

# Metallic Systems

## SPLHC Conduit



### Technical Characteristics

Conforms to BSI Kitemark KM-35161  
Low voltage directive

Approvals and Standards



Degree of mechanical protection Medium flexibility & fatigue life

Degree of protection IP69k - with SPL type M fitting  
IP68 - with SPL type M fitting  
IP67 - with SPL type A, B & M fittings  
IP66 - with SPL type M & C90 fittings

UV protection Very High

Finish Black

Application Liquid tight - Extreme temperature environments

Normal operating temperature range	Application	Min Temp	Max Temp
	Static	- 65°C	+135°C
	Dynamic	- 45°C	+150 °C

For use with - Fitting range [Adaptasteel](#) - Type [A](#) ,[B](#), [E](#), [M](#) [C90](#) & [45](#)

Fire performance	Test Standard	Performance Rating	
	EN45545	N/A	(See Fire testing <a href="#">data</a> for fire performance overview)
	NFF16-101	N/A	
	LUL-1085	No	
	BS6855	N/A	
	DIN 5510-2	N/A	

Testing data Click or See pages [3](#) & [4](#)

Type of material Galvanised steel core - string packing with thermoplastic rubber covering

Image



# Metallic Systems

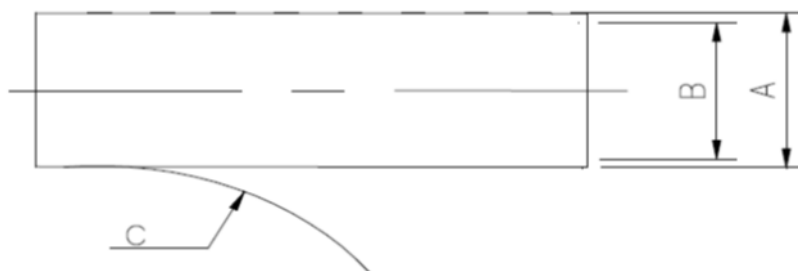
## SPLHC Conduit



### Technical & Dimensional Data

Conduit size metric (mm)	10	12	16	20	25	32	40	50	63	75
Conduit size US trade (inches)	1/4"	5/16"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Part code	SPLHC	SPLHC	SPLHC	SPLHC	SPLHC	SPLHC	SPLHC	SPLHC	SPLHC	-
Coil length (m)	25/50	25/50	25	25	25	25	25	25	25	-
A - Outside diameter (mm)	11.8	14.2	17.8	21.1	26.4	33.1	41.8	47.9	59.7	-
B - Inside diameter (mm)	7.0	12.0	12.5	15.9	21.0	26.7	35.4	40.4	51.6	-
C - Static bend radius (mm)	40	45	50	80	110	145	180	240	345	-
Average weight (KG/100m)	16.2	22.6	29.4	38.5	48.7	67.7				-

*For ordering code add coil length to part code - e.g SPLHC25/BL/25M*



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### BS EN 61386 Clarification

	Fitting	Compression	Impact	Min temp	Max temp	bending	electrical	IP solids	IP water	Corrosion	Tensile	Non-flame Propogating	Suspended load
SPLHC	SPL(M)	4	4	5	5	4	0	6	7	-	4	1	5

### Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Crush Strength @ 23°C	IEC61386-1	<25% crush >90% recovery	>1250N
Crush Strength @ 23 °C	AFX norm C1989	10% Crush, Instantaneous Value	2500N
Impact Strength @ 23 °C	IEC61386-1	No Cracks <20% deformation	>20J
Impact Strength @-45 °C	IEC61386-1	No Cracks. <20% deformation	>6J
Tensile Strength	IEC61386-1	With M Type Fitting	>1000N class 4
Tensile Strength	AFX norm T1987	Ultimate pull-out of M-Type Fitting	1600N
Dynamic Bend radius @ -45 °C	IEC61386-23	5000 cycles minimum	120mm

### Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Minimum Temperature	IEC61386-23	Dynamic 5000 cycles	-65°C
Maximum Temperature	IEC61386-23	Dynamic 5000 cycles	135°C
Minimum Static		Permanent Use	-65°C
Maximum Static		Permanent Use	135°C

### Chemical Resistance Chart

**Key:**

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	22	%
Glow Wire Rating	IEC 60695	No Ignition to Extinguish with 30s	750	°C
Flammability	UL94	Vertical (V0, V2) or Horizontal (HB)	V2	
Flammability	IEC 61386-1	1Kw Burner @ 45°	Pass	Pass/Fail
FTI	ISO 4589-3		N/A	

### Smoke

Test Type	Method / Standard	Requirement	Result	Unit
Smoke Density	ATS1000	In flaming mode <100 @ 4 mins	N/A	
Smoke Density	ATS1000	In non flaming mode <100 @ 4 mins	N/A	
Smoke Density	BS6853	A <0.02	N/A	
Smoke Density	ASTM E-662	Flaming mode Ds Max	N/A	
Smoke Density	ISO - 5659-2	Ds Max	N/A	

### Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free	LUL	<0.5%	Yes	Yes/No
Phosphorous Free	LUL	<0.5%	Yes	Yes/No
Sulphur Free	LUL	<0.5%	Yes	Yes/No
NFX 70-100	NFX70 - 100 1 / 2	CIT <sub>NLP</sub>	N/A	N/A

### Fire Performance Overview

Property	Low Fire Hazard	Enhanced Low Fire Hazard	Super Low Fire Hazard	Inherent Low Fire Hazard
<b>Property</b>	LFH	EFLH	SLFH	ILFH
Oxygen Index ISO4589	32% ≥ OI ≥ 28%	OI ≥ 32%	OI ≥ 32%	Inherent Low Fire Hazard i.e
BS6853 Smoke Density 3m³	0.02 ≤ A <sub>s</sub> ≤ 0.03	0.0005 ± A <sub>s</sub> ≤ 0.02	A <sub>s</sub> ≤ 0.005	Type , S, SS
Zero Halogen	✓	✓	✓	Metallic Conduit & Fittings
Zero Phosphorus	✓	✓	✓	
Zero Sulphur	✓	✓	✓	
NFF16-102	I3F2	I2F2	I2F1	
EN45545-2	HL2	HL3	HL3	

### Pre Test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	EN50086/IEC61386	23 (°C)	50 (%)