

FLEXICON FLEXIBLE CONDUIT & ACCESSORIES



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Working with FLEXICON

Faster, accurate specifying makes your job easier every time!

We know how important speed and efficiency are to a cost effective business. When you choose Flexicon you'll save time finding the right product to meet the application exactly. Multi-purpose systems will make holding stock simpler. User-friendly fittings and quality manufacturing mean Flexicon systems help you to complete the job faster.

Cut through the conduit confusion with Flexicon

State-of-the-art manufacturing and world class quality from FLEXICON

Since the new look Flexicon took the trade by storm, no less than 600 new lines have been launched - most of them manufactured in-house at Flexicon's advanced new production centre. It is here that the best minds in the business and some heavyweight investment have achieved results: better products, better service and better value - and there's always more to come!

- NEW LFH range
- Expanded FPA system
- More Contractor Packs

High technology tooling and automated production enables Flexicon to meet demand for a brilliant range of products. As well as metallic systems, advanced engineered plastics offer comparable compression strength and greater flexibility.

Quality Standards and Approvals
 Flexicon products are tested to the most demanding quality standards and have been awarded quality approvals worldwide, including ISO 9001: 2000.

Designed to give you
more choice and
more cost efficiency!



CONDUIT APPLICATION GUIDE

metallic
conduit
and
fittings

non-
metallic
conduit
and
fittings

conduit system		IP rating available	compression strength kg/100mm 20mm size	pull-off strength kg 20mm size	high fatigue life	temperature range	flexible	pliable	low fire hazard	halogen free	self extinguishing	EMC screening	high abrasion resistance	high UV resistance - black
type FU galvanised steel		IP40	350	120		-50°C to +300°C	●		●	●	●		●	
type SSU stainless steel, grade 316		IP40	400	170		-50°C to +300°C	●		●	●	●		●	
type FSU galvanised steel, pvc coated		IP54, IP65	350	120	●	-15°C to +70°C	●		●	●	●		●	
type FNU galvanised steel, thermoplastic coated		IP54, IP65	350	120		-40°C to +120°C	●		●	●	●		●	
type LFHU galvanised steel, LFH coated		IP54, IP65	350	120		-25°C to +90°C	●		●	●	●		●	
type FSB galv steel, pvc, galv steel over braid		IP54	350	120		-15°C to +70°C	●		●	●	●	●	●	
type FB galv steel, galv steel over braid		IP40	350	120		-50°C to +300°C	●		●	●	●	●	●	
type LTP galv steel, pvc coated, liquid tight		IP66, IP67, IP68	400	130		-20°C to +105°C	●		●	●	●		●	●
type LTPHC galv steel, thermoplastic rubber, liquid tight		IP66, IP67, IP68	400	130		-45°C to +135°C	●		●	●	●		●	●
type LTPUL galv steel, pvc coated, liquid tight		IP66, IP67, IP68	500	160		-15°C to +75°C	●		●	●	●		●	●
type FLP galv steel, pvc coated, pliable		IP66, IP67	400	50		-15°C to +70°C	●	●	●	●	●	●	●	●
type FPAS nylon LFH PA6 corrugated, std weight		IP66, IP67, IP68	75	40	●	-40°C to +120°C	●		●	●	●		●	●
type FPAL nylon PA6 corrugated, light weight		IP66, IP67, IP68	60	30	●	-40°C to +120°C	●		●	●	●		●	●
type FPR nylon extra LFH PA6 corrugated, std wght		IP66, IP67, IP68	75	40		-40°C to +120°C	●		●	●	●		●	●
type FPAH nylon LFH PA6 corrugated, heavy wght		IP66, IP67, IP68	120	70		-40°C to +120°C	●		●	●	●		●	●
type FPI nylon PA12 corrugated, standard wght		IP66, IP67, IP68	45	30	●	-50°C to +110°C	●		●	●	●		●	●
type FPIH nylon PA12 corrugated, heavy weight		IP66, IP67, IP68	60	50	●	-50°C to +110°C	●		●	●	●		●	●
type FPY nylon PA6 corrugated, light weight		IP40, IP66, IP67, IP68	60	25	●	-40°C to +100°C	●		●	●	●		●	●
type FPP polypropylene corrugated, std weight		IP40, IP66, IP67, IP68	35	25		-20°C to +90°C	●		●	●	●		●	●
type FPY nylon PA6, large diameter, std weight		IP40, IP65				-40°C to +120°C	●		●	●	●		●	●
type FPL upvc corrugated		IP40, IP66, IP67, IP68	150	30		-5°C to +70°C		●	●	●	●		●	●
type FPC pvc spiral reinforced		IP65	60	25		-5°C to +70°C		●	●	●	●		●	●
type LPC smooth, pvc spiral reinforced		IP67	120	50		-5°C to +70°C		●	●	●	●		●	●

type FU
galvanised steel

type SSU
stainless steel, grade 316

type FSU
galvanised steel, pvc coated

type FNU
galvanised steel, thermoplastic coated

type LFHU
galvanised steel, LFH coated

type FSB
galv steel, pvc, galv steel over braid

type FB
galv steel, galv steel over braid

type LTP
galv steel, pvc coated, liquid tight

type LTPHC
galv steel, thermoplastic rubber, liquid tight

type LTPUL
galv steel, pvc coated, liquid tight

type FLP
galv steel, pvc coated, pliable

type FPAS
nylon LFH PA6 corrugated, std weight

type FPAL
nylon PA6 corrugated, light weight

type FPR
nylon extra LFH PA6 corrugated, std wght

type FPAH
nylon LFH PA6 corrugated, heavy wght

type FPI
nylon PA12 corrugated, standard wght

type FPIH
nylon PA12 corrugated, heavy weight

type FPY
nylon PA6 corrugated, light weight

type FPP
polypropylene corrugated, std weight

type FPY
nylon PA6, large diameter, std weight

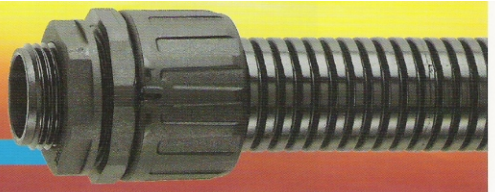
type FPL
upvc corrugated

type FPC
pvc spiral reinforced

type LPC
smooth, pvc spiral reinforced

non-metallic conduit

nylon



type FPAS

IP66 IP67 IP68

Construction: Standard weight, flame retardant nylon (PA6) corrugated flexible conduit. Colour black or grey.

Typical Applications: All types of machinery, public buildings.

Conduit

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- IP rating: IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings
- Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)
- Lloyd's Register Type Approval
- Low Fire Hazard (LFH), see page 35
- UL 94 V2
- Halogen, sulphur and phosphorus free
- UV resistant (black)
- Abrasion resistant
- Highly resistant to solvents and oils

type FPAL

IP66 IP67 IP68

Construction: Light weight nylon (PA6) corrugated flexible conduit. Colour black or grey.

Typical Applications: Machines where lower mechanical protection is required and buildings where there is no fire risk.

Conduit

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- IP rating: IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings
- Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)
- Highly resistant to solvents and oils
- Self extinguishing
- Halogen, sulphur and phosphorus free

type FPR

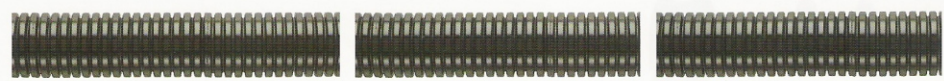
IP66 IP67 IP68

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

Typical Applications: Railways, underground and public buildings.

