +60°C


Moving applications: -5°C to +60°C

Fitting characteristics



Type C90

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	Metric thread
	XF16/M16/C90/BL	16	M16
	XF20/M20/C90/BL	20	M20
	XF25/M25/C90/BL	25	M25
	XF32/M32/C90/BL	32	M32

For insertion into knockouts. Locknuts supplied with METRIC THREAD ONLY

Approvals



IP rating

For use with: Xtraflex Type XF

IP65

Appropriate conduit

Yes

Temperature range

Static applications: -5°C to +60°C

Moving applications: -5°C to +60°C

Non-metallic conduit systems

Rhinoflex RF PVC conduits

Type RF

Heavyweight conduit - smooth bore / Materials: PVCu spiral with plasticised PVC covering / Colour: Black (BL)

Part no.	Nominal conduit size (mm)	Outside diameter (mm)	Inside diameter (mm)	Min. bend radius (mm)	Reel length (m)
RF12/BL/30M	12	15.4	10.0	25	30
RF16/BL/30M	16	17.5	12.3	30	30
RF20/BL/30M	20	21.1	16.1	35	30
RF25/BL/30M	25	26.5	21.1	50	30
RF32/BL/30M	32	33.4	27.0	60	30

Approvals



IP rating

For use with: Type RF

IP67

Appropriate fitting

Type RF

Temperature range

Static applications: -5°C to +60°C

Moving applications: -5°C to +60°C

Flexibility & fatigue life

Medium flexibility - Medium fatigue life

Fire performance & EMI screen

Self extinguishing

UV resistance


High

Non-metallic conduit systems



Rhinoflex XF Types A & C90 fittings

Type A

Straight fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only


	Part no.	Nominal conduit size (mm)	Metric thread
	RF12/M16/A/BL	12	M16
	RF16/M16/A/BL	16	M16
	RF16/M20/A/BL	16	M20
	RF20/M20/A/BL	20	M20
	RF25/M25/A/BL	25	M25
	RF32/M32/A/BL	32	M32

For insertion into threaded entries & knockouts. Locknuts supplied with METRIC THREAD ONLY


Approvals	IP rating	Appropriate conduit	Temperature range	Fitting characteristics
	IP67	Yes	Static applications: -5°C to +60°C	
			Moving applications: -5°C to +60°C	

Type C90

90° Elbow fitting - Fixed external male thread / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	Metric thread
	RF16/M16/C90/BL	16	M16
	RF20/M20/C90/BL	20	M20
	RF25/M25/C90/BL	25	M25
	RF32/M32/C90/BL	32	M32

For insertion into knockouts. Locknuts supplied with METRIC THREAD ONLY

Approvals	IP rating	Appropriate conduit	Temperature range
	IP67	Yes	Static applications: -5°C to +60°C
			Moving applications: -5°C to +60°C



Non-metallic conduit systems

Accessories

Jumbo Type SK

Sealing kit / Materials: Rubber / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)	
	SK80		80
	SK106		106

For use with Jumbo fittings to achieve IP65. Consists of two sealing washers & O-ring per kit




Insert seal

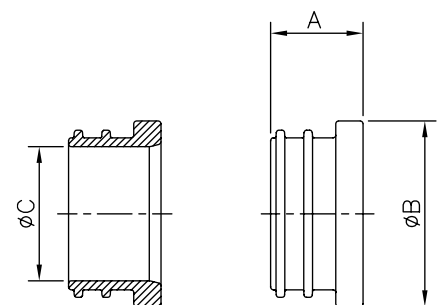
IP67/68/69k Insert seal / Materials: Thermoplastic elastomer / Colour: Yellow (Y) only

Part no.	Conduit pitch	Nominal dimensions (mm)		
		A	B	C
ALS13/F	Fine	9.0	13.0	9.0
ALS16/F	Fine	10.8	15.3	11.0
ALS21/F	Fine	11.3	21.0	15.7
ALS28/C	Coarse	16.5	27.8	20.7
ALS34/C	Coarse	17.0	34.2	26.6
ALS42/C	Coarse	19.8	42.0	33.6
ALS54/C	Coarse	19.8	54.1	44.6



Note: Seal needs to be inserted into the appropriate conduit to upgrade fitting system

Approvals	IP rating	Appropriate conduit	Temperature range
  	For use with: Type PA / CP / PR / PF / PK		Static applications: -50°C to +120°C
	IP66	N/A	Moving applications: -45°C to +120°C
	IP67	Yes	
	IP68	Yes (1.1 bar 35mins)	
	IP69	Yes (DIN 40050)	




Non-metallic conduit systems

Accessories


Type LNP

Nylon locknuts / Materials: Polyamide (nylon) 6 / Colour: Black (BL), Grey (GR)

	Part no.		Metric thread	Part no.		PG thread
	Black	Grey		Black	Grey	
	LNPB/M12	–	M12	LNPB/PG7	LNPG/PG7	PG7
	LNPB/M16	LNPG/M16	M16	LNPB/PG9	LNPG/PG9	PG9
	LNPB/M20	LNPG/M20	M20	LNPB/PG11	LNPG/PG11	PG11
	LNPB/M25	LNPG/M25	M25	LNPB/PG13	LNPG/PG13	PG13
	LNPB/M32	LNPG/M32	M32	LNPB/PG16	LNPG/PG16	PG16
	LNPB/M40	LNPG/M40	M40	LNPB/PG21	–	PG21
	LNPB/M50	LNPG/M50	M50	LNPB/PG29	LNPG/PG29	PG29
	LNPB/M63	–	M63	LNPB/PG36	LNPG/PG36	PG36
				LNPB/PG48	LNPG/PG48	PG48

Type SW

Thread sealing washer

	Part no.	Metric thread	Part no.	PG thread	Part no.	NPT & PF thread
		SWM12*	M12	SWPG07	PG07	SW038
SWM16		M16	SWPG09	PG09	SW050	1/2"
SWM20		M20	SWPG11	PG11	SW075	3/4"
SWM25		M25	SWPG13	PG13	SW100	1"
SWM32		M32	SWPG16	PG16	SW125	1 1/4"
SWM40		M40	SWPG21	PG21	SW150	1 1/2"
SWM50		M50	SWPG29	PG29	SW200	2"
SWM63		M63	SWPG36	PG36		

TPE - For use with Nylon threaded fittings. Nylon - For use with swivel metal threaded fittings


To order quote part number & body colour, TPE Black only, e.g. SWM12,

Nylon (N) - Black (BL), Blue (B) & Yellow (Y) Metric and NPT threads only, e.g. SWM32NB

*Not available in Nylon

Type AC

Conduit clips / Materials: Polyamide (nylon) 66, Impact modified nylon - ST version only / Colour: Black (BL), Grey (GR)

	Part no.			Nominal conduit size (mm)
	Black	Grey	Impact modified (black only)	
	ACB10	ACG10	–	10
	ACB13	ACG13	ACB13/ST	13
	ACB16	ACG16	ACB16/ST	16
	ACB21	ACG21	ACB21/ST	21
	ACB28	ACG28	ACB28/ST	28
	ACB34	ACG34	ACB34/ST	34
	ACB42	ACG42	ACB42/ST	42
	ACB54	ACG54	ACB54/ST	54


