

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

# Non-Metallic Conduit and Fittings

FPAS	FPAL	FPAH	FPASC
<p><b>Construction:</b> Standard weight, flame retardant nylon (PA6) corrugated flexible conduit.</p> <p><b>Colour:</b> Black or Grey (RAL 7031). Orange available on request.*</p> <p><b>Typical Applications:</b> All types of machinery, public buildings.</p> <ul style="list-style-type: none"> <li>Highly flexible and high fatigue life</li> <li>High impact strength and recovers if crushed</li> <li>Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)</li> <li>Lloyd's Register Type Approval</li> <li>UL recognised</li> <li>Low Fire Hazard (LFH), see page 149</li> <li>UL 94 V2 flame retardancy</li> <li>Halogen, sulphur and phosphorus free</li> <li>UV resistant (black)</li> <li>Abrasion resistant</li> <li>Highly resistant to solvents and oils</li> <li>Slit version also available FPAS-S please contact us</li> </ul>	<p><b>Construction:</b> Light weight nylon (PA6) corrugated flexible conduit.</p> <p><b>Colour:</b> Black or Grey (RAL 7031).</p> <p><b>Typical Applications:</b> Machines where lower mechanical protection is required and buildings.</p> <ul style="list-style-type: none"> <li>Highly flexible and high fatigue life</li> <li>High impact strength and recovers if crushed</li> <li>Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)</li> <li>UL recognised</li> <li>Highly resistant to solvents and oils</li> <li>Self extinguishing</li> <li>Halogen, sulphur and phosphorus free</li> </ul>	<p><b>Construction:</b> Heavy weight, flame retardant, nylon (PA6) corrugated flexible conduit.</p> <p><b>Colour:</b> Black.</p> <p><b>Typical Applications:</b> All types of machinery and public buildings where high mechanical strength required.</p> <ul style="list-style-type: none"> <li>High mechanical strength</li> <li>High impact resistance</li> <li>Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)</li> <li>UL recognised</li> <li>Low Fire Hazard (LFH), see page 149</li> <li>UL 94 V2 flame retardancy</li> <li>Halogen, sulphur and phosphorus free</li> <li>UV resistant</li> <li>Abrasion resistant</li> <li>Highly resistant to solvents and oils</li> </ul>	<p><b>Construction:</b> Standard weight, flame retardant nylon (PA6) corrugated flexible conduit.</p> <p><b>Colour:</b> Black or Grey (RAL 7031).</p> <p><b>Typical Applications:</b> All types of machinery, public buildings where UL listed is a requirement.</p> <ul style="list-style-type: none"> <li>Highly flexible and high fatigue life</li> <li>High impact strength and recovers if crushed</li> <li>Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)</li> <li>UL listed</li> <li>Lloyd's Register Type Approval</li> <li>Low Fire Hazard (LFH), see page 149</li> <li>UL 94 V2 flame retardancy</li> <li>Halogen, sulphur and phosphorus free</li> <li>UV resistant (black)</li> <li>Abrasion resistant</li> <li>Highly resistant to solvents and oils</li> </ul>

european (NW) sizes	nominal size (mm)	pitch	FPAS				FPAL				FPAH				FPASC										
			part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)	part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)			
7	10	F	FPAS10	50	10.0	6.3	15	FPAL10	50	10.0	6.5	15													
8	11	F	FPAS11	50	11.5	8.2	20	FPAL11	50	11.5	8.4	20													
10	13	F	FPAS13	25, 50	13.0	9.8	25	FPAL13	50	13.0	10.0	25	FPAH13	50	13.0	9.0	35								
12	16	F	FPAS16	25, 50	15.8	11.8	35	FPAL16	50	15.8	12.0	35	FPAH16	50	15.8	11.5	45								
14	18	F	FPAS18	50	18.5	14.2	40	FPAL18	50	18.5	14.2	35													
	20	C	FPAS20	10, 25, 50	20.0	14.8	45	FPAL20	50	20.0	15.0	40													
17	21	F	FPAS21	10, 25, 50	21.2	16.7	45	FPAL21	50	21.2	16.9	40													
	21	C											FPAH21	50	21.2	15.5	55	FPAS21C	50	21.2	16.0	45			
	25	C	FPAS25	10, 25, 50	25.0	19.1	50	FPAL25	50	25.0	19.3	45													
23	28	F	FPAS28	10, 25, 50	28.5	22.8	50	FPAL28	50	28.5	23.0	45													
23	28	C																							
29	34	C	FPAS34	25, 50	34.5	28.1	60	FPAL34	25, 50	34.5	28.3	55													
29	34	F	FPAS34F*	50	34.5	28.8	60						FPAH28	50	28.5	21.3	60	FPAS28C	50	28.5	21.7	50			
36	42	C	FPAS42	10, 25, 50	42.5	35.5	70	FPAL42	25	42.5	35.7	65	FPAH42	25	42.5	34.6	80	FPAS42C	25	42.5	35.5	70			
48	54	C	FPAS54	10, 25, 50	54.5	47.2	80	FPAL54	25	54.5	47.4	80	FPAH54	25	54.5	46.0	90	FPAS54C	25	54.5	47.2	80			
56	67	C	FPAS67	10	67.2	56.3	130	FPAL67	10	67.2	56.5	110						FPAS67C	10	67.2	56.3	130			