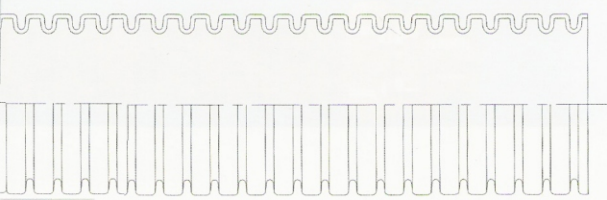
Conduit

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- IP rating: IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings
- Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)
- Lloyd's Register Type Approval
- Extra Low Fire Hazard (LFH), see page 35
- UL 94 V0
- Halogen, sulphur and phosphorus free
- UV resistant (black)
- Abrasion resistant
- Highly resistant to solvents and oils



nominal size (mm)	pitch	FPAS part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPAL part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPR part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
10	F	FPAS10	50	10.0	6.3	15	FPAL10	50	10.0	6.5	15	FPR10	50	10.0	6.3	15
11	F	FPAS11	50	11.5	8.2	20	FPAL11	50	11.5	8.4	20					
13	F	FPAS13	50	13.0	9.8	25	FPAL13	50	13.0	10.0	25	FPR13	50	13.0	9.8	25
16	F	FPAS16	25, 50	15.8	11.8	40	FPAL16	50	15.8	12.0	35	FPR16	50	15.8	11.8	35
18	F	FPAS18	50	18.5	14.2	40	FPAL18	50	18.5	14.2	35					
21	F	FPAS21	25, 50	21.2	16.7	45	FPAL21	50	21.2	16.9	40	FPR21	50	21.2	16.7	45
21	C	FPAS21C	50	21.2	15.6	45										
28	F	FPAS28	25, 50	28.5	22.8	50	FPAL28	50	28.5	23.0	45					
28	C	FPAS28C	50	28.5	21.6	50						FPR28	50	28.5	21.7	50
34	C	FPAS34	25, 50	34.5	28.1	60	FPAL34	25, 50	34.5	28.3	55	FPR34	50	34.5	28.1	60
42	C	FPAS42	10, 25	42.5	35.5	70	FPAL42	25	42.5	35.7	65	FPR42	25	42.5	35.5	70
54	C	FPAS54	10, 25	54.5	47.2	80	FPAL54	25	54.5	47.4	80	FPR54	25	54.5	47.2	80

F = fine pitch C = coarse pitch



type FPAH

IP66 IP67 IP68

Construction: Heavy weight, flame retardant, nylon (PA6) corrugated flexible conduit. Colour black (or grey on request).

Typical Applications: All types of machinery and public buildings where high mechanical strength required.

Conduit

- High mechanical strength
- High impact resistance
- IP rating: IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings
- Temperature range -40°C to +120°C
- Low Fire Hazard (LFH), see page 35
- UL 94 V2
- Halogen, sulphur and phosphorus free
- UV resistant (black)
- UV resistant (black)
- Abrasion resistant
- Highly resistant to solvents and oils

type FPI

IP66 IP67 IP68

Construction: Standard weight nylon (PA12) corrugated flexible conduit. Colour black or grey.

Typical Applications: Robots and continual flexing.

Conduit

- Highly flexible
- Exceptional fatigue life
- High impact resistance (6J @ -60°C)
- UV resistant (black)
- Displays self recovery if crushed
- IP rating: IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings
- Temperature range -50°C to +110°C
- Highly resistant to solvents and oils
- Self extinguishing
- Halogen free

type FPIH

IP66 IP67 IP68

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

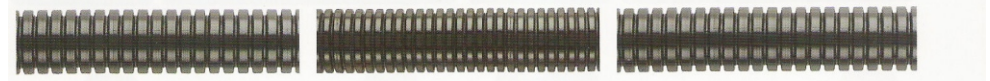
Typical Applications: Robots and continual flexing where higher mechanical strength required.

Conduit

- Highly flexible and high fatigue life
- High mechanical strength
- High impact resistance
- UV resistant (black)
- Displays self recovery if crushed
- IP rating: IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings
- Temperature range -50°C to +110°C
- Highly resistant to solvents and oils
- Self extinguishing
- Halogen free



Typical application for type FPAS conduit and fittings includes security cameras.



nominal size (mm)	pitch	FPAH part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPI part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	FPIH part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
10																
11																
13																
16																
18																
21																
21																
28																
28																
34																
42																
54																

F = fine pitch C = coarse pitch

ordering notes

- Specify black or grey (B = Black, G = Grey) and add reel length eg: FPAS21B-50M
- See cutting tool page 32
- Available on request:
 - longer lengths and bulk packaging
 - cut lengths and assemblies
 - other colours
 - full copies of independent test reports confirming LFH properties
 - overbraided version with metal fittings



FPA fittings for FPAS, FPAL, FPR, FPAH, FPI, FPIH & FPP

nylon

type FPA

IP66

Construction: Nylon (PA66) moulded fitting. UNEF internal threads are made from black anodised aluminium. Colour black or grey.

fittings

- 1 part fast fit
- IP rating: IP66
- Anti-vibration and tamper resistant
- Can be removed using a screwdriver
- All round teeth give high tensile strength
- Both 90° and 45° elbows incorporate swept bore to facilitate cable installation and protect cables when installed
- Suitable for fine and coarse pitch conduits
- Temperature range -50°C to +135°C
- Metric threads supplied complete with locknuts
- Swivel UNEF threads allow assembly to military style electrical connectors without twisting of cables and includes sealing 'O' ring. Long pattern versions are available which may enable the elimination of the connector backshell and elbow connectors
- Low Fire Hazard (LFH)
- Halogen, sulphur and phosphorus free
- CC conduit clips, any size can be clipped together, each size can be stacked. Lids available for extra security
- FCL conduit clip has an integral lid

type FPA

IP66

straight external thread



nominal size (mm)

	metric thread	part number	PG thread	part number	NPT thread	part number
10	M12	FPA10-M12	PG7	FPA10-PG7		
11	M12	FPA11-M12	PG7	FPA11-PG7		
13	M16	FPA13-M16	PG9	FPA13-PG9		
16	M16	FPA16-M16	PG9	FPA16-PG9	¾"	FPA16-038
16	M20	FPA16-M20	PG11	FPA16-PG11	½"	FPA16-050
16	M20	FPA16-M20	PG13	FPA16-PG13	1½"	FPA16-U119
18	M20	FPA18-M20	PG13	FPA18-PG13		
21	M20	FPA21-M20	PG13	FPA21-PG13	¾"	FPA21-050
21	M20	FPA21-M20	PG16	FPA21-PG16	1½"	FPA21-U138
21	M25	FPA21-M25	PG16	FPA21-PG16	1½"	FPA21-U144
28	M25	FPA28-M25	PG21	FPA28-PG21	¾"	FPA28-075
28	M25	FPA28-M25	PG29	FPA28-PG29	1½"	FPA28-U175
34	M32	FPA34-M32	PG29	FPA34-PG29	1"	FPA34-100
42	M40	FPA42-M40	PG36	FPA42-PG36	1½"	FPA42-125
42	M50	FPA42-M50			1½"	FPA42-150
54	M50	FPA54-M50	PG48	FPA54-PG48	1½"	FPA54-150
54	M63	FPA54-M63	2"	FPA54-200		