With integral lid

Non-metallic conduit systems

Accessories

Type GZ


End sleeves / Materials: Polyamide (nylon) 66 / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)
	GZ09	13
	GZ11	16
	GZ13	21
	GZ21	28
	GZ29	34
	GZ36	42

For sealing cables to non-metallic conduit

Type EC

End caps / Materials: Acetal (POM) / Colour: Black (BL) only

	Part no.	Nominal conduit size (mm)
	ECB13	13
	ECB16	16
	ECB21	21
	ECB28	28
	ECB34	34
	ECB42	42
	ECB54	54

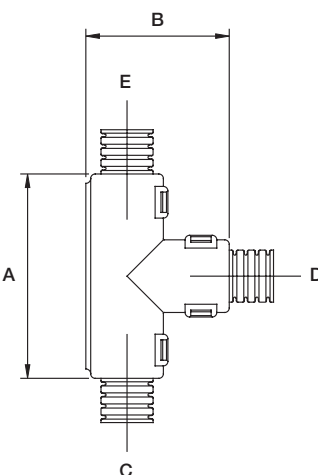
Provides a smooth finish to conduit preventing any damage to cables when not terminated with a fitting

Non-metallic conduit systems

Accessories

Type T

Hinged T-piece / Materials: Polyamide (nylon) 66 / Colour: Black (BL)

Nominal dimensions / conduit size
(mm)

	Part no.	A	B	C	D	E
10T	T101010/BL	45.2	31.1	10	10	10
	T101310/BL	45.2	31.1	10	13	10
	T101613/BL	45.2	31.1	10	16	13
13T	T131010/BL	45.2	31.1	13	10	10
	T131013/BL	45.2	31.1	13	10	13
	T131310/BL	45.2	31.1	13	13	10
	T131313/BL	45.2	31.1	13	13	13
	T131613/BL	45.2	31.1	13	16	13
16T	T161013/BL	49.1	34.8	16	10	13
	T161313/BL	49.1	34.8	16	13	13
	T161316/BL	49.1	34.8	16	13	16
	T161613/BL	49.1	34.8	16	16	13
	T161616/BL	49.1	34.8	16	16	16
	T162116/BL	49.1	34.8	16	21	16
21T	T211016/BL	56.5	41.0	21	10	16
	T211021/BL	56.5	41.0	21	10	21
	T211316/BL	56.5	41.0	21	13	16
	T211321/BL	56.5	41.0	21	13	21
	T211613/BL	56.5	41.0	21	16	13
	T211616/BL	56.5	41.0	21	16	16
	T211621/BL	56.5	41.0	21	16	21
	T212113/BL	56.5	41.0	21	21	13
	T212116/BL	56.5	41.0	21	21	16
	T212121/BL	56.5	41.0	21	21	21
28T	T281021/BL	64.5	48.5	28	10	21
	T281028/BL	64.5	48.6	28	10	28
	T281321/BL	64.5	48.6	28	13	21
	T281328/BL	64.5	48.6	28	13	28
	T281621/BL	64.5	48.6	28	16	21
	T281628/BL	64.5	48.6	28	16	28
	T282121/BL	64.5	48.6	28	21	21
	T282128/BL	64.5	48.6	28	21	28
	T282828/BL	64.5	48.6	28	28	28
	34T	T341634/BL	72.0	55.3	34	16
T342128/BL		72.0	55.3	34	21	28
T342134/BL		72.0	55.3	34	21	34
T343434/BL		72.0	55.3	34	34	34

Approvals



IP rating

Appropriate conduit

For use with: Type PA / PR / PF

IP40

Yes

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

Fitting characteristics


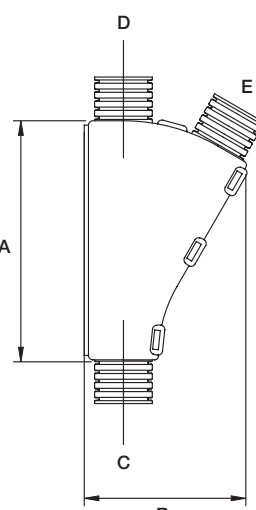
Snap fit

Non-metallic conduit systems

Accessories

Type Y

Hinged Y-piece / Materials: Polyamide (nylon) 66 / Colour: Black (BL)

		Nominal dimensions / conduit size (mm)					
	Part no.	A	B	C	D	E	
	10Y	Y101010/BL	54.6	37.1	10	10	10
		Y101013/BL	54.6	37.1	10	10	13
	13Y	Y131010/BL	54.6	37.1	13	10	10
		Y131310/BL	54.6	37.1	13	13	10
		Y131313/BL	54.6	37.1	13	13	13
	16Y	Y161310/BL	54.9	39.8	16	13	10
		Y161313/BL	54.9	39.8	16	13	13
		Y161610/BL	54.9	39.8	16	16	10
		Y161613/BL	54.9	39.8	16	16	13
	21Y	Y211010/BL	42.8	41.0	21	10	10
		Y211310/BL	42.8	41.0	21	13	10
		Y211313/BL	42.8	41.0	21	13	13
		Y211610/BL	48.2	39.8	21	16	10
		Y211613/BL	48.2	39.6	21	16	13
		Y212110/BL	57.9	44.9	21	21	10
		Y212113/BL	57.9	44.9	21	21	13
		Y212116/BL	63.6	47.5	21	21	16
	28Y	Y282113/BL	54.0	48.8	28	21	13
		Y282116/BL	54.0	48.8	28	21	16
		Y282121/BL	76.5	60.0	28	21	21
		Y282813/BL	67.3	55.9	28	28	13
		Y282816/BL	67.3	55.9	28	28	16
		Y282821/BL	76.5	60.0	28	28	21
		Y282828/BL	90.7	67.0	28	28	28
	34Y	Y343416/BL	100.6	75.0	34	34	16
		Y343421/BL	100.6	76.0	34	34	21
		Y343434/BL	100.6	82.1	34	34	34

Approvals



IP rating

For use with: Type PA / PR / PF

IP40

Appropriate conduit

Yes

Temperature range

Static applications: -40°C to +120°C

Moving applications: -5°C to +120°C

Fitting characteristics

Snap fit

Convenience packs

Professional installer conduit systems

LFH Convenience



Type	Type	Conduit/fitting diameter (mm)	One-piece conduit fittings	Locknuts	IP rating
CP-AF20A	10m Black Type PA LFH Nylon 6, 20mm diameter	20	10	10	IP66
CP-AF25A	10m Black Type PA LFH Nylon 6, 25mm diameter	25	10	10	IP66

Convenience pack / Nylon Conduit with Adaptalok One-Piece, Fast Fit, Push & Twist Fittings
Materials: Polyamide Nylon 6 / Colour: Black (BL)



Polypropylene Convenience



Type	Type	Conduit/fitting diameter (mm)	One-piece conduit fittings	Locknuts	IP rating
CP-AF20BS-PP	10m Grey Type PP Polypropylene conduit, 20mm diameter	20	10	10	IP54
CP-AF25BS-PP	10m Grey Type PP Polypropylene conduit, 25mm diameter	25	10	10	IP54

