

# non-metallic conduit and fittings

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.

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

## FPAS



## FPAL

**Construction:** Standard weight flame retardant nylon (PA6) corrugated flexible conduit. Colour black or grey (RAL 7031). Orange available on request.\*

**Typical Applications:** All types of machinery, public buildings.

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

**Construction:** Light weight nylon (PA6) corrugated flexible conduit. Colour black or grey (RAL 7031).

**Typical Applications:** Machines where lower mechanical protection is required and buildings.

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- Temperature range -40°C to +120°C (-20°C to +100°C for moving applications)
- UL recognised
- Highly resistant to solvents and oils
- Self extinguishing
- Halogen, sulphur and phosphorus free



european (NW) sizes nominal size (mm) pitch		FPAS					FPAL				
		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	50	13.0	9.8	25	FPAL13	50	13.0	10.0	25
12	16 F	FPAS16	25, 50	15.8	11.8	35	FPAL16	50	15.8	12.0	35
14	18 F	FPAS18	50	18.5	14.2	40	FPAL18	50	18.5	14.2	35
20	C	FPAS20	50	20.0	14.8	45	FPAL20	50	20.0	15.0	40
17	21 F	FPAS21	25, 50	21.2	16.7	45	FPAL21	50	21.2	16.9	40
21	C										
25	C	FPAS25	50	25.0	19.1	50	FPAL25	50	25.0	19.3	45
22	25.4 F										
23	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					
29	34 C	FPAS34	25, 50	34.5	28.1	60	FPAL34	25, 50	34.5	28.3	55
29	34 F	FPAS34F	25, 50	34.5	28.8	60					
36	42 C	FPAS42	10, 25	42.5	35.5	70	FPAL42	25	42.5	35.7	65
48	54 C	FPAS54	10, 25	54.5	47.2	80	FPAL54	25	54.5	47.4	80
56	67 C	FPAS67	10	67.2	56.3	130	FPAL67	10	67.2	56.5	110

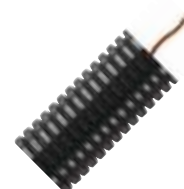
F = fine pitch C = coarse pitch

NOTE: Other reel lengths are available upon request

## ORDERING NOTES

- Specify black or grey (B = Black, G = Grey) and reel length eg: FPAS21B-50M for a Black 50m reel
- See cutting tool page 81
- \* 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



## FPAH



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

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

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

## FPR



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

**Typical Applications:** Railways, underground and public buildings.

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

## FPI



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

**Typical Applications:** Robots and continual flexing.

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

## FPIH



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

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

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



european (NW) sizes nominal size (mm) pitch	FPAH					FPR					FPI					FPIH				
	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						FPR10	50	10.0	6.3	15										
8 11 F																				
10 13 F	FPAH13	50	13.0	9.0	35	FPR13	50	13.0	9.8	25	FPI13	50	13.0	9.8	25	FPIH13	50	13.0	9.0	25
12 16 F	FPAH16	50	15.8	11.5	45	FPR16	50	15.8	11.8	35	FPI16	50	15.8	11.8	30	FPIH16	50	15.8	11.5	35
14 18 F																				
20 C						FPR20	50	20.0	14.8	45										
17 21 F						FPR21	50	21.2	16.7	45	FPI21	50	21.2	16.7	35					
21 C	FPAH21	50	21.2	15.5	55											FPIH21	50	21.2	15.0	45
25 C						FPR25	50	25.0	19.1	50										
22 25.4 F																				
23 28 F																				
28 C	FPAH28	50	28.5	21.3	60	FPR28	50	28.5	21.7	50	FPI28	50	28.5	21.7	45	FPIH28	50	28.5	21.3	50
29 34 C	FPAH34	25	34.5	26.9	70	FPR34	50	34.5	28.1	60	FPI34	25	34.5	28.1	55	FPIH34	25	34.5	26.9	60
29 34 F																				
36 42 C	FPAH42	25	42.5	34.6	80	FPR42	25	42.5	35.5	70	FPI42	25	42.5	35.5	60	FPIH42	25	42.5	34.6	70
48 54 C	FPAH54	25	54.5	46.0	90	FPR54	25	54.5	47.2	80	FPI54	25	54.5	47.2	70	FPIH54	25	54.5	46.0	80
56 67 C											FPI67	10	67.2	56.3	120					

F = fine pitch C = coarse pitch

### STANDARDS



BS EN IEC 61386



\* refer to conduit properties for applicable standards

### IMPORTANT NOTE

- For LFH performance see page 94

## FPY

**Construction:** Light weight nylon (PA6) corrugated flexible conduit. Colour black or grey (RAL 7031) on request.

**Typical Applications:** Machines and commercial vehicles.

- Highly flexible and high fatigue life
- High impact strength and recovers if crushed
- Temperature range -40°C to +100°C
- Highly resistant to solvents and oils
- Self extinguishing
- Halogen, sulphur and phosphorus free
- FPY6 also available, 7.3mm OD x 5mm ID
- Slit version, FPYS, also available. Cable can be inserted laterally using tool shown on page 81.