metric threads supplied complete with locknut

type FPA

IP66

straight UNEF swivel internal thread



type FPA90

IP66

90° elbow external thread



	metric thread	part number	PG thread	part number	NPT thread	part number
	M12	FPA10-M12-90	PG7	FPA10-PG7-90		
	M16	FPA13-M16-90	PG9	FPA13-PG9-90		
	M16	FPA16-M16-90	PG9	FPA16-PG9-90	¾"	FPA16-U075-90
	M20	FPA16-M20-90	PG11	FPA16-PG11-90	½"	FPA16-050-90
	M20	FPA16-M20-90	PG13	FPA16-PG13-90	1½"	FPA16-U119-90
	M20	FPA21-M20-90	PG13	FPA21-PG13-90	¾"	FPA21-050-90
	M20	FPA21-M20-90	PG16	FPA21-PG16-90	1½"	FPA21-U138-90
	M25	FPA28-M25-90	PG21	FPA28-PG21-90	¾"	FPA28-075-90
	M25	FPA28-M25-90	PG29	FPA28-PG29-90	1½"	FPA28-U175-90
	M32	FPA34-M32-90	PG29	FPA34-PG29-90	1"	FPA34-100-90
	M40	FPA42-M40-90	PG36	FPA42-PG36-90	1½"	FPA42-125-90
	M50	FPA42-M50-90			1½"	FPA42-150-90
	M50	FPA54-M50-90	PG48	FPA54-PG48-90	1½"	FPA54-150-90
	M63	FPA54-M63-90	2"	FPA54-200-90		

type FPA90

IP66

90° elbow UNEF swivel internal thread



	metric thread	part number
	M12	FPA10-M12-90
	M16	FPA13-M16-90
	M16	FPA16-M16-90
	M20	FPA16-M20-90
	M20	FPA21-M20-90
	M25	FPA28-M25-90
	M32	FPA34-M32-90
	M40	FPA42-M40-90
	M50	FPA42-M50-90
	M50	FPA54-M50-90
	M63	FPA54-M63-90

fittings

type FPA45

IP66

45° elbow external thread



	metric thread	part number	PG thread	part number	NPT thread	part number
	M12	FPA10-M12-45	PG7	FPA10-PG7-45		
	M16	FPA13-M16-45	PG9	FPA13-PG9-45		
	M16	FPA16-M16-45	PG9	FPA16-PG9-45	¾"	FPA16-U075-45
	M20	FPA16-M20-45	PG11	FPA16-PG11-45	½"	FPA16-050-45
	M20	FPA16-M20-45	PG13	FPA16-PG13-45	1½"	FPA16-U119-45
	M20	FPA21-M20-45	PG13	FPA21-PG13-45	¾"	FPA21-050-45
	M20	FPA21-M20-45	PG16	FPA21-PG16-45	1½"	FPA21-U138-45
	M25	FPA28-M25-45	PG21	FPA28-PG21-45	¾"	FPA28-075-45
	M25	FPA28-M25-45	PG29	FPA28-PG29-45	1½"	FPA28-U175-45
	M32	FPA34-M32-45	PG29	FPA34-PG29-45	1"	FPA34-100-45
	M40	FPA42-M40-45	PG36	FPA42-PG36-45	1½"	FPA42-125-45
	M50	FPA42-M50-45			1½"	FPA42-150-45
	M50	FPA54-M50-45	PG48	FPA54-PG48-45	1½"	FPA54-150-45

type FPA45

IP66

45° elbow UNEF swivel internal thread



	metric thread	part number
	M12	FPA10-M12-45
	M16	FPA13-M16-45
	M16	FPA16-M16-45
	M20	FPA16-M20-45
	M20	FPA21-M20-45
	M25	FPA28-M25-45
	M32	FPA34-M32-45
	M40	FPA42-M40-45
	M50	FPA42-M50-45
	M50	FPA54-M50-45

type FPA-FPA

IP66

coupler



	metric thread	part number
	M16	FPA16-FPA16
	M20	FPA21-FPA21
	M25	FPA28-FPA28
	M32	FPA34-FPA34

type CC

IP66

nylon conduit clip



	part number
	CC10
	CC16
	CC21
	CC28
	CC34
	CC42
	CC54

type CCL

IP66

nylon conduit clip lid



	part number
	CCL16
	CCL21
	CCL28
	CCL34
	CCL42
	CCL54

type FCL

IP66

nylon conduit clip with integral lid



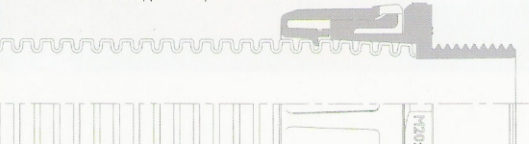
	part number	nominal size (mm)
	FCL10	10
	FCL11	11
	FCL13	13
	FCL16	16
	FCL16	16
	FCL16	16
	FCL16	16
	FCL18	18
	FCL21	21
	FCL21	21
	FCL21	21
	FCL21	21
	FCL28	28
	FCL28	28
	FCL34	34
	FCL42	42
	FCL42	42
	FCL54	54
	FCL54	54

ordering notes

- Specify black or grey (B = Black, G = Grey) eg: FPA16-M16B
- The IP rating onto a UNEF threaded connector may be dependent on the design of the connector
- Available on request:
 - additional sizes
 - alternative threads
 - flanged straights and elbows
 - additional UNEF threads and combinations
 - FPA to rigid conduit couplers



Int. Pat.



FPAX fittings for FPAS, FPAL, FPR, FPAH, FPI, FPIH & FPP

nylon submersible and pressure tight

type FPAX

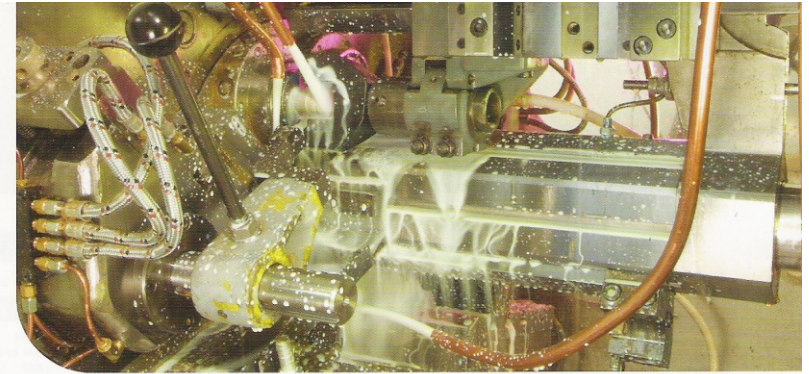
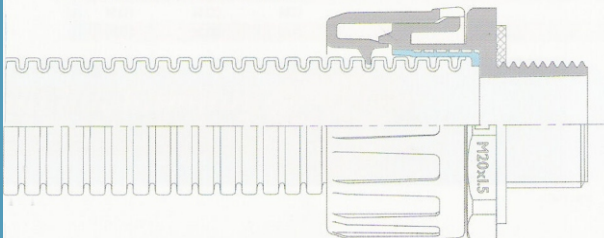
Construction: Nylon (PA66) moulded fitting incorporating internal elastomeric seal, UNEF internal threads are made from black anodised aluminium. Colour black (or grey made to order).