Convenience Pack / Type PP Polypropylene Conduit with One-Piece, Fast Fit, Push & Twist Fittings
Materials: PP Polypropylene / Colour: Grey (GR)

Retail / Office Convenience



Type	Type	Conduit/fitting diameter (mm)	One-piece conduit fittings	Locknuts	IP rating
CP-AF20BS	10m Grey Type KF PVCu, 20mm diameter	20	10	10	IP66
CP-AF25BS	10m Grey Type KF PVCu, 20mm diameter	25	10	10	IP66
CP-KF20BS	10m White Type KF PVCu, 25mm diameter	20	10	10	IP66
CP-KF25BS	10m White Type KF PVCu, 25mm diameter	25	10	10	IP66

Convenience Pack / Self-Extinguishing PVC Conduit & One-Piece Fittings & Locknuts
Materials: PVC Pliable / Colour: White (W)

Tools

ALRT & Kwikcut



— **ALRT** **Adapalok removal tool /**
Materials: Polyamide (nylon) 6 / Colour: Black (BL) only

Part no.	Adapalok fitting size (mm)
AL13RT	13
AL16RT	16
AL21RT	21
AL28RT	28
AL34RT	34
AL42RT	42
AL54RT	54

To provide easy removal of Adapalok & ATS Fittings
 NOTE: For a 13-34mm set use part number ALRTSET

— **Kwikcut** **Kwikcut cutting tool**

Part no.
KWIKCUT

Kwikcut

Kwikcut is the ideal cutting tool for non-metallic conduits (PA, PF, PR, PADL, CP, KFL, KFS, KFM, PP, XF & PK) up to 32mm.

Instructions

Place the conduit between the cutting blade and lower support, squeeze the handles and rotate the conduit for a clean, easy cut. Spare blades are available.

Technical section

Thread data

Metric thread data

Thread size	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch (mm)
M8	8	6.9	1
M10	10	8.9	1
M12	12	10.9	1
M12	12	10.4	1.5
M16	16	14.4	1.5
M18	18	16.9	1
M20	20	18.4	1.5
M25	25	23.4	1.5
M30	30	28.4	1.5
M32	32	30.4	1.5
M40	40	38.4	1.5
M50	50	48.4	1.5
M63	63	61.4	1.5
M75	75	73.4	1.5

Standard thread conforming to EN60423 & BS3643
NOTE: Dimensions are nominal

PF thread data

Thread size (in)	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch (mm)
¼	13	-	1.34
⅜	16.7	15.0	1.34
½	21.0	18.6	1.81
¾	26.4	24.1	1.81
1	33.3	30.3	2.31
1 ¼	41.9	39.0	2.31
1 ½	47.8	44.8	2.31
2	59.6	56.7	2.31

Japanese conduit thread conforming to JIS B 0202
NOTE: Dimensions are nominal

NPT thread data

Thread size (in)	External thread outside diameter (mm)	Pitch (mm)
⅜	16.7	1.14
½	21.0	1.81
¾	26.4	1.81
1	33.3	2.21
1 ¼	41.9	2.21
1 ½	47.8	2.21
2	59.6	2.21

US taper seal pipe thread conforming to ANSI/ASME B1.20.1 - 1983
NOTE: Dimensions are nominal

PG thread data

Thread size	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch (mm)
PG7	12.5	11.3	1.27
PG9	15.2	13.9	1.41
PG11	18.6	17.3	1.41
PG13,5	20.4	19.1	1.41
PG16	22.5	21.2	1.41
PG21	28.3	26.8	1.59
PG29	37	35.5	1.59
PG36	47	45.5	1.59
PG42	54	52.5	1.59
PG48	59.3	57.8	1.59

German standard thread conforming to DIN40430
NOTE: Dimensions are nominal

UNEF / UNS thread data

Thread size (in)	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch (mm)
⅝	15.9	14.7	1.06
¾	19.1	17.7	1.27
1 ³ / ₁₆	20.6	19.3	1.27
7/8	22.2	20.9	1.27
1 ⁵ / ₁₆	23.8	22.4	1.27
1	25.4	24.0	1.27
1 ⅝	28.6	27.0	1.41
1 ³ / ₁₆	30.2	28.6	1.41
1 ¼	31.8	30.2	1.41
1 ⁵ / ₁₆	33.3	31.8	1.41
1 ³ / ₈	34.9	33.4	1.41
1 ⁷ / ₁₆	36.5	35.0	1.41
1 ³ / ₄	44.5	42.9	1.41
2	50.8	49.3	1.59
2 ¼	57.2	55.4	1.59

American unified thread conforming to BS1580
NOTE: Dimensions are nominal

Technical section

Fitting characteristics



Fitting swivels independently of conduit for installation purpose but is not suitable as a rotating joint in constantly moving applications.



Fitting rotates independently of the conduit to act as a rotating joint within constantly moving applications.

Technical section

EMI screen system & fire performance

EMI screen system

For applications where electromagnetic interference is of particular concern we have classified suitable conduit systems by means of symbols. These are related in an ascending scale of performance from Standard EMI Screen (products featuring a stainless steel overbraid) through to High EMI Screen (products featuring a tinned copper overbraid). Contact us for full details.



Standard EMI Screen	Enhanced EMI Screen	High EMI Screen
Screening level 40db @ 100MHz	Screening level 60db @ 100MHz	Screening level 75db @ 100MHz

Fire performance

Adaptalex has introduced a set of symbols to help the user specify conduit systems for installations where fire performance is of particular concern.

Each symbol encompasses a range of properties relevant to the high specification materials used in the construction of the conduit.

They are in an ascending scale of performance from Low Fire Hazard (LFH) featuring zero halogen through to Super Low Fire Hazard (SLFH) featuring zero nitrogen. In addition, Inherent Low Fire Hazard systems (ILFH) are classified as being all metal systems.



Property	Low Fire Hazard	Enhanced Low Fire Hazard	Super Low Fire Hazard	Inherent Low Fire Hazard
	LFH	ELFH	SLFH	ILFH
Oxygen Index ISO4589	31% ≥ OI ≥ 28%	OI ≥ 32%	OI ≥ 32%	Inherent Low Fire Hazard
BS6853 Smoke Density 3m ³	0.02 ≥ A0 ≥ 0.03	0.005 ≥ A0 ≥ 0.02	0.02 A0 ≤ 0.005	i.e. Type S, SS, SPB
Zero Halogen	■	■	■	STC, SSB & SSBGS
Zero Phosphorus	■	■	■	Metallic Conduit
Zero Sulphur	■	■	■	& Fittings
London Underground	Concession	Approved	Approved	
Toxicity Index NES713 Issue 3	5.0 ≥ TI ≥ 6.0	0.5 ≥ TI ≥ 5.0	TI ≤ 0.5	
NFF16-102	I3F2	I2F2	I2F1	








Technical section

IP ratings

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment.