## FPADS

NEW

**Construction:** Double slit nylon (PA6) corrugated conduit. Colour black.

**Typical Applications:** Retrofit.

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



## FPP

**Construction:** Standard weight polypropylene, flexible conduit. Colour black, grey (RAL 7031) or white.

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

- Acid resistant
- Temperature range -20°C to +90°C
- Self extinguishing
- Slit version available on request\*

**Other options available:**

## FPP-NFR

NEW

LSOH conduit for data calling applications

## FPPH

NEW

Heavy weight conduit for buried underground applications.



European (NW) sizes  
nominal size (mm)  
pitch

FPY					FPADS					FPP					Conduit Clip	
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)		
FPY8	50	10.0	6.5	15						FPP10	50	10.0	6.3	15	FCL10	
FPY10	50	11.5	8.5	20	FPADS11*	50	11.5	6.2	70						FCL13	
FPY12	50	13.0	10.0	25	FPADS13	50	13.0	7.9	75	FPP13	50	13.0	9.8	25	FCL16	
FPY16	50	16.1	12.8	35	FPADS16	50	15.8	10.3	100	FPP16	50	15.8	11.8	35	FCL18	
										FPP20	50	20.0	14.8	40	FCL20	
FPY20	50	21.2	16.9	40	FPADS21	50	21.2	13.9	120	FPP21	50	21.2	16.7	40	FCL21	
										FPP25	50	25.0	19.1	50	FCL25	
FPY25	50	25.4	21.4	45						FPP26	50	25.4	21.4	50	FCL25	
FPY28	50	28.5	23.0	45						FPP28	50	28.5	22.8	55	FCL28	
					FPADS28	50	28.5	20.5	170						FCL28	
FPY32	25	34.5	28.3	55	FPADS34	25	34.5	26.6	180	FPP34	50	34.5	28.1	65	FCL34	
															FCL34	
FPY40	25	42.5	35.7	65	FPADS42	25	42.5	32.0	200	FPP42	25	42.5	35.5	80	FCL42	
FPY50	25	54.5	47.4	80	FPADS54	25	54.5	43.0	240	FPP54	25	54.5	47.2	100	FCL54	
										FPP67	10	67.2	56.3	150		

F = fine pitch C = coarse pitch

NOTE: FPP - NFR and FPPH

Contact us for more details

## ORDERING NOTES

- Specify colour (B = Black, G = Grey) and reel length eg: FPY16B-50M for a Black 50m reel

- **Available on request:**
  - longer lengths and bulk packaging
  - cut lengths and assemblies
  - additional sizes
  - other colours
  - conduit with pre-installed draw wire
  - FPADS in PP



## non-metallic conduit and fitting

To make your selection from our wide range of flexible conduits easier, we have devised a table (see below) which offers a one page summary to help you when you come to select your fittings.

We have a wide selection of fittings that can be used with the conduits listed below.

Simply use the pull out page as a guide to see which fittings from the FPA, FPAX, Flexilok, T-pieces, MP, MPS and MSL you can use with your chosen conduit.



Using this fold out page will illustrate the wide range of non metallic corrugated conduits we offer. There are nine different non metallic conduit families listed in this spread and these are detailed across Pages 50 - 52.

### Ordering Notes

Once you have chosen your conduit from our wide range of products listed on Pages 50, 51 and 52, simply use this fold out page as a guide to see which fittings correspond with your selected conduit.

The fold out conduit summary chart below lines up with the respective subsequent fittings pages to allow you to still see your selected conduit, whilst selecting your fittings.

european (NW) sizes pitch nominal size (mm)									
	FPAS	FPAL	FPAH	FPR	FPI	FPIH	FPY	FPADS	FPP
	part number	part number	part number	part number	part number	part number	part number	part number	part number
7 F 10	FPAS10	FPAL10		FPR10			FPY8		
7 F 10									
8 F 11	FPAS11	FPAL11					FPY10	FPADS11	
10 F 13	FPAS13	FPAL13	FPAH13	FPR13	FPI13	FPIH13	FPY12	FPADS13	FPP13
10 F 13									
10 C 13									
12 F 16	FPAS16	FPAL16	FPAH16	FPR16	FPI16	FPIH16		FPADS16	FPP16
12 C 16									
12 C 16									
12 F 16							FPY16		
14 F 18	FPAS18	FPAL18							
14 C 18									
C 20	FPAS20			FPR20					FPP20
17 F 21	FPAS21	FPAL21		FPR21	FPI21		FPY20		FPP21
C 21			FPAH21			FPIH21		FPADS21	
C 21									
C 25	FPAS25	FPAL25		FPR25					FPP25
22 F 25.4							FPY25		FPP26
23 F 28	FPAS28	FPAL28		FPR28			FPY28		FPP28
C 28	FPAS28C		FPAH28		FPI28	FPIH28		FPADS28	
29 C 34	FPAS34	FPAL34	FPAH34	FPR34	FPI34	FPIH34	FPY32	FPADS34	FPP34
29 F 34	FPAS34F								
36 C 42	FPAS42	FPAL42	FPAH42	FPR42	FPI42	FPIH42	FPY40	FPADS42	FPP42
36 C 42									
48 C 54	FPAS54	FPAL54	FPAH54	FPR54	FPI54	FPIH54	FPY50	FPADS54	FPP54
48 C 54									
56 C 67	FPAS67	FPAL67			FPI67				FPP67

### ORDERING NOTES



IEC EN 61386