ittings

- 1 part fast fit
- IP rating: IP66 + IP67 + IP68
- Anti-vibration and tamper resistant
- Can be removed using a screwdriver
- All round teeth give high tensile strength
- Both 90° and 45° elbows incorporate swept bore to facilitate cable installation and protect cables when installed
- Temperature range -50°C to +135°C
- Suitable for fine and coarse pitch conduits
- Metric threads supplied complete with locknut and face seal washer
- Swivel UNEF threads allow assembly to military style connectors without twisting of cables and includes sealing 'O' ring. Long pattern versions are available which may enable the elimination of the connector backshell and elbow connectors
- Low Fire Hazard (LFH)
- Halogen, sulphur and phosphorus free
- Nylon conduit clips, any size can be clipped together, each size can be stacked
- Conduit clip lids available for extra security

type FPAX			type FPAX			type FPAX90			type FPAX90			
straight external thread			straight UNEF swivel internal thread			90° elbow external thread			90° elbow UNEF swivel internal thread			
nominal size (mm)	metric thread	part number	PG thread	part number	UNEF thread	metric thread	part number	PG thread	part number	UNEF thread	part number	
13	M16	FPAX13-M16	PG9	FPAX13-PG9		M16	FPAX13-M16-90	PG9	FPAX13-PG9-90			
16	M16	FPAX16-M16	PG9	FPAX16-PG9*	3/8" UNEF	FPAX16-U075	M16	FPAX16-M16-90	PG9	FPAX16-PG9-90*	3/8" UNEF	FPAX16-U075-90
16	M20	FPAX16-M20	PG11	FPAX16-PG11	1/2" UNEF	FPAX16-U100	M20	FPAX16-M20-90	PG11	FPAX16-PG11-90	1/2" UNEF	FPAX16-U100-90
16		PG13	FPAX16-PG13	1/2" UNEF	FPAX16-U119			PG13	FPAX16-PG13-90*	1/2" UNEF	FPAX16-U119-90	
21	M20	FPAX21-M20	PG13	FPAX21-PG13	3/4" UNEF	FPAX21-U119	M20	FPAX21-M20-90	PG13	FPAX21-PG13-90*	3/4" UNEF	FPAX21-U119-90
21		PG16	FPAX21-PG16	1 1/4" UNEF	FPAX21-U138			PG16	FPAX21-PG16-90	1 1/4" UNEF	FPAX21-U138-90	
21		PG21	FPAX21-PG21*	1 1/2" UNEF	FPAX21-U144			PG21	FPAX21-PG21-90	1 1/2" UNEF	FPAX21-U144-90	
28	M25	FPAX28-M25	PG21	FPAX28-PG21	1 1/2" UNEF	FPAX28-U144	M25	FPAX28-M25-90	PG21	FPAX28-PG21-90	1 1/2" UNEF	FPAX28-U144-90
28		PG29	FPAX28-PG29*	1 3/4" UNEF	FPAX28-U175			PG29	FPAX28-PG29-90	1 3/4" UNEF	FPAX28-U175-90	
34	M32	FPAX34-M32	PG29	FPAX34-PG29	1" UNEF	FPAX34-U175	M32	FPAX34-M32-90	PG29	FPAX34-PG29-90	1" UNEF	FPAX34-U175-90
42	M40	FPAX42-M40	PG36	FPAX42-PG36	1 1/2" UNEF	FPAX42-U200		PG36	FPAX42-PG36-90	1 1/2" UNEF	FPAX42-U200-90	
42	M50	FPAX42-M50		1 3/4" UNEF	FPAX42-U150*					1 3/4" UNEF	FPAX42-U150-90*	
54	M50	FPAX54-M50	PG48	FPAX54-PG48	1 3/4" UNEF	FPAX54-U200*		PG48	FPAX54-PG48-90*	1 3/4" UNEF	FPAX54-U200-90*	
54	M63	FPAX54-M63		2" UNEF	FPAX54-200*		M63	FPAX54-M63-90		2" UNEF	FPAX54-200-90*	

metric threads supplied complete with locknut



Typical application for liquid tight fittings.

ittings

Clips

type FPAX45			type FPAX45			type CC	type CCL	type FCL
45° elbow external thread			45° elbow UNEF swivel internal thread			nylon conduit clip	nylon clip lid	nylon conduit clip with integral lid
metric thread	part number	PG thread	part number	NPT thread	part number	part number	part number	part number
						CC13	CCL16	FCL13
						CC16	CCL16	FCL16
M20	FPAX16-M20-45	PG13	FPAX16-PG13-45*	1/2" UNEF	FPAX16-U075-45*	CC16	CCL16	FCL16
						CC16	CCL16	FCL16
						CC16	CCL16	FCL16
M20	FPAX21-M20-45	PG13	FPAX21-PG13-45*	3/4" UNEF	FPAX21-U119-45*	CC21	CCL21	FCL21
						CC21	CCL21	FCL21
						CC21	CCL21	FCL21
						CC21	CCL21	FCL21
M25	FPAX28-M25-45	PG21	FPAX28-PG21-45*	1 1/2" UNEF	FPAX28-U144-45*	CC28	CCL28	FCL28
						CC28	CCL28	FCL28
						CC28	CCL28	FCL28
M32	FPAX34-M32-45	PG29	FPAX34-PG29-45*	1" UNEF	FPAX34-U175-45*	CC34	CCL34	FCL34
						CC42	CCL42	FCL42
						CC42	CCL42	FCL42
						CC54	CCL54	FCL54
						CC54	CCL54	FCL54

ordering notes

- Specify black or grey (B = Black, G = Grey) eg: FPAX16-M16B
 - The IP rating onto a UNEF threaded connector may be dependent on the design of the connector
 - Available on request:
 - additional sizes
 - alternative threads
 - flanged straights and elbows
 - coupler version
 - additional UNEF threads and combinations
- *indicates parts made to order on request



Int. Pat

Brass threaded FPA and FPAX fittings for FPAS, FPAL, FPR, FPAH, FPI, FPIH & FPP

nylon

type FPA

Construction: Nylon (PA66) moulded fitting with swivel metal thread. External and internal metric threads are made from nickel plated brass. Colour black or grey.

- 1 part fast fit
- IP rating: IP66
- Anti-vibration and tamper resistant
- Can be removed using a screwdriver
- All round teeth give high tensile strength
- Both 90° and 45° elbows incorporate swept bore to facilitate cable installation and protect cables when installed
- Nickel plated brass threads provide high thread strength
- Swivel brass threads allow elbows to be positioned if used with threaded entries
- Low Fire Hazard (LFH)
- PG threads also available

type FPAX

Construction: Nylon (PA66) moulded fitting with swivel metal thread. External and internal metric threads are made from nickel plated brass. Colour black (or grey made to order).

- 1 part fast fit
- IP rating: IP66 + IP67 + IP68
- Anti-vibration and tamper resistant
- Can be removed using a screwdriver
- All round teeth give high tensile strength
- Both 90° and 45° elbows incorporate swept bore to facilitate cable installation and protect cables when installed
- Nickel plated brass threads provide high thread strength
- Swivel brass threads allow elbows to be positioned if used with threaded entries
- Low Fire Hazard (LFH)
- PG threads also available

fittings

nominal size (mm)	type FPA IP66		type FPA IP66	
	metric thread	part number	metric thread	part number
16	M16 FPA16-BM16	M16 FPA16-BFM16	M16 FPA16-BM16	M16 FPA16-BFM16
16	M20 FPA16-BM20	M20 FPA16-BFM20	M20 FPA16-BM20	M20 FPA16-BFM20
21	M20 FPA21-BM20	M20 FPA21-BFM20	M20 FPA21-BM20	M20 FPA21-BFM20
28	M25 FPA28-BM25	M25 FPA28-BFM25	M25 FPA28-BM25	M25 FPA28-BFM25
34	M32 FPA34-BM32	M32 FPA34-BFM32	M32 FPA34-BM32	M32 FPA34-BFM32
42	M40 FPA42-BM40	M40 FPA42-BFM40	M40 FPA42-BM40	M40 FPA42-BFM40
54	M50 FPA54-BM50	M50 FPA54-BFM50	M50 FPA54-BM50	M50 FPA54-BFM50

