

Non-Metallic Systems

PRS Standard Weight Conduit



Technical Characteristics

Conforms to	BSI Kitemark KM-35161 Low voltage directive Lloyd's Register of Shipping Type Approval NF F16-101 Rating I2, F2 DIN 5510-2:2009 S4, SR2, ST2 - FED 30min= 0.443 EN45545-2 HL3
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Approvals and Standards	    
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Degree of mechanical protection	High flexibility, Medium fatigue life
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Degree of protection	IP40 - Adapting IP66 - Adaptalok, ATS or Adaptaseal IP67 - Adaptalok + ALS Seal or ATS, Adaptaseal IP68 - Adaptalok + ALS Seal or ATS, Adaptaseal IP69k - Adaptalok + ALS Seal or ATS, Adaptaseal
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UV protection	Very High
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Finish	Black (BL) only
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Application	Indoors, Public areas, Rail infrastructure
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Normal operating temperature range	Application	Min Temp	Max Temp
	Static	- 40°C	+120°C
	Dynamic	- 5°C	+120 °C

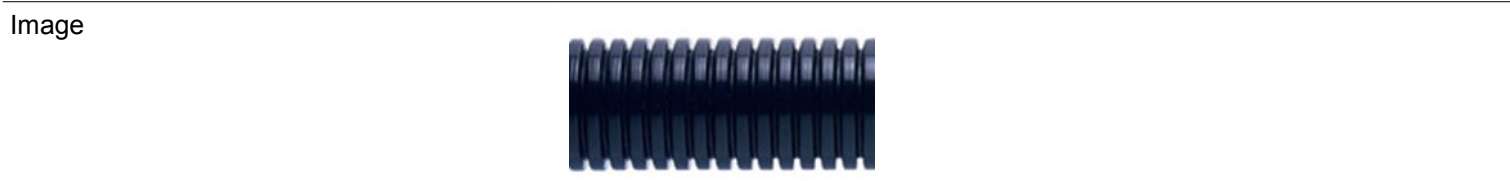
For use with - Fitting range	Adaptalok & ATS , Adaptaseal and Adapting fittings
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Fire performance	Test Standard	Performance Rating	
	EN 45545	HL3	Self Extinguishing & Halogen Free
	NFF16-101	I2 F2	
	BS 6853	Class 2	
	DIN 5510-2	S4, SR2, ST2	
	UL94	V0	



Testing data	Click or See pages 3 & 4
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Type of material	Modified Polyamide (Nylon) 6 - flame retardant - heat stabilised
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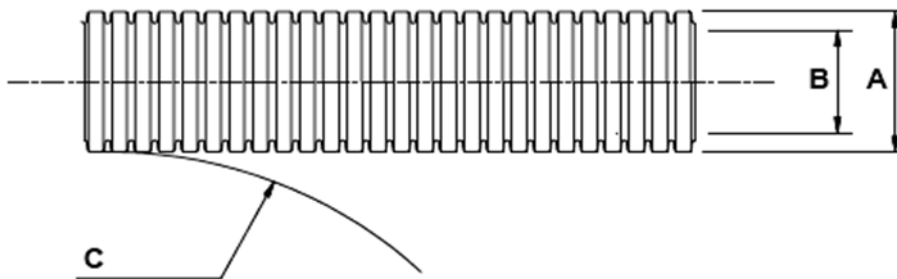


Technical & Dimensional Data

Part No.	Conduit Size			Dimensions				Average Weight (KG/100m)
	Nominal Conduit Size	NW Conduit Size	Conduit Pitch	(A) Outside Diameter	(B) Inside Diameter	(C) Min. Bend Radius *	Reel Length (m)	
PRFS13	13mm	10	Fine	13.0mm	9.9mm	35mm	50	2.8
PRFS16	16mm	13	Fine	15.8mm	11.7mm	40mm	50	3.8
PRFS21	21mm	17	Fine	21.2mm	16.6mm	55mm	50	6.0
PRCS21	21mm	17	Coarse	21.2mm	14.7mm	60mm	50	6.0
PRCS28	28mm	23	Coarse	28.5mm	21.7mm	70mm	50	10.0
PRCS34	34mm	29	Coarse	34.5mm	27.7mm	85mm	50	14.0
PRCS42	42mm	36	Coarse	42.5mm	35.5mm	105mm	25	16.5
PRCS54	54mm	48	Coarse	54.5mm	46.4mm	135mm	25	23.5

To order quote part number, colour & reel length, e.g PRCS21/BL/50M

* Values given above are for conditioned product tested at 23°C according to BS EN 61386



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BS EN 61386 Classification

	Fitting	Compression	Impact	Min temp	Max temp	bending	electrical	IP solids	IP water	Corrosion	Tensile	Non-flame Propogating	Suspended load
PR S	ATS	2	4	2	4	4	0	6	7	-	1	1	0

Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Crush Strength	IEC61386	<25% crush >90% recovery	>320N
Tensile Strength	IEC61386	Pull off of fitting minimum value	>100N
Impact Strength @-5°C	IEC61386	No Cracks <20% deformation min value	>6.0J
Impact Strength @23°C	IEC61386	No Cracks <20% deformation min value	>20J
Dynamic Bend radius @-5 °C	IEC61386	5000 cycles minimum	4xOD

Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Minimum Temp	Dynamic IEC61386	Dynamic 5000 cycles	-5°C
Maximum Short Term Temp	IEC61386	Dynamic 3000 hours, 5000 cycles	150°C
Minimum Static Temp	IEC61386	Permanent Use (30,000) Hours	-40°C
Maximum Static Temp	IEC61386	Permanent Use (30,000) Hours	120°C

Chemical Resistance Chart

Key:	Green	Yellow	Red	Black
Suitable :	●	●	●	●
Limited Suitability :	●	●	●	●
Unsuitable :	●	●	●	●
Not Tested :	●	●	●	●

● Astm No.1	● Diesel oil	● Methyl Bromide	● Sulphur Dioxide (Gas)
● Astm No.2	● Diethylamine	● MEK	● Sulphuric Acid (10%)
● Astm No.3	● Ethanol	● Nitric Acid (10%)	● Sulphuric Acid (70%)
● Acetic Acid (10%)	● Ether	● Nitric Acid (70%)	● Toluene
● Acetone	● Ethylamine	● Oxalic Acid	● Transformer Oil
● Aluminium Chloride	● Ethylene Glycol	● Ozone (Gas)	● 1,1,1-Trichloroethane
● Aniline	● Ethyl Ethanoate	● Paraffin oil	● Trichloroethylene
● Benzaldehyde	● Freon 32	● Petrol	● Turpentine
● Benzene	● Hydrochloric Acid (10%)	● Phenol	● Vegetable Oil
● Carbon tetrachloride	● Hydrochloric Acid (36%)	● Sea Water	● Vinyl Acetate
● Chlorine water	● Hydrogen Peroxide (35%)	● Silver Nitrate	● Water
● Chloroform	● Hydrogen Peroxide (87%)	● Skydrol	● White Spirit
● Citric Acid	● Lactic Acid	● Sodium Chloride	● Zinc Chloride
● Copper Sulphate	● Lubricating oil	● Sodium Hydroxide (10%)	
● Cresol	● Methanol	● Sodium Hydroxide (60%)	

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 Thomas & Betts for further information.

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.

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Flammability

Test Type	Method / Standard	Requirement	Result	Unit
Oxygen Index	ISO 4589-2	% Oxygen to support combustion	34.3	%
Glow Wire Rating	IEC 60695	No Ignition to Extinguish with 30s	850	°C
Flammability	UL94	Vertical (V0, V2) or Horizontal (HB)	V0	
Flammability	IEC 61386-1	1Kw Burner @ 45°	2	Seconds
Flammability	DIN 5510-2	Classification to DIN54837	S4 SR2 ST2	
Ignition Rating	NF F16-101	Glow / Wire / Oxygen Index	I2	

Smoke

Test Type	Method / Standard	Requirement	Result	Unit
Smoke Density	NF X 10-702	Vos ₄	90.5	Pass
Smoke Density	NF X 10.702	D Max	111	Pass
Smoke Density	BS6853	A ₀ <0.02	0.006	A ₀
Smoke Density	ISO - 5659-2	D _s Max <100	138	
Fume Rating	NF F16-101	Smoke & Toxicity	F2	

Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free		<0.5%	Yes	Yes/No
Phosphorous Free		<0.5%	Yes	Yes/No
Sulphur Free		<0.5%	Yes	Yes/No
Toxicity	NFX70 - 100 1 / 2	CIT _{NLP}	64.82	None
Toxicity	BS 6853 D8.3	R	0.34	None
Toxicity	EN45545-2	NFX 70.100.1	0.68	

Fire Performance Overview

Property	Low Fire Hazard	Enhanced Low Fire Hazard	Super Low Fire Hazard	Inherent Low Fire Hazard
Property	LFH	EFLH	SLFH	ILFH
Oxygen Index ISO4589	32% ≥ OI ≥ 28%	OI ≥ 32%	OI ≥ 32%	Inherent Low Fire
BS6853 Smoke Density 3m ³	0.02 ≤ A ₀ ≤ 0.03	0.0005 ± A ₀ ≤ 0.02	A ₀ ≤ 0.005	Hazard i.e
Zero Halogen	✓	✓	✓	Type , S, SS
Zero Phosphorus	✓	✓	✓	Metallic Conduit &
Zero Sulphur	✓	✓	✓	Fittings
NFF16-102	I3F2	I2F2	I2F1	
EN45545-2	HL2	HL3	HL3	

Pre Test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	BS EN 61386	23 (°C)	50 (%)

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