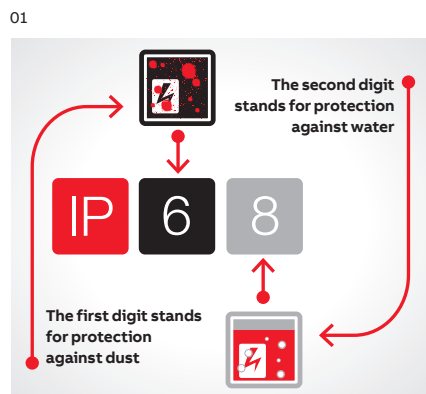
Protection against solid bodies
Degree of protection for persons against access to hazardous parts inside the enclosure and/or against the ingress of solid foreign objects.

Protection against water
Degree of protection of equipment inside enclosures against damage from the ingress of water.

	0	No protection
	1	Objects greater than 50 mm, accidental touch by hands
	2	Objects greater than 12 mm, accidental touch by fingers
	3	Objects greater than 2.5 mm, e.g. tools/wires
	4	Objects greater than 1 mm, e.g. tools/wires/small wires
	5	Protected against dust – limited ingress (no harmful deposits)
	6	Totally protected against dust (dust-tight)

	0	No protection
	1	Protected against vertically falling drops of water
	2	Protected against direct sprays of water 15° from vertical
	3	Protected against sprays of water to 60° from vertical
	4	Protected against water sprayed from all directions – limited ingress permitted
	5	Protected against low pressure jets of water from all directions – limited ingress permitted
	6	Protected against strong pressure jets of water, heavy seas – limited ingress permitted
	7	Protection against the effects of immersion between 15 cm – 1 m
	8	Protection against long periods of immersion under a quoted pressure, e.g. 2 bar at 24 hours
	9	IP69 Automotive standard DIN40050 and signifies resistance to high pressure jets of water (up to 80 bar) from any angle

01 IP ratings
The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment.



Technical section

Chemical resistance

Chemical resistance comparison table

Chemicals	Products														
	PA, PR, SN	PF	CP	KF, RF, SP	PP	PK	Fittings PA66	ATS Elastomer Seal	S (including braid)	SS (including braid)	LFH-SP	SPL, SPUL	SPLHC	TC braid	Fittings nickel plated brass
Astm no.1	2	2	2	0	2	2	2	2	2	2	0	2	2	2	2
Astm no.2	2	2	2	0	2	2	2	2	2	2	1	2	1	2	2
Astm no.3	2	2	2	0	1	2	2	2	2	2	1	2	1	2	2
Acetic acid (10%)	1	1	2	1	2	2	1	1	0	2	2	2	2	1	2
Acetone	2	2	1	0	2	2	2	1	2	2	0	0	2	2	2
Aluminium chloride	1	2	0	1	2	2	1	2	0	1	2	2	2	1	-
Aniline	1	0	0	0	2	1	1	0	2	2	1	0	2	2	2
Benzaldehyde	1	1	1	0	1	2	1	1	2	2	0	0	1	2	2
Benzene	2	2	1	0	1	2	2	1	2	2	0	0	0	2	2
Carbon tetrachloride	2	2	0	1	1	2	2	1	2	2	0	1	1	2	2
Chlorine water	0	0	1	0	1	0	0	0	0	0	1	0	2	0	2
Chloroform	0	0	0	0	1	2	0	1	2	2	0	0	1	2	2
Citric acid	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Copper sulphate	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2
Cresol	0	0	-	1	2	1	0	0	2	2	0	1	2	1	2
Diesel oil	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2
Diethylamine	2	1	1	1	2	2	2	0	2	2	2	1	2	2	2
Ethanol	2	1	2	0	2	2	2	1	2	2	1	0	2	2	2
Ether	2	2	-	1	2	2	2	2	2	2	0	1	2	2	2
Ethylamine	2	1	-	1	2	2	2	0	2	2	1	1	1	2	2
Ethylene glycol	2	2	2	1	2	2	2	2	0	2	2	1	2	2	2
Ethyl ethanoate	1	2	2	0	2	2	1	0	2	2	0	0	2	2	2
Freon 32	2	2	2	1	2	2	2	1	0	2	0	1	0	2	2
Hydrchloric acid (10%)	0	1	1	2	2	2	0	1	0	0	0	2	2	0	2
Hydrchloric acid (36%)	0	0	0	1	2	2	0	0	0	0	0	2	2	0	2
Hydrogen peroxide (35%)	1	1	1	2	2	2	1	0	0	2	1	2	1	2	2
Hydrogen peroxide (87%)	0	0	0	2	1	2	0	0	0	2	0	2	0	1	2
Lactic acid	1	2	0	1	2	2	1	2	0	2	2	1	1	2	2
Lubricating oil	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2
Methanol	1	1	2	0	2	2	1	1	2	2	1	0	2	2	2
Methyl bromide	0	0	-	0	1	2	0	0	2	2	0	0	1	2	2
MEK	2	2	2	1	0	2	2	2	1	2	2	0	0	2	2
Nitric acid (10%)	0	0	1	2	2	2	0	0	0	0	2	2	2	0	2
Nitric acid (70%)	0	0	0	2	2	0	0	0	0	0	0	2	2	0	2
Oxalic acid	1	2	1	1	2	2	1	1	0	2	2	2	2	1	2
Ozone (gas)	0	0	-	1	1	2	0	2	0	2	2	1	1	2	2
Paraffin oil	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2
Petrol	2	2	2	0	2	2	2	2	2	2	0	2	2	2	2
Phenol	0	0	0	1	0	1	0	1	2	2	0	1	2	1	2

Technical section

Chemical resistance

Chemical resistance comparison table (continued)

Chemicals	Products														
	PA, PL, SN	PF	CP	KF, RF, SP	PP	PK	Fittings PA66	ATS Elastomer Seal	S (including braid)	SS (including braid)	LFH-SP	SPL, SPUL	SPLHC	TC braid	Fittings nickel plated brass
Sea water	2	2	2	2	2	2	2	2	0	2	2	2	2	2	1
Silver nitrate	2	2	-	2	2	2	2	2	0	2	2	2	2	2	2
Skydrol	2	2	2	0	2	2	2	1	2	2	0	0	2	2	2
Sodium chloride	2	2	2	2	2	2	2	2	0	2	2	2	2	2	1
Sodium hydroxide (10%)	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2
Sodium hydroxide (60%)	2	1	0	1	2	2	2	1	0	1	2	2	2	2	2
Sulphur dioxide (gas)	0	0	1	2	2	2	0	0	0	0	1	2	2	1	0
Sulphuric acid (10%)	0	1	2	2	2	2	0	1	0	0	2	2	2	0	0
Sulphuric acid (70%)	0	0	0	2	2	0	0	0	0	0	1	2	2	0	0
Toluene	2	2	1	0	2	2	2	0	2	2	1	0	0	2	2
Transformer oil	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2
1,1,1-Trichloroethane	2	2	1	0	1	2	2	1	0	2	1	0	1	2	2
Trichloroethylene	1	0	0	0	1	2	1	1	0	2	1	0	0	2	2
Turpentine	2	2	2	1	0	2	2	1	2	2	0	1	0	2	2
Vegetable oil	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2
Vinyl acetate	1	2	-	0	2	2	1	0	0	2	0	0	2	2	2
Water	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2
White spirit	2	2	-	1	2	2	2	1	2	2	0	1	1	2	2
Zinc chloride	0	2	1	2	2	2	0	2	0	2	2	2	2	1	2

Note: The information above is given as a guide only and is based on published technical data and experience.