nominal size (mm)	type FPAX IP66 IP67 IP68		type FPAX IP66 IP67 IP68	
	metric thread	part number	metric thread	part number
16	M16 FPAX16-BM16	M16 FPAX16-BFM16	M16 FPAX16-BM16	M16 FPAX16-BFM16
16	M20 FPAX16-BM20	M20 FPAX16-BFM20	M20 FPAX16-BM20	M20 FPAX16-BFM20
21	M20 FPAX21-BM20	M20 FPAX21-BFM20	M20 FPAX21-BM20	M20 FPAX21-BFM20
28	M25 FPAX28-BM25	M25 FPAX28-BFM25	M25 FPAX28-BM25	M25 FPAX28-BFM25
34	M32 FPAX34-BM32	M32 FPAX34-BFM32	M32 FPAX34-BM32	M32 FPAX34-BFM32
42	M40 FPAX42-BM40	M40 FPAX42-BFM40	M40 FPAX42-BM40	M40 FPAX42-BFM40
54	M50 FPAX54-BM50	M50 FPAX54-BFM50	M50 FPAX54-BM50	M50 FPAX54-BFM50

fittings

nominal size (mm)	type FPA90 IP66		type FPA90 IP66		type FPA45 IP66		type FPA45 IP66	
	metric thread	part number	metric thread	part number	metric thread	part number	metric thread	part number
16	M16 FPA16-BM16-90	M16 FPA16-BFM16-90	M16 FPA16-BM16-90	M16 FPA16-BFM16-90	M20 FPA16-BM20-45	M20 FPA16-BFM20-45	M20 FPA16-BM20-45	M20 FPA16-BFM20-45
16	M20 FPA16-BM20-90	M20 FPA16-BFM20-90	M20 FPA16-BM20-90	M20 FPA16-BFM20-90	M20 FPA21-BM20-45	M20 FPA21-BFM20-45	M20 FPA21-BM20-45	M20 FPA21-BFM20-45
21	M20 FPA21-BM20-90	M20 FPA21-BFM20-90	M20 FPA21-BM20-90	M20 FPA21-BFM20-90	M25 FPA28-BM25-45	M25 FPA28-BFM25-45	M25 FPA28-BM25-45	M25 FPA28-BFM25-45
28	M25 FPA28-BM25-90	M25 FPA28-BFM25-90	M25 FPA28-BM25-90	M25 FPA28-BFM25-90	M32 FPA34-BM32-45	M32 FPA34-BFM32-45	M32 FPA34-BM32-45	M32 FPA34-BFM32-45
34	M32 FPA34-BM32-90	M32 FPA34-BFM32-90	M32 FPA34-BM32-90	M32 FPA34-BFM32-90	M50 FPA42-BM50-45*	M50 FPA42-BFM50-45*	M50 FPA42-BM50-45*	M50 FPA42-BFM50-45*
42	M50 FPA42-BM50-90	M50 FPA42-BFM50-90	M50 FPA42-BM50-90	M50 FPA42-BFM50-90	M50 FPA54-BM50-45*	M50 FPA54-BFM50-45*	M50 FPA54-BM50-45*	M50 FPA54-BFM50-45*
54	M50 FPA54-BM50-90	M50 FPA54-BFM50-90	M50 FPA54-BM50-90	M50 FPA54-BFM50-90				

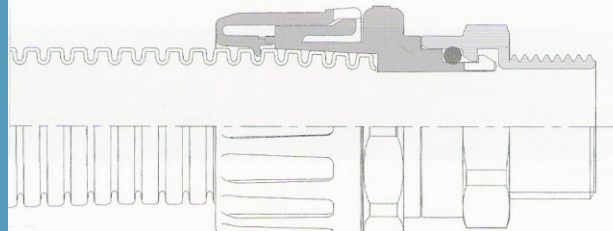
nominal size (mm)	type FPAX90 IP66 IP67 IP68		type FPAX90 IP66 IP67 IP68		type FPAX45 IP66 IP67 IP68		type FPAX45 IP66 IP67 IP68	
	metric thread	part number	metric thread	part number	metric thread	part number	metric thread	part number
16	M16 FPAX16-BM16-90	M16 FPAX16-BFM16-90	M16 FPAX16-BM16-90	M16 FPAX16-BFM16-90	M20 FPAX16-BM20-45*	M20 FPAX16-BFM20-45*	M20 FPAX16-BM20-45*	M20 FPAX16-BFM20-45*
16	M20 FPAX16-BM20-90	M20 FPAX16-BFM20-90	M20 FPAX16-BM20-90	M20 FPAX16-BFM20-90	M20 FPAX21-BM20-45*	M20 FPAX21-BFM20-45*	M20 FPAX21-BM20-45*	M20 FPAX21-BFM20-45*
21	M20 FPAX21-BM20-90	M20 FPAX21-BFM20-90	M20 FPAX21-BM20-90	M20 FPAX21-BFM20-90	M25 FPAX28-BM25-45*	M25 FPAX28-BFM25-45*	M25 FPAX28-BM25-45*	M25 FPAX28-BFM25-45*
28	M25 FPAX28-BM25-90	M25 FPAX28-BFM25-90	M25 FPAX28-BM25-90	M25 FPAX28-BFM25-90	M32 FPAX34-BM32-45*	M32 FPAX34-BFM32-45*	M32 FPAX34-BM32-45*	M32 FPAX34-BFM32-45*
34	M32 FPAX34-BM32-90	M32 FPAX34-BFM32-90	M32 FPAX34-BM32-90	M32 FPAX34-BFM32-90	M50 FPAX42-BM50-45*	M50 FPAX42-BFM50-45*	M50 FPAX42-BM50-45*	M50 FPAX42-BFM50-45*
42	M50 FPAX42-BM50-90	M50 FPAX42-BFM50-90	M50 FPAX42-BM50-90	M50 FPAX42-BFM50-90	M50 FPAX54-BM50-45*	M50 FPAX54-BFM50-45*	M50 FPAX54-BM50-45*	M50 FPAX54-BFM50-45*
54	M50 FPAX54-BM50-90	M50 FPAX54-BFM50-90	M50 FPAX54-BM50-90	M50 FPAX54-BFM50-90				

ordering notes

- Available on request:
 - colour grey
 - other threads
 - for brass locknuts and sealing washers see accessories
 - EMC braid clamp version
 - cable gland version
- *indicates parts made to order on request



Int. Pat



corrugated non-metallic conduit and fittings

nylon, polypropylene

type FPY

Construction: IP40 IP66 IP67 IP68

Light weight nylon (PA6) corrugated flexible conduit. Colour black or grey.

Typical Applications: Machines and commercial vehicles.

type FPP

Construction: IP40 IP66 IP67 IP68

Standard weight polypropylene, flexible conduit. Colour black, grey or white.

Typical Applications: Buildings, particularly where buried in concrete or plaster.