For larger diameter conduit see page 74

## Ordering Notes

- Specify Black or Grey (B = Black, G = Grey) and reel length eg: FPAS21B-50M for a Black 50m reel
- Some reel lengths are MTO in grey
- See cutting tool page 131
- \* Indicates parts made to order on request and may be subject to MOQ and lead time
- Available on request:**
  - longer lengths and bulk packaging
  - cut lengths and assemblies
  - other colours
  - full copies of independent test results confirming LFH properties
- conduit with pre-installed draw wire
- fine pitch 34mm sizes
- Contractor Packs available see page 132 & 133
- For LFH performance see page 149

We have a range of products that can offer properties dependent on your requirement for impact resistance, flexibility, fatigue life, operating temperature and fire performance to name but a few.

**EN 45545-2** **NFPA 130**

**EN 45545-2** **NFPA 130**

FPR	FPADS	FPI	FPIH	FPIHR
<p><b>Construction:</b> Standard weight nylon (highly flame retardant PA6) corrugated flexible conduit.</p> <p><b>Colour:</b> Black.</p> <p><b>Typical Applications:</b> Railways, underground and public buildings.</p> <ul style="list-style-type: none"> <li>Highly flexible and high fatigue life</li> <li>High impact strength and recovers if crushed</li> <li>Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)</li> <li>UL recognised</li> <li>Lloyd's Register Type Approval</li> <li>Extra Low Fire Hazard (LFH)</li> <li>Compliant to LUL Std S1085</li> <li>UL 94 V0 flame retardancy</li> <li>Halogen, sulphur and phosphorus free</li> <li>UV resistant</li> <li>Abrasion resistant</li> <li>Highly resistant to solvents and oils</li> </ul>	<p><b>Construction:</b> Double slit nylon (PA6) corrugated conduit.</p> <p><b>Colour:</b> Black.</p> <p><b>Typical Applications:</b> Retrofit and cable assemblies with pre terminated plugs.</p> <ul style="list-style-type: none"> <li>Made from 2 interlocking slit corrugated conduits</li> <li>Temperature range -40°C to +120°C</li> <li>Cables can be inserted laterally</li> <li>Provides abrasion resistance and routing of cables for static applications</li> <li>Self extinguishing</li> <li>Halogen, sulphur and phosphorus free</li> <li>UV resistant</li> <li>Other colours available* in 21mm and 28mm Grey, Blue, Orange and White</li> <li>Also available in polypropylene in Black</li> </ul>	<p><b>Construction:</b> Standard weight nylon (PA12) corrugated flexible conduit.</p> <p><b>Colour:</b> Black.</p> <p><b>Typical Applications:</b> Robots and continual flexing.</p> <ul style="list-style-type: none"> <li>Highly flexible</li> <li>Exceptional fatigue life</li> <li>High impact resistance even at very low temperatures</li> <li>UV resistant</li> <li>Displays self recovery if crushed</li> <li>Temperature range -50°C to +110°C</li> <li>UL recognised</li> <li>Highly resistant to solvents and oils</li> <li>Self extinguishing</li> <li>Halogen, sulphur and phosphorus free</li> </ul>	<p><b>Construction:</b> Heavy weight nylon (PA12) corrugated flexible conduit.</p> <p><b>Colour:</b> Black.</p> <p><b>Typical Applications:</b> Robots and continual flexing where higher mechanical strength required.</p> <ul style="list-style-type: none"> <li>Highly flexible and high fatigue life</li> <li>High mechanical strength</li> <li>High impact resistance even at very low temperatures</li> <li>UV resistant</li> <li>Displays self recovery if crushed</li> <li>Temperature range -50°C to +110°C</li> <li>UL recognised</li> <li>Highly resistant to solvents and oils</li> <li>Self extinguishing</li> <li>Halogen, sulphur and phosphorus free</li> </ul>	<p><b>Construction:</b> Heavy weight nylon (PA12) corrugated flexible conduit.</p> <p><b>Colour:</b> Black.</p> <p><b>Typical Applications:</b> Where continual movement or flexing is required, with a higher mechanical strength even at very low temperatures such as on Bogies or Inter-car Jumper assemblies. Rolling Stock applications requiring a superior level of fire performance.</p> <ul style="list-style-type: none"> <li>Highly flexible and high fatigue life</li> <li>High mechanical strength</li> <li>High impact resistance even at very low temperatures</li> <li>UV resistant</li> <li>Displays self recovery if crushed</li> <li>Temperature range -50°C to +110°C</li> <li>Highly resistant to solvents and oils</li> <li>Self extinguishing</li> <li>Extra Low Fire Hazard (LFH)</li> <li>Halogen, sulphur and phosphorus free</li> <li>EN 45545 and NFPA 130</li> </ul>