The chemical resistance of the above products is dependant on factors such as chemical exposure, concentration of the chemical and temperature. The above chemicals are valid for a temperature of 23°C.

Use of the above table is at the users own discretion and risk. Those using it must satisfy themselves that their application presents no health and safety risks.

The end user should assess compatibility with their application and contact Adaptaflex for further information.

Technical section

Cable carrying capacity (wire fill)

40% of the cross sectional area (CSA) - UK Wiring regulations BS7671 recommend that the total cross sectional area of the sum of individual cables shall not exceed 40% of the cross sectional area of the conduit based on 'using 3 or more cables'.

These instructions enable you to select the correct nominal diameter of non-metallic conduit, depending on the number and overall diameter of the cables to protect.

Instructions to define the nominal diameter of a non-metallic conduit:

- **Step 1:** Establish the number and size of each wire to be run in the conduit
- **Step 2:** Look on the Cross Sectional Area (CSA) chart (table 1), look up the CSA taken up by each of the wires from Step 1
- **Step 3:** Add all the CSA values together (Total CSA)
- **Step 4:** Look on the conduit fill value chart (table 2) and choose a conduit with a 40% fill value higher than the total CSA from Step 3

Example - What size of conduit to use?

- **Step 1:** 4 x 2.5mm cables, 2 x 10mm cables, and 3 x 25mm cables
- **Step 2:**
 - The CSA of Four 2.5mm cables is 19.64 (4 x 4.91)
 - The CSA of Two 10mm cables is 157.08 (2 x 78.54)
 - The CSA of Three 25mm cables is 1472.61 (3 x 490.87)
- **Step 3:** Total of these groups is 19.64 + 402.12 + 1472.61 = 1649.33
- **Step 4:** Using Table 2, we chose the size of non-metallic conduit with 40% fill value higher than 1649.33: 106mm

NOTE: The information given above relates to PA - Standard weight conduit and Adaptalok fittings. It is given in good faith and should be used only as a guide in conjunction with the relevant wiring regulations.

Table 1 - Cross Sectional Area (CSA) chart

Cross sectional area (CSA) [mm²]	Overall Diameter [mm]	CSA [mm²]
	1	0.79
	1.5	1.77
	2.5	4.91
	4	12.57
	6	28.27
	10	78.54
	16	201.06
	25	490.87
	35	962.11
	50	1963.50

Table 2 - Wire fill of non-metallic conduit

Nominal diameter (mm)	100% fill value	40% fill value
10	33.2	13
13	72.4	29
16	109.4	44
18	158.4	63
21	213.8	86
28	369.8	148
34	602.6	241
42	973.1	390
54	1698.2	680
80	3520	1410
106	6500	2600