Conduit

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- IP rating: IP40 with MSL, MP and T fittings IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings IP67 with MPS and TS fittings
- Temperature range -40°C to +100°C
- Highly resistant to solvents and oils
- Slit version, type FPYS, available where cable can be inserted laterally (no IP rating)
- Self extinguishing
- Halogen, sulphur and phosphorus free

Conduit

- Acid resistant
- IP rating: IP40 with MSL, MP and T fittings IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings IP67 with MPS and TS fittings
- Temperature range -20°C to +90°C
- Self extinguishing

fittings

type IP40
MP

straight nylon PA66 compression fitting external thread including locknut

type IP67
MPS

straight nylon PA66 compression fitting with seal external thread including locknut

fittings

type IP40
MP90

90° elbow nylon PA66 compression fitting external thread including locknut

type IP67
MPS90

90° elbow nylon PA66 compression fitting with seal external thread including locknut

type IP40
T

T piece nylon PA66 compression fitting

type IP67
TS

T piece nylon PA66 compression fitting with seals

type IP40
MSL

straight nylon PA66 hinged fitting external thread including locknut

Clips

type
FCL

nylon conduit clip with integral lid



nominal size (mm)	pitch	FPY part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
6 F		FPY6	100	7.3	5.0	10
10 F		FPY8	50	10.0	6.5	15
11 F		FPY10	50	11.5	8.5	20
13 F		FPY12	50	13.0	10.0	25
16 F		FPY16	50	16.1	12.8	35
21 F		FPY20	50	21.2	16.9	40
25 F		FPY25	50	25.4	21.4	45
28 F		FPY28	50	28.5	23.0	45
34 C		FPY32	25	34.5	28.3	55
42 C		FPY40	25	42.5	35.7	65
54 C		FPY50	25	54.5	47.4	80



nominal size (mm)	pitch	FPP part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)
6 F		FPP13	50	13.0	9.8	25
16 F		FPP16	50	16.8	11.8	35
21 F		FPP21	50	21.2	16.7	40
25 F		FPP25	50	25.4	21.4	50
28 F		FPP28	50	28.5	22.8	55
34 C		FPP34	50	34.5	28.1	65
42 C		FPP42	25	42.5	35.5	80
54 C		FPP54	25	54.5	47.2	100



metric thread
part number



metric thread
part number



metric thread
part number



metric thread
part number



part number



part number



metric thread
part number



part number

metric thread	part number	metric thread	part number	part number	part number	metric thread	part number	part number	nominal size (mm)	pitch
				T12x12x12					6	F
								FCL10	10	F
								FCL13	11	F
								FCL16	13	F
									16	F
M16	MP90-16-M16	M16	MPS90-16-M16	T16x16x16				FCL21	21	F
M20	MP90-16-M20	M20	MPS90-16-M20					FCL25	25	F
M20	MP90-20-M20	M20	MPS90-20-M20	T20x20x20		M20	MSL-21-M20	FCL28	28	F
M25	MP90-25-M25	M25	MPS90-25-M25	T25x25x25		M25	MSL-25-M25	FCL34	34	C
M25	MP90-28-M25	M25	MPS90-28-M25					FCL42	42	C
M32	MP90-32-M32	M32	MPS90-32-M32					FCL54	54	C
M50	MP90-40-M50	M50	MPS90-40-M50							
M50	MP90-50-M50	M50	MPS90-50-M50							

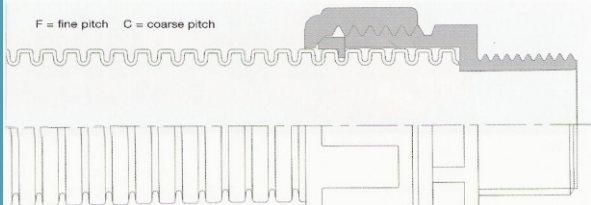
ordering notes

- Specify colour (B = Black, G = Grey, W = White) and add reel length eg: FPY16B-50M
- FPY and FPP conduit can be used with FPA and FPAX fittings where sizes permit.
- Available on request:
 - longer lengths and bulk packaging
 - cut lengths and assemblies
 - additional sizes
 - alternative threads including PG
 - reduced outlet T pieces
 - other colours
 - MSL fittings in PP for acid resistance



Typical applications for type FPY conduit and fittings include use on commercial vehicles.

F = fine pitch C = coarse pitch



BS EN 50306



corrugated non-metallic large diameter conduit and fittings

nylon

type FPY

Construction: Nylon (PA6) corrugated flexible conduit. Colour black or grey.

Typical Applications: Machines, traction and marine.

IP40 IP65

Conduit

- Highly flexible
- High impact strength and recovers if crushed
- IP rating: IP40 or IP65
- Temperature range -40°C to +120°C
- Highly resistant to solvents and oils
- Self extinguishing
- Halogen, sulphur and phosphorus free

fittings

type **MP** IP40

straight flanged nylon clamp fitting

type **MPS** IP65

straight flanged nylon clamp fitting with seals

type **MP90** IP40

90° flanged nylon clamp fitting

type **MPS90** IP65

90° flanged nylon clamp fitting with seals



nominal size (mm)	FPY part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	termination	part number	termination	part number	termination	part number	termination	part number
67	FPY67	10	67.2	56.3	130	FL	MP-67-FL	FL	MPS-67-FL	FL	MP90-80-FL	FL	MPS90-80-FL
80	FPY80	10	80.0	67.0	160	FL	MP-80-FL	FL	MPS-80-FL	FL	MP90-106-FL	FL	MPS90-106-FL
106	FPY106	10	106.0	91.5	210	FL	MP-106-FL	FL	MPS-106-FL	FL	MP90-106-FL	FL	MPS90-106-FL

ordering notes

- Specify black or grey (B = Black, G = Grey) eg: FPY67B-10M
- Available on request:** longer lengths and bulk packaging cut lengths and assemblies additional sizes alternative conduit material



BS EN 50268

non-metallic conduit and fittings

upvc corrugated

type FPL

Construction: Standard weight, upvc, corrugated pliable conduit. Colour black or grey.

Typical Applications: Static connections in buildings.

IP40 IP66 IP67 IP68

Conduit

- High compression strength
- Bends to a small radius
- IP rating: IP40 with MSL, MP and T fittings IP66 with FPA fittings IP66 + IP67 + IP68 with FPAX fittings IP67 with MPS and TS fittings
- Temperature range -5°C to +70°C
- Self extinguishing
- UV resistant (black)

fittings

type **MP** IP40

straight nylon PA66 compression fitting external thread including locknut

type **MPS** IP67

straight nylon PA66 compression fitting with seal external thread including locknut

type **MP90** IP40

90° elbow nylon PA66 compression fitting external thread including locknut

type **MPS90** IP67

90° elbow nylon PA66 compression fitting with seal external thread including locknut



nominal size (mm)	FPL part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	metric thread	part number	metric thread	part number	metric thread	part number	metric thread	part number
16	FPL16	100	16.0	12.0	25	M16	MP-16-M16	M16	MPS-16-M16	M16	MP90-16-M16	M16	MPS90-16-M16
16	FPL16	100	16.0	12.0	25	M20	MP-16-M20	M20	MPS-16-M20	M20	MP90-16-M20	M20	MPS90-16-M20
20	FPL20	100	20.0	15.0	30	M20	MP-20-M20	M20	MPS-20-M20	M20	MP90-20-M20	M20	MPS90-20-M20
25	FPL25	50	25.0	19.5	40	M25	MP-25-M25	M25	MPS-25-M25	M25	MP90-25-M25	M25	MPS90-25-M25
34	FPL32	25	34.5	27.9	50	M32*	MP-32-M32	M32	MPS-32-M32	M32	MP90-32-M32	M32	MPS90-32-M32

ordering notes

- Specify black or grey (B = Black, G = Grey) eg: FPL20B-50M
- FPL can be used with MSL and FPA fittings where sizes permit
- Available on request:** longer lengths and bulk packaging cut lengths and assemblies additional sizes alternative threads other colours

*indicates parts made to order on request



BS EN 50268

non-metallic conduit and fittings

spiral reinforced pvc

type FPC

Construction: Smooth bore, helically formed pvc, flexible conduit with spiral upvc reinforcement and flexible pvc jacket. Colour black.

Typical Applications: Routing of cables within machines.