FPR	FPADS	FPI	FPIH	FPIHR	pitch	nominal size (mm)	european (NW) sizes
part number	part number	part number	part number	part number			
reel length (m)	reel length (m)	reel length (m)	reel length (m)	reel length (m)			
outside dia (mm)	outside dia (mm)	outside dia (mm)	outside dia (mm)	outside dia (mm)			
inside dia (mm)	inside dia (mm)	inside dia (mm)	inside dia (mm)	inside dia (mm)			
min inside bend radius (mm)	min inside bend radius (mm)	min inside bend radius (mm)	min inside bend radius (mm)	min inside bend radius (mm)			
FPAD11	FPAD11*	FPI11	FPIH11	FPIHR11	F	10	7
FPAD13	FPAD13	FPI13	FPIH13	FPIHR13	F	11	8
FPAD16	FPAD16	FPI16	FPIH16	FPIHR16	F	13	10
FPAD20					F	16	12
FPAD21					F	18	14
FPAD25					C	20	
FPAD28					F	21	17
FPAD34					C	21	
FPAD42					C	25	
FPAD54					F	28	23
FPAD67					C	28	23
FPAD77					C	34	29
FPAD87					F	34	29
FPAD97					C	42	36
FPAD107					C	54	48
FPAD127					C	67	56

For larger diameter conduit see page 74


## Standards



**NEW**


FPP	FCL	FCLAMP	EC	REC
<p><b>Construction:</b> Standard weight polypropylene, flexible conduit.</p> <p><b>Colour:</b> Black, Grey (RAL 7031) or White (see page 71)</p> <p><b>Typical Applications:</b> Buildings, particularly where buried in concrete or plaster.</p> <ul style="list-style-type: none"> <li>• Acid resistant</li> <li>• Temperature range -20°C to +90°C</li> <li>• Self extinguishing</li> <li>• Slit version also available FPP-S</li> </ul> <p><b>Other options available:</b></p>	<p><b>nylon corrugated conduit clip with integral lid</b></p> <p>Nylon PA66 conduit clip with integral lid for increased security. Incorporates internal ribs to prevent corrugated conduit from pulling through, 20 Kg with FPAS21.</p>	<p><b>non-metallic, heavy duty conduit clamp</b></p> <p>Nylon PA66, conduit fixing clamp for corrugated conduit. Suitable for use with fine or coarse pitch conduits. Can be used with a range of accessories including cover plates and weld plates (available separately - see page 76).</p>	<p><b>end cap</b></p> <p>Nylon PA66 end cap to snap over end of conduit and provide a smooth entry bush to prevent snagging and sharp edges, and provide a neat finish when no connectors are used.</p>	<p><b>rubber end cap</b></p> <p>Thermoplastic elastomer cap used to seal end of conduit. Can be cut to size depending on size of cable. Can be additionally secured using cable tie (not supplied).</p>

**FPP-NFR**



LSOH conduit for data cabling applications.

**FPPH**



Heavy weight conduit for buried underground applications.



FPP	part number	reel length (m)	outside dia (mm)	inside dia (mm)	min inside bend radius (mm)				pitch	nominal size (mm)	european (NW) sizes
						Conduit Clip	FCLAMP	End Cap			
FPP10	50	10.0	6.3	15	FCL10			REC10	10	0-7	F 10 7
FPP13	50	13.0	9.8	25	FCL13			REC13	13	0-7	F 13 10
FPP16	50	15.8	11.8	35	FCL16	FCLAMP- 3-16	EC16B	REC16	16	0-11	F 16 12
					FCL18						F 18 14
FPP20	50	20.0	14.8	40	FCL20						C 20
FPP21	50	21.2	16.7	40	FCL21	FCLAMP- 3-21	EC21B	REC21	21	0-15	F 21 17
					FCL21	FCLAMP- 3-21	EC21B	REC21	21	0-15	C 21
FPP25	50	25.0	19.1	50	FCL25						C 25
FPP28	50	28.5	22.8	55	FCL28	FCLAMP- 4-28	EC28B	REC28	28	0-21	F 28 23
					FCL28	FCLAMP- 4-28	EC28B	REC28	28	0-21	C 28 23
FPP34	25, 50	34.5	28.1	65	FCL34	FCLAMP- 5-34	EC34B	REC34	34	0-25	F 34 29
					FCL34	FCLAMP- 5-34	EC34B	REC34	34	0-25	C 34 29
FPP42	25	42.5	35.5	80	FCL42	FCLAMP- 6-42	EC42B	REC42	42	0-34	C 42 36
FPP54	25	54.5	47.2	100	FCL54	FCLAMP- 7-54	EC54B	REC54	54	0-46	C 54 48
FPP67	10	67.2	56.3	150		FCLAMP- 7-67		REC67	67	0-52	C 67 56

For larger diameter conduit see page 74  
 NOTE: FPP - NFR and FPPH.  
 Contact us for more details

F = fine pitch C = coarse pitch

## Ordering Notes

- Specify colour (B = Black, G = Grey) and reel length eg: FPP16B-50M for a Black 50m reel
- Some lengths are MTO in Grey
- Available on request:
  - longer lengths and bulk packaging
  - cut lengths and assemblies
  - additional sizes
  - other colours
- conduit with pre-installed draw wire
- FPADS in Polypropylene (PP)