Appendix

Part number index

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
ACB10	7TCA296000R0038	80	AL13/U075/C90/000620	7TCA296000R0279	62	AL16/U094/45/000620	7TCA296000R0496	63
ACB13	7TCA296000R0041	80	AL13/U088/A/000620	7TCA296000R0282	61	AL16/U094/A/000620	7TCA296000R0497	61
ACB13/ST	7TCA296000R0044	80	AL13/U088/C90/000620	7TCA296000R0283	62	AL16/U094/C90/000620	7TCA296000R0498	62
ACB16	7TCA296000R0048	80	AL131010/Y/BL	7TCA296000R0285	55	AL16/U100/A/000620	7TCA296000R0500	61
ACB16/ST	7TCA296000R0052	80	AL13RT	7TCA296050R0016	85	AL16/U100/C90/000620	7TCA296000R0501	62
ACB21	7TCA296000R0056	80	AL16/050/A/BL	7TCA296000R0312	52	AL16/U119/A/000620	7TCA296000R0503	61
ACB21/ST	7TCA296000R0060	80	AL16/050/C90/BL	7TCA296000R0318	53	AL16/U119/C90/000620	7TCA296000R0504	62
ACB28	7TCA296000R0064	80	AL16/A/U/BL	7TCA296000R0332	55	AL16/U131/45/000620	7TCA296000R0505	63
ACB28/ST	7TCA296000R0066	80	AL16/FL/45/BL	7TCA296000R0334	57	AL16/U131/A/000620	7TCA296000R0506	61
ACB34	7TCA296000R0070	80	AL16/FL/A/BL	7TCA296000R0335	56	AL16/U131/C90/000620	7TCA296000R0507	62
ACB34/ST	7TCA296000R0072	80	AL16/FL/C90/BL	7TCA296000R0337	56	AL161313/Y/BL	7TCA296000R0508	55
ACB42	7TCA296000R0076	80	AL16/KM20/A/BL	7TCA296000R0340	54	AL16RT	7TCA296050R0019	85
ACB42/ST	7TCA296000R0078	80	AL16/M16/45/BL	7TCA296000R0345	54	AL21/050/A/BL	7TCA296000R0541	52
ACB54	7TCA296000R0082	80	AL16/M16/A/BL	7TCA296000R0350	52	AL21/050/C90/BL	7TCA296000R0547	53
ACB54/ST	7TCA296000R0084	80	AL16/M16/C90/BL	7TCA296000R0361	53	AL21/A/U/BL	7TCA296000R0561	55
ACG10	7TCA296000R0088	80	AL16/M16/CS90/BL	7TCA296000R0366	58	AL21/FL/45/BL	7TCA296000R0562	57
ACG13	7TCA296000R0090	80	AL16/M16/CSF90/BL	7TCA296000R0368	60	AL21/FL/A/BL	7TCA296000R0564	56
ACG16	7TCA296000R0091	80	AL16/M16/PPA/BL	7TCA296000R0370	21	AL21/FL/C90/BL	7TCA296000R0568	56
ACG21	7TCA296000R0093	80	AL16/M16/S45/BL	7TCA296000R0371	59	AL21/KM20/A/BL	7TCA296000R0573	54
ACG28	7TCA296000R0097	80	AL16/M16/SA/BL	7TCA296000R0373	58	AL21/M20/45/BL	7TCA296000R0578	54
ACG34	7TCA296000R0100	80	AL16/M16/SF45/BL	7TCA296000R0375	60	AL21/M20/A/BL	7TCA296000R0585	52
ACG42	7TCA296000R0103	80	AL16/M16/SFA/BL	7TCA296000R0377	59	AL21/M20/C90/BL	7TCA296000R0596	53
ACG54	7TCA296000R0106	80	AL16/M20/45/BL	7TCA296000R0380	54	AL21/M20/CS90/BL	7TCA296000R0604	58
ADC106/FL/A/BL	7TCA296000R0114	57	AL16/M20/A/BL	7TCA296000R0384	52	AL21/M20/CSF90/BL	7TCA296000R0607	60
ADC80/FL/A/BL	7TCA296000R0123	57	AL16/M20/C90/BL	7TCA296000R0390	53	AL21/M20/PPA/BL	7TCA296000R0609	21
AL10/PF025/A/BL	7TCA296000R0141	52	AL16/PF038/A/BL	7TCA296000R0397	52	AL21/M20/S45/BL	7TCA296000R0610	59
AL13/038/A/BL	7TCA296000R0163	52	AL16/PF038/C90/BL	7TCA296000R0399	53	AL21/M20/SA/BL	7TCA296000R0612	58
AL13/038/C90/BL	7TCA296000R0168	53	AL16/PF050/A/BL	7TCA296000R0401	52	AL21/M20/SF45/BL	7TCA296000R0615	60
AL13/A/U/BL	7TCA296000R0179	55	AL16/PF050/C90/BL	7TCA296000R0404	53	AL21/M20/SFA/BL	7TCA296000R0617	59
AL13/FL/C90/BL	7TCA296000R0181	56	AL16/PG11/45/BL	7TCA296000R0406	54	AL21/M25/A/BL	7TCA296000R0620	52
AL13/M16/A/BL	7TCA296000R0188	52	AL16/PG11/A/BL	7TCA296000R0412	52	AL21/PF050/A/BL	7TCA296000R0625	52
AL13/M16/CS90/BL	7TCA296000R0199	58	AL16/PG11/CS90/BL	7TCA296000R0422	58	AL21/PF050/C90/BL	7TCA296000R0629	53
AL13/M16/CSF90/BL	7TCA296000R0201	60	AL16/PG11/CSF90/BL	7TCA296000R0425	60	AL21/PG11/A/BL	7TCA296000R0631	52
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AL13/M16/S45/BL	7TCA296000R0203	59	AL16/PG11/SA/BL	7TCA296000R0429	58	AL21/PG13/A/BL	7TCA296000R0643	52
AL13/M16/SF45/BL	7TCA296000R0208	60	AL16/PG11/SF45/BL	7TCA296000R0434	60	AL21/PG13/C90/BL	7TCA296000R0648	53
AL13/M16/SFA/BL	7TCA296000R0210	59	AL16/PG11/SFA/BL	7TCA296000R0436	59	AL21/PG13/CS90/BL	7TCA296000R0651	58
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AL13/PF038/A/BL	7TCA296000R0216	52	AL16/PG13/A/BL	7TCA296000R0443	52	AL21/PG13/S45/BL	7TCA296000R0656	59
AL13/PF038/C90/BL	7TCA296000R0219	53	AL16/PG13/C90/BL	7TCA296000R0450	53	AL21/PG13/SA/BL	7TCA296000R0658	58
AL13/PG9/45/BL	7TCA296000R0250	54	AL16/PG16/A/BL	7TCA296000R0462	52	AL21/PG13/SFA/BL	7TCA296000R0662	59
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AL13/PG9/CSF90/BL	7TCA296000R0265	60	AL16/PG9/C90/BL	7TCA296000R0476	53	AL21/PG16/A/BL	7TCA296000R0674	52
AL13/PG9/S45/BL	7TCA296000R2687	59	AL16/U063/A/000620	7TCA296000R0482	61	AL21/PG16/C90/BL	7TCA296000R0682	53