Conduit

- Highly flexible
- Accepts torsional movement
- High impact resistance
- IP rating: IP65
- Temperature range -5°C to +70°C
- Self extinguishing
- UV resistant

fittings

type MPC

straight nylon PA66 compression fitting with external thread including locknut

type MPC90

90° elbow nylon PA66 compression fitting with seal external thread including locknut



nominal size (mm)	FPC part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	metric thread	part number	PG thread	part number	metric thread	part number
12	FPC12B	30	14.5	10.0	25	M16	MPC-12-M16B				
16	FPC16B	30	16.5	12.0	25	M16	MPC-16-M16B	PG11	MPC-16-PG11B	M16	MPC90-16-M16B
20	FPC20B	30	21.0	16.0	35	M20	MPC-16-M20B	PG13	MPC-16-PG13B	M20	MPC90-16-M20B
25	FPC25B	30	27.5	22.0	45	M20	MPC-20-M20B	PG16	MPC-20-PG16B	M20	MPC90-20-M20B
32	FPC32B	30	33.5	28.0	60	M25	MPC-25-M25B	PG21	MPC-25-PG21B	M25	MPC90-25-M25B
40	FPC40B	30	41.0	35.0	80	M32	MPC-32-M32B	PG29	MPC-32-PG29B	M32	MPC90-32-M32B
50	FPC50B	30	46.4	40.0	105	M40	MPC-40-M40B	PG36	MPC-40-PG36B	M40	MPC90-40-M40B
63	FPC63B	30	57.0	50.0	120	M50	MPC-50-M50B	PG48	MPC-63-PG48B		

ordering notes

- Add reel length eg: FPC20B-30M
- Available on request:**
 - additional sizes
 - high temperature and oil resistant version
 - alternative threads
 - other colours



BS EN 50096

non-metallic conduit and fittings

smooth spiral reinforced pvc

type LPC

Construction: Smooth bore, smooth cover, helically formed pvc, flexible conduit with spiral upvc reinforcement and flexible pvc jacket. Colour black. Grey or orange on request.

Typical Applications: Food processing machines and wash-down installations.

Conduit

- Wipe down smooth outer cover
- Accepts some torsional movement
- High impact resistance
- IP rating: IP67
- Temperature range -5°C to +70°C
- Self extinguishing
- UV resistant (black)
- Oil resistant

fittings

type LPC

straight nylon PA66 compression fitting with seal external thread including locknut

type C

external metric thread nickel plated brass

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

type CSS

external metric thread stainless steel (grade 316) body and nut

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



nominal size (mm)	LPC part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	metric thread	part number	NPT thread	part number	metric thread	part number	metric thread	part number
16	LPC16B	30	17.8	12.6	50	M16	LPC-16-M16B			M16	LPC16-M16-C	M16	LPC16-M16-CSS
16						M20	LPC-16-M20B	1/2"	LPC-16-050B	M20	LPC16-M20-C	M20	LPC16-M20-CSS
20	LPC20B	30	21.1	16.0	90	M20	LPC-20-M20B	1/2"	LPC-20-050B	M20	LPC20-M20-C	M20	LPC20-M20-CSS
25	LPC25B	30	26.4	21.0	110	M25	LPC-25-M25B	3/4"	LPC-25-075B	M25	LPC25-M25-C	M25	LPC25-M25-CSS
32	LPC32B	30	33.1	26.5	170	M32	LPC-32-M32B	1"	LPC-32-100B	M32	LPC32-M32-C	M32	LPC32-M32-CSS
40	LPC40B	30	41.8	35.4	205	M40	LPC40-M40B	1 1/4"	LPC-40-125B				

Now available in 90° and 45° elbows

ordering notes

- Available on request:**
 - additional sizes
 - high temperature version
 - alternative threads
 - other colours



BS EN 50096

contractor packs

Each pack contains
10m conduit,
10 fittings,
10 locknuts



STEEL - PVC - Black IP54

FSU-CP20B M20 thread

Conduit

- 10 metres of galvanised steel with PVC coating
- Temperature range -15°C to 70°C
- Self extinguishing
- High mechanical strength
- Highly flexible



fittings

- 5 M20 fixed fittings
- 5 M20 swivel fittings
- 10 locknuts
- IP54

NYLON-Black IP66

FPAS-CP21B M20 thread
FPAS-CP28B M25 thread

PVC-Black IP65

FPC-CP20B M20 thread
FPC-CP25B M25 thread

NYLON-Black IP40

FPYE-CP21B M20 thread
FPYE-CP25B M25 thread

POLYPROPYLENE -Black, Grey IP40

FPP-CP21* M20 thread
FPP-CP25* M25 thread

Conduit

- | | | | |
|--|---|--|---|
| <ul style="list-style-type: none"> 10 metres of standard weight nylon PA6 FPAS Low fire hazard Halogen free Self extinguishing Low smoke and Low toxicity High flexibility and fatigue life High impact strength Oil and solvent resistant UV resistant Temperature range -40°C to 120°C | <ul style="list-style-type: none"> 10 metres of spiral reinforced pvc FPC Highly flexible Accepts torsional movement Self extinguishing Temperature range -5°C to 70°C | <ul style="list-style-type: none"> 10 metres of light weight nylon PA6 FPAL Flexible Halogen free Self extinguishing Temperature range -40°C to 120°C | <ul style="list-style-type: none"> 10 metres of polypropylene Temperature range -20°C to 90°C |
|--|---|--|---|



fittings

- | | | | |
|---|--|--|--|
| <ul style="list-style-type: none"> 10 FPA fittings and locknuts One part, fast fit Removable using a screwdriver High pull-off strength Anti-vibration IP66 | <ul style="list-style-type: none"> 10 MPC fittings and locknuts IP65 | <ul style="list-style-type: none"> 10 MSL fittings and locknuts Hinged IP40 | <ul style="list-style-type: none"> 10 MSL fittings and locknuts Hinged IP40 |
|---|--|--|--|

*ordering notes for FPP

- Specify black or grey (B= Black, G= Grey) eg: FPP-CP21B



BS EN 50085

Low Fire Hazard (LFH) performance

Low Fire Hazard (LFH) conduit systems are becoming an increasing part of the specification in many cabling applications. Public buildings, retail outlets, high rise office blocks, hospitals and transport installations - these are just a few of the instances where Low Fire Hazard products may be demanded.

Low Fire Hazard systems are required to protect personnel and property in the event of a fire and may be demanded by specifiers, occupiers, fire services or even insurers.

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

Highly flame retardant to prevent a fire or limit its development if one does start.

Low smoke emission in the event of a fire to enable personnel to see their way to escape.

Low toxicity in the event of a fire to ensure personnel are not overcome during their escape.

Halogen free gives an indication of low smoke and low toxicity. It also rules out halogen acid gas emission - a fact that is of interest to insurers as acid smoke can destroy computer equipment and damage the structure of a building.

tests used

Flame Retardancy

Limiting Oxygen Index (LOI) to BSEN ISO 4589 determines the percentage of oxygen in air that would need to be present to support combustion. The higher the percentage the greater flame retardancy.

Oxygen present in normal air 21%. The UK Code of Practice for railway rolling stock requires 28% for overground and 34% for underground passenger carriages.

UL 94 is an underwriter laboratories standard with flammability classifications HB, V0, V1, V2. HB allows horizontal burning up to a maximum speed, V0 is highly flame retardant.

Smoke Density is evaluated to BS6853 annex D.8.3, Code of Practice for fire precautions in the design and construction of passenger carrying trains. A plaque of materials is burnt in a 3 metre cubic chamber. A graph of smoke opacity against time is plotted which shows the maximum opacity (Ao) and the time taken to reach that opacity. LFH materials should have Ao < 0.03.

Toxic Fumes

Naval standard NES/713 and rail standard BS6853 burns a set amount of material and analyses the gases given off. The volume of each gas is multiplied by the toxicity index for each gas. The toxicity index for each gas are added together to give an overall toxicity index for the material.

NFF16-101/2 is a French Norm, used by railways, which gives an ignition and fume rating from oxygen index, glow wire ignition, smoke density and smoke toxicity tests.