AL13/PG9/SA/BL	7TCA296000R0266	58	AL16/U063/C90/000620	7TCA296000R0483	62	AL21/PG16/CS90/BL	7TCA296000R0686	58
AL13/PG9/SFA/BL	7TCA296000R0269	59	AL16/U075/A/000620	7TCA296000R0487	61	AL21/PG16/CSF90/BL	7TCA296000R0689	60
AL13/U063/45/000620	7TCA296000R0272	63	AL16/U081/45/000620	7TCA296000R0489	63	AL21/PG16/S45/BL	7TCA296000R0691	59
AL13/U063/A/000620	7TCA296000R0274	61	AL16/U081/A/000620	7TCA296000R0490	61	AL21/PG16/SA/BL	7TCA296000R0693	58
AL13/U063/C90/000620	7TCA296000R0275	62	AL16/U081/C90/000620	7TCA296000R0491	62	AL21/PG16/SF45/BL	7TCA296000R0699	60
AL13/U075/45/000620	7TCA296000R0277	63	AL16/U088/A/000620	7TCA296000R0493	61	AL21/PG16/SFA/BL	7TCA296000R0701	59
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AL28/075/C90/BL	7TCA296000R0766	53	AL34/M32/S45/BL	7TCA296000R0974	59	AL54/A/U/BL	7TCA296000R2671	55
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AL28/FL/45/BL	7TCA296000R0782	57	AL34/M32/SFA/BL	7TCA296000R0981	59	AL54/FL/90/BL	7TCA296000R1204	56
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AL28/M25/PPA/BL	7TCA296000R0819	21	AL34/PG29/S45/BL	7TCA296000R1018	59	AL54/M50/SFA/BL	7TCA296000R1232	59
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AL28/PG21/45/BL	7TCA296000R0843	54	AL34/U144/C90/000620	7TCA296000R1040	62	AL54/PF200/C90/BL	7TCA296000R1268	53
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AL28/PG21/C90/BL	7TCA296000R0860	53	AL34/U175/A/000620	7TCA296000R1043	61	AL54/PG48/A/BL	7TCA296000R1278	52
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AL28/PG21/SA/BL	7TCA296000R0873	58	AL34RT	7TCA296050R0027	85	AL54/PG48/CSF90/BL	7TCA296000R1293	60
AL28/PG21/SFA/BL	7TCA296000R0880	59	AL42/125/A/BL	7TCA296000R1056	52	AL54/PG48/S45/BL	7TCA296000R1295	59
AL28/U088/45/000620	7TCA296000R0883	63	AL42/125/C90/BL	7TCA296000R1061	53	AL54/PG48/SA/BL	7TCA296000R1296	58
AL28/U088/C90/000620	7TCA296000R0885	62	AL42/A/U/BL	7TCA296000R1073	55	AL54/PG48/SFA/BL	7TCA296000R1298	59
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AR42/M40/A/BL	7TCA296000R1470	68	ASF28/M25/A/BL	7TCA296000R1692	65	AT16/038/S45/BLY	7TCA296000R2667	41
AR42/M40/C90/BL	7TCA296000R1471	68	ASF28/M25/C90/BL	7TCA296000R1694	65	AT16/038/SA/BLB	7TCA296170R0065	40
AR42/PG36/A/BL	7TCA296000R1472	68	ASF28/PG21/A/BL	7TCA296000R1703	65	AT16/038/SA/BLY	7TCA296170R0066	40
AR54/M50/A/BL	7TCA296000R1475	68	ASF28/PG21/C90/BL	7TCA296000R1706	65	AT16/038/SFA/BLY	7TCA296170R0069	41
AR54/M50/C90/BL	7TCA296000R1476	68	ASF28X3/T/BL	7TCA296000R1709	66	AT16/050/A/BLB	7TCA296170R0070	37
ASC21/M20/A/BL	7TCA296000R1483	65	ASF34/FL/90/BL	7TCA296000R1711	66	AT16/050/A/BLY	7TCA296170R0072	36
ASC21/M20/C90/BL	7TCA296000R1486	65	ASF34/M32/A/BL	7TCA296000R1714	65	AT16/050/C90/BLY	7TCA296170R0078	38
ASC21X3/T/BL	7TCA296000R1498	66	ASF34/M32/C90/BL	7TCA296000R1717	65	AT16/A/U/BLB	7TCA296170R0084	47
ASC28/M25/A/BL	7TCA296000R1502	65	ASF34/PG29/A/BL	7TCA296000R1727	65	AT16/A/U/BLY	7TCA296170R0085	47
ASC28/M25/C90/BL	7TCA296000R1504	65	ASF34X3/T/BL	7TCA296000R1733	66	AT16/FL/45/BLB	7TCA296170R0088	49
ASC28/PG21/A/BL	7TCA296000R1514	65	AT13/038/A/BLB	7TCA296170R0000	37	AT16/FL/45/BLY	7TCA296170R0089	49
ASC28/PG21/C90/BL	7TCA296000R1517	65	AT13/038/A/BLY	7TCA296170R0001	36	AT16/FL/A/BLB	7TCA296170R0091	48
ASC28X3/T/BL	7TCA296000R1519	66	AT13/038/C90/BLY	7TCA296170R0005	38	AT16/FL/A/BLY	7TCA296170R0092	48
ASC34/M32/A/BL	7TCA296000R1522	65	AT13/038/S45/BLB	7TCA296170R0938	41	AT16/FL/C90/BLB	7TCA296170R0096	49
ASC34/M32/C90/BL	7TCA296000R1525	65	AT13/038/SA/BLB	7TCA296170R0935	40	AT16/FL/C90/BLY	7TCA296170R0097	49
ASC34/PG29/A/BL	7TCA296000R1535	65	AT13/038/SA/BLY	7TCA296170R0006	40	AT16/M16/45/BLB	7TCA296170R0099	39
ASC34X3/T/BL	7TCA296000R1540	66	AT13/A/U/BLB	7TCA296170R0008	47	AT16/M16/45/BLY	7TCA296170R0100	39
ASC42/FL/90/BL	7TCA296000R1542	66	AT13/A/U/BLY	7TCA296170R0009	47	AT16/M16/A/BLB	7TCA296170R0104	37
ASC42/M40/A/BL	7TCA296000R1545	65	AT13/FL/C90/BLB	7TCA296170R0011	49	AT16/M16/A/BLY	7TCA296170R0105	36
ASC42/M40/C90/BL	7TCA296000R1548	65	AT13/FL/C90/BLY	7TCA296170R0012	49	AT16/M16/C90/BLB	7TCA296170R0111	38
ASC42/PG36/A/BL	7TCA296000R1554	65	AT13/M16/45/BLB	7TCA296170R0015	39	AT16/M16/C90/BLY	7TCA296170R0112	38
ASC54/FL/90/BL	7TCA296000R1560	66	AT13/M16/45/BLY	7TCA296170R0016	39	AT16/M16/CS90/BLB	7TCA296170R0118	40
ASC54/M50/A/BL	7TCA296000R1562	65	AT13/M16/A/BLB	7TCA296170R0019	37	AT16/M16/CS90/BLY	7TCA296170R0119	40

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AT16/M16/CSF90/BLY	7TCA296170R0122	42	AT21/050/SFA/BLY	7TCA296170R0221	41	AT21/U119/CSF90/BLY	7TCA296170R0332	45
AT16/M16/CSF90J/BLB	7TCA296170R0123	43	AT21/A/U/BLB	7TCA296170R0224	47	AT21/U119/SFA/BLB	7TCA296170R0334	44
AT16/M16/S45/BLB	7TCA296170R0124	41	AT21/A/U/BLY	7TCA296170R0225	47	AT21/U119/SFA/BLY	7TCA296170R0335	44
AT16/M16/S45/BLY	7TCA296170R0125	41	AT21/FL/45/BLB	7TCA296170R0228	49	AT21/U138/CSF90/BLY	7TCA296170R0338	45
AT16/M16/SA/BLB	7TCA296170R0128	40	AT21/FL/45/BLY	7TCA296170R0229	49	AT21/U138/SFA/BLY	7TCA296170R0339	44
AT16/M16/SA/BLY	7TCA296170R0129	40	AT21/FL/A/BLB	7TCA296170R0232	48	AT21/U144/CSF90/BLB	7TCA296170R0340	45
AT16/M16/SF45/BLB	7TCA296170R0133	42	AT21/FL/A/BLY	7TCA296170R0233	48	AT21/U144/CSF90/BLY	7TCA296170R0341	45
AT16/M16/SF45/BLY	7TCA296170R0134	42	AT21/FL/C90/BLB	7TCA296170R0237	49	AT21/U144/SFA/BLB	7TCA296170R0342	44
AT16/M16/SF45J/BLB	7TCA296170R0135	43	AT21/FL/C90/BLY	7TCA296170R0238	49	AT21/U144/SFA/BLY	7TCA296170R0343	44
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AT16/M16/SFA/BLY	7TCA296170R0137	41	AT21/M20/45/BLY	7TCA296170R0242	39	AT211321/T/BLY	7TCA296170R0883	50
AT16/M16/SFAJ/BLB	7TCA296170R0140	43	AT21/M20/A/BLB	7TCA296170R0247	37	AT211613/T/BLY	7TCA296170R0884	50
AT16/M20/45/BLY	7TCA296170R0142	39	AT21/M20/A/BLY	7TCA296170R0248	36	AT211616/T/BLY	7TCA296170R0346	50
AT16/M20/A/BLB	7TCA296170R0143	37	AT21/M20/C90/BLB	7TCA296170R0255	38	AT211616/T/BLY	7TCA296170R0346	50
AT16/M20/A/BLY	7TCA296170R0144	36	AT21/M20/C90/BLY	7TCA296170R0256	38	AT211621/T/BLY	7TCA296000R1742	50
AT16/M20/C90/BLB	7TCA296170R0151	38	AT21/M20/CS90/BLB	7TCA296170R0263	40	AT212113/T/BLY	7TCA296170R0347	50
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AT16/PF038/A/BLY	7TCA296170R0162	36	AT21/M20/S45/BLB	7TCA296170R0271	41	AT28/075/CS90/BLB	7TCA296170R0360	40
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AT16/PF050/C90/BLB	7TCA296170R0169	38	AT21/M20/SF45/BLB	7TCA296170R0280	42	AT28/075/S45/BLY	7TCA296170R0365	41
AT16/PF050/C90/BLY	7TCA296170R0170	38	AT21/M20/SF45/BLY	7TCA296170R0281	42	AT28/075/SA/BLY	7TCA296170R0368	40
AT16/PG11/SA/BLY	7TCA296170R0173	40	AT21/M20/SF45J/BLB	7TCA296170R0282	43	AT28/075/SFA/BLB	7TCA296170R0370	41
AT16/U063/CSF90/BLY	7TCA296170R0179	45	AT21/M20/SFA/BLB	7TCA296170R0283	41	AT28/075/SFA/BLY	7TCA296170R0371	41
AT16/U063/SFA/BLY	7TCA296170R0180	44	AT21/M20/SFA/BLY	7TCA296170R0284	41	AT28/A/U/BLB	7TCA296170R0373	47
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AT16/U088/CSF90/BLY	7TCA296170R0184	45	AT21/PF050/45/BLB	7TCA296170R0958	39	AT28/FL/A/BLB	7TCA296170R0380	48
AT16/U088/SFA/BLB	7TCA296170R0185	44	AT21/PF050/A/BLB	7TCA296170R0300	36	AT28/FL/A/BLY	7TCA296170R0381	48
AT16/U088/SFA/BLY	7TCA296170R0186	44	AT21/PF050/C90/BLB	7TCA296170R0303	38	AT28/FL/C90/BLB	7TCA296170R0384	49
AT16/U100/CSF90/BLY	7TCA296170R0188	45	AT21/PF050/C90/BLY	7TCA296170R0304	38	AT28/FL/C90/BLY	7TCA296170R0385	49
AT16/U100/SFA/BLB	7TCA296170R0189	44	AT21/PG16/SA/BLY	7TCA296170R0310	40	AT28/M25/45/BLB	7TCA296170R0388	39
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AT21/050/A/BLB	7TCA296170R0198	37	AT21/U088/SFA/BLY	7TCA296170R0319	44	AT28/M25/A/BLY	7TCA296170R0396	36
AT21/050/A/BLY	7TCA296170R0200	36	AT21/U094/CSF90/BLY	7TCA296170R0321	45	AT28/M25/C90/BLB	7TCA296170R0403	38
AT21/050/C90/BLY	7TCA296170R0206	38	AT21/U094/SFA/BLB	7TCA296170R0323	44	AT28/M25/C90/BLY	7TCA296170R0404	38
AT21/050/CS90/BLB	7TCA296170R0209	40	AT21/U094/SFA/BLY	7TCA296170R0324	44	AT28/M25/CS90/BLB	7TCA296170R0412	40
AT21/050/CS90/BLY	7TCA296170R0210	40	AT21/U100/CSF90/BLY	7TCA296170R0326	45	AT28/M25/CS90/BLY	7TCA296170R0413	40
AT21/050/CSF90/BLB	7TCA296170R0212	42	AT21/U100/SF45/BLY	7TCA296170R0327	46	AT28/M25/CSF90/BLB	7TCA296170R0417	42
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AT281328/T/BLY	7TCA296170R0887	50	AT34/PF100/A/BLY	7TCA296170R0561	36	AT42/M40/SFAJ/BLY	7TCA296170R0650	43
AT281621/T/BLY	7TCA296170R0888	50	AT34/PF100/C90/BLB	7TCA296170R0564	38	AT42/PF125/45/BLB	7TCA296170R0934	39
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AT282121/Y/BLY	7TCA296170R0896	51	AT34/U119/SFA/BLB	7TCA296170R0576	44	AT42/U175/SFA/BLY	7TCA296170R0906	44
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AT282813/Y/BLY	7TCA296170R0897	51	AT34/U144/CSF90/BLB	7TCA296170R0578	45	AT48/150/SFA/BLY	7TCA296170R0684	41
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AT282821/Y/BLY	7TCA296170R0900	51	AT34/U144/SF45/BLY	7TCA296170R0926	46	AT48/PF150/45/BLB	7TCA296170R0705	39
AT282828/T/BLY	7TCA296170R0873	50	AT34/U144/SFA/BLB	7TCA296170R0581	44	AT48/PF150/45/BLY	7TCA296170R0706	39
AT282828/Y/BLY	7TCA296170R0898	51	AT34/U144/SFA/BLY	7TCA296170R0582	44	AT54/150/C90/BLY	7TCA296170R0719	38
AT34/100/45/BLY	7TCA296170R0483	39	AT34/U175/SFA/BLB	7TCA296170R0584	44	AT54/150/CS90/BLY	7TCA296170R0720	40
AT34/100/A/BLB	7TCA296170R0484	37	AT34/U200/CSF90/BLY	7TCA296170R0955	45	AT54/150/S45/BLB	7TCA296170R0942	41
AT34/100/A/BLY	7TCA296170R0486	36	AT341634/T/BLY	7TCA296170R0891	50	AT54/150/S45/BLY	7TCA296170R0722	41
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AT54/A/U/BLB	7TCA296170R0744	47	CPCM34/BL/50M	7TCA296000R1761	23	LNPB/M63	7TCA296050R0329	80
AT54/A/U/BLY	7TCA296170R0745	47	CPCM42/BL/25M	7TCA296000R1762	23	LNPB/PG11	7TCA296050R0330	80
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AT54/M63/C90/BLY	7TCA296170R0779	38	KC20/M20/A/BL	7TCA296090R0006	72	LNPG/PG7	7TCA296050R0351	80
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T101010/BL	7TCA296000R2526	82	XF32/M32/D	7TCA296060R0135	75			
T101310/BL	7TCA296000R2527	82	XF40/30M	7TCA296060R0140	74			
T101613/BL	7TCA296000R2528	82	XF40/M40/D	7TCA296060R0144	75			
T131010/BL	7TCA296000R2531	82	XF50/30M	7TCA296060R0148	74			
T131013/BL	7TCA296000R2532	82	XF50/M50/D	7TCA296060R0151	75			
T131310/BL	7TCA296000R2535	82	Y101010/BL	7TCA296000R2603	83			
T131313/BL	7TCA296000R2537	82	Y101013/BL	7TCA296000R2605	83			
T131613/BL	7TCA296000R2539	82	Y131010/BL	7TCA296000R2608	83			
T161013/BL	7TCA296050R0529	82	Y131310/BL	7TCA296000R2612	83			
T161313/BL	7TCA296000R2544	82	Y131313/BL	7TCA296000R2614	83			
T161316/BL	7TCA296050R0530	82	Y161310/BL	7TCA296000R2618	83			
T161613/BL	7TCA296000R2546	82	Y161313/BL	7TCA296000R2621	83			
T161616/BL	7TCA296000R2547	82	Y161610/BL	7TCA296000R2623	83			
T162116/BL	7TCA296000R2550	82	Y161613/BL	7TCA296000R2625	83			
T211016/BL	7TCA296160R0102	82	Y211010/BL	7TCA296000R2626	83			
T211021/BL	7TCA296000R2551	82	Y211310/BL	7TCA296000R2627	83			
T211316/BL	7TCA296000R2554	82	Y211313/BL	7TCA296000R2628	83			
T211321/BL	7TCA296000R2555	82	Y211610/BL	7TCA296000R2629	83			
T211613/BL	7TCA296000R2557	82	Y211613/BL	7TCA296000R2630	83			
T211616/BL	7TCA296000R2558	82	Y211616/BL	7TCA296000R2631	83			
T211621/BL	7TCA296000R2559	82	Y212110/BL	7TCA296000R2633	83			

Additional information

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ABB Cable Management Products Ltd.

Station Road, Coleshill,
Birmingham, B46 1HT
United Kingdom

Contact us:

cmg.conduitsystems@abb.com

www.adaptaflex.com

For other ABB locations visit new.abb.com/low-voltage