Buyer Beware

All four properties must be present to claim LFH.

Halogen free does not assure low smoke and low toxicity.

A low smoke and fume product may not be self-extinguishing let alone highly flame retardant. Ensure your supplier provides performance data on all four aspects of Low Fire Hazard performance.

Full independent test reports are available on request.

performance of Flexicon LFH products

FU, SSU, FB and metal fittings

These products are made exclusively of metal (steel, stainless steel or brass) and are all inherently low fire hazard.

LFHU

- Self extinguishing
- Highly flame retardant
 - LOI = 43%
 - UL 94 V0
- Low smoke to BS6853
 - maximum opacity Ao = 0.01
- Low toxicity
 - toxicity index to NES713 = 1
- Halogen, sulphur & phosphorus free

FPAS

- Self extinguishing
- Highly flame retardant
 - LOI = 26%
 - UL 94 V2
- Low smoke to BS6853
 - maximum opacity Ao = 0.02
- Low toxicity
 - toxicity index to BS6853 Annex B = 1.55
- Halogen, sulphur & phosphorus free

FPAH

- Self extinguishing
- Highly flame retardant
 - LOI = 26%
 - UL 94 V2
- Low smoke to BS6853
 - maximum opacity Ao = 0.02
- Low toxicity
 - toxicity index to BS6853 Annex B = 1.55
- Halogen, sulphur & phosphorus free

FPR

- Self extinguishing
- Highly flame retardant
 - LOI = 35%
 - UL 94 V0
- Low smoke to BS6853
 - maximum opacity Ao = 0.01
- Low toxicity
 - toxicity index to BS6853 Annex B = 0.99
- Ignition and fume rating to
 - NFF16-101/2 = I2F1
- Halogen, sulphur & phosphorus free

Nylon fittings (PA66)

- Self extinguishing
- Highly flame retardant
 - LOI = 28%
 - UL 94 V2
- Low smoke to BS6853
 - maximum opacity Ao = 0.03
- Low toxicity
 - toxicity index to BS6853 Annex B = 1.18
- Halogen, sulphur & phosphorus free

thread data and cable carrying capacity

metric

standard thread conforming to EN60423

Thread size	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch mm
M12	12.0	10.4	1.5
M16	16.0	14.4	1.5
M20	20.0	18.4	1.5
M25	25.0	23.4	1.5
M32	32.0	30.4	1.5
M40	40.0	38.4	1.5
M50	50.0	48.4	1.5
M63	63.0	61.4	1.5
M75	75.0	73.4	1.5

PF

Japanese conduit thread conforming to JIS B 0202

Thread size (inches)	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch mm
1/2	21.0	18.6	1.81
3/4	26.4	24.1	1.81
1	33.3	30.3	2.31
1 1/4	41.9	39.0	2.31
1 1/2	47.8	44.8	2.31
2	59.6	56.7	2.31

NPT

American taper pipe thread conforming to ANS/ASME B1.20.1 - 1983

Thread size (inches)	External thread outside diameter (mm)	Pitch mm
1/2	16.7	1.14
3/4	21.0	1.81
1	26.4	1.81
1 1/4	33.3	2.21
1 1/2	41.9	2.21
2	47.8	2.21
2 1/2	59.6	2.21

PG

German standard thread conforming to DIN40430

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	37.0	35.5	1.59
PG36	47.0	45.5	1.59
PG42	54.0	52.5	1.59
PG48	59.3	57.8	1.59

UNEF/UNS

American unified thread conforming to BS1580 used on circular connectors

Thread size (inches)	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch mm
1/2	15.9	14.7	1.06
3/4	19.1	17.7	1.27
1	22.2	20.9	1.27
1 1/4	25.4	24.0	1.27
1 1/2	30.2	28.6	1.41
1 3/4	31.8	30.2	1.41
2	36.5	35.0	1.41
2 1/4	44.5	42.9	1.41
2 1/2	50.8	49.3	1.41
3	57.2	55.4	1.41

cable carrying capacity

UK wiring regulations BS7671, recommend that the total cross sectional area of the sum of the individual cables should not exceed 40% of the cross sectional area of the conduit. The nominal cross sectional area of single-core, stranded, PVC insulated cables is provided as a guide only. Other cables may have different dimensions.

Nominal conductor size (mm ²)	Nominal overall cross sectional area (mm ²)
1.0	6.6
1.5	7.6
2.5	9.6
4.0	14.5
6.0	18.8
10.0	29.3
16.0	40.2
25.0	63.8
35.0	83.5
50.0	113.0
70.0	149.0
95.0	204.0

Example: is LTP20 suitable for five 4.0mm² cables?

- The total cross sectional area of the conductors is 5 x 14.5mm² = 73mm²
- The cross sectional area of LTP20 is $3.142 \times \frac{\text{inside diameter}^2}{4} = 201\text{mm}^2$
- % of conduit cross sectional area $\frac{73}{201} = 36\%$

This is less than 40%; therefore this conduit is suitable for this combination of cables.

IP ratings and technical guidance

IP ratings guide

(Ingress Protection to BS EN 60529)

1st digit – protection against solid objects

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

2nd digit – protection against water

- 0 No protection
- 1 Protected against falling drops
- 2 Protected against drops falling at 15°
- 3 Low pressure spray – similar to shower head at up to 60° from vertical
- 4 Low pressure spray – similar to shower head – from any angle
- 5 Medium pressure jet – similar to garden hose – from any angle
- 6 High pressure jet – similar to fire hose – from any angle
- 7 Submersion at 1 metre for 30 minutes
- 8 Higher water pressure eg: 2 bar for 2 hours. Conduits are tested in - house at up to 5 bar. Please call +44 (0) 1675 466900 for more details.

UK wiring regulations

UK wiring regulations BS7671 prohibit the use of flexible or pliable conduit as an earthing conductor.

Where conduits of 40mm and above penetrate fire barriers in buildings the wiring regulations stipulate that internal seals should be used to maintain fire resistance.

To meet the UK wiring regulations conduit should be self extinguishing unless they are to be buried or contained in non combustible material e.g: concrete or plaster.

Please telephone the Flexicon hotline for further guidance.

Technical guidance

Application advice

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

Compression strength	Abrasion resistance
Tensile strength	UV resistance
Impact strength	Fire performance
Temperature range	EMC screening
Flexibility	Dimensions
Fatigue life	Weight
Electrical insulation or continuity	Colours
IP rating	Ease of installation
Chemical resistance	

Please call 01675 466900 for technical information and application advice.

Standards, performance and approvals

Flexicon conduits and fittings are manufactured by Flexicon to comply with BS EN 50086, the European conduit standard.

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

Where product performance data over and above the requirements of BS EN 50086 is provided e.g: Low Fire Hazard testing and EMC screening, other appropriate standards have been used.

Flexicon is currently building up a portfolio of test data and product approvals. Please call +44 (0) 1675 466900 for further information and technical advice.

Cutting and Assembly Guidance

All non-metallic conduits and FLP up to 34mm can be easily cut with Flexicon cutters, part no. CC01.

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

Cutting of overbraided conduit is made much easier by wrapping self adhesive tape around the conduit and sawing through the middle of the tape. The tape should be removed if EMC screening is required.

Flexicon can supply bench mounted bandsaws designed to cut metallic conduit easily.

To obtain EMC screening on pliable FLP conduit, the PVC sheath must be trimmed back prior to assembly.

Metal fittings should be nipped with grips or spanner to ensure securing and IP rating.

Face sealing washers may be required to maintain IP rating between systems.

The easiest way of installing cables into flexible and pliable conduit is to simultaneously draw in the cables with the conduit in straight condition before installation.

Errors, omissions and amendments excepted

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