

Conduit Systems - Polyamide

NC Standard Weight - General Purpose



Technical Characteristics

Conforms to	ADR Approved CE Mark to the low voltage directive RoHS Compliant to 2011/65/EU Conforms with end of life vehicle directive (ELV)EU200/53/EC
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Approvals and Standards	  
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Degree of mechanical protection	High flexibility & fatigue life - Very High abrasion, impact and shock resistance
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Degree of protection	IP40 - Hinged fittings IP67 - Sealed fittings
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UV protection	Very High (Black) Medium (Grey, Orange & Red)
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Finish	Black (BL), Grey (RAL7031), Red (RAL3031) & Orange (RAL2003) (Other colours available on request)
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Application	General-purpose automotive harness applications
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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	For use with all hinged and sealed fittings in the Harnessflex range
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Fire performance	Test Standard	Performance Rating	
	IEC 61386-1	Pass	
	UL94	HB	Self Extinguishing
	FMVSS302	0 mm/min	Low smoke toxicity & Halogen Free

Testing data	Click or See pages 3 & 4
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Type of material	Polyamide (Nylon) PA 6 - heat and UV stabilised
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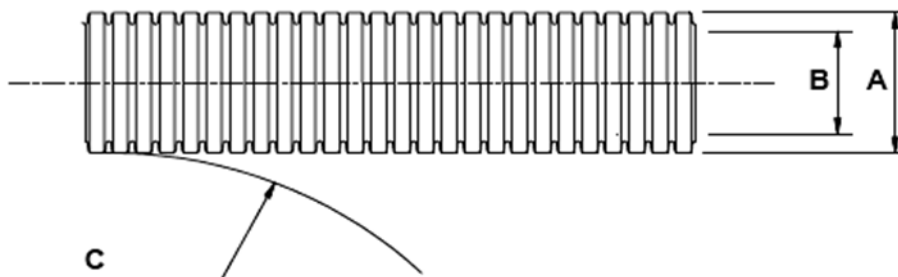
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Technical & Dimensional Data

Part No.	Conduit Size		Dimensions				Average Weight
	(NC)	(NW)	(A) Outside Diameter (Mid size)	(B) Minimum Bore	(C) Minimum Static Bend Radius	Reel Length (m)	(Kg/100m)
NC06	06	4.5	7.2mm	4.4mm	10mm	100	0.9
NC08	08	7.5	10.0mm	6.2mm	20mm	100	1.9
NC10	10	8.5	11.6mm	8.0mm	23mm	100	2.1
NC12	12	10	13.1mm	9.6mm	26mm	100	2.4
NC16	16	13	15.9mm	11.7mm	32mm	100	4.1
NC18	18	14	18.5mm	14.0mm	37mm	50	4.6
NC20	20	17	21.2mm	16.3mm	42mm	50	5.6
NC25	25	22	25.6mm	21.3mm	52mm	50	7.4
NC28	28	23	28.4mm	22.5mm	57mm	50	9.0
NC32	32	29	34.5mm	28.6mm	79mm	50	12.2
NC40	40	36	42.4mm	34.8mm	85mm	25	14.0
NC50	50	48	54.3mm	46.2mm	90mm	25	20.0

To order quote part number & reel length for black e.g. NC20/50M or for all other colours add colour and reel length e.g. orange NC20/OR/50M red NC20/RD/50M or green NC20/GN/50M



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Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Crush Strength	IEC61386-1	<25% crush >90% recovery	>320N
Tensile Strength	IEC61386-1	Fitting Pull off (Hinged Fitting)	>100N
Impact Strength @ 23 °C	IEC61386-1	No Cracks <20% deformation min value	>20J
Impact Strength @-5 °C	IEC61386-1	No Cracks. <20% deformation min value	>6J
Dynamic Bend radius @-5 °C	IEC61386-23	5000 cycles minimum	4xOD
Cold Bend @ -40 °C	NFR13-903	2xOD	Pass

Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Minimum Temperature	IEC61386-23	Static Permanent Use	-40°C
Minimum Temperature		Dynamic Use (5000 cycles)	-5°C
Maximum Temperature		Permanent Use (30,000) Hours	120°C
Short Term Temperature		Temporary Use (3,000) Hours	150°C
Short Term Temperature		Temporary Use (200) Hours	170°C

Chemical Resistance Chart

Key:	Green Circle	Yellow Circle	Red Circle	Black Circle
Suitable :	● Astm No.1	● Astm No.2	● Astm No.3	
Limited Suitability :	● Acetic Acid (10%)	● Aluminium Chloride	● Aniline	● Benzaldehyde
Unsuitable :	● Benzene	● Carbon tetrachloride	● Chlorine water	● Chloroform
Not Tested :	● Citric Acid	● Copper Sulphate	● Cresol	
	● Diesel oil	● Diethylamine	● Ethanol	● Ether
	● Ethylamine	● Ethylene Glycol	● Ethyl Ethanoate	● Freon 32
	● Hydrochloric Acid (10%)	● Hydrochloric Acid (36%)	● Hydrogen Peroxide (35%)	● Hydrogen Peroxide (87%)
	● Lactic Acid	● Lubricating oil	● Methanol	● Methyl Bromide
	● MEK	● Nitric Acid (10%)	● Nitric Acid (70%)	● Oxalic Acid
	● Ozone (Gas)	● Paraffin oil	● Petrol	● Phenol
	● Sea Water	● Silver Nitrate	● Skydrol	● Sodium Chloride
	● Sodium Hydroxide (10%)	● Sodium Hydroxide (60%)	● Sulphur Dioxide (Gas)	● Sulphuric Acid (10%)
	● Sulphuric Acid (70%)	● Toluene	● Transformer Oil	● 1,1,1-Trichloroethane
	● Trichloroethylene	● Turpentine	● Vegetable Oil	● Vinyl Acetate
	● Water	● White Spirit	● Zinc Chloride	

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	23	%
Flammability	UL94	Vertical (V0,V2) or Horizontal (HB)	HB	
Flammability	BS EN IEC 61386-1	1Kw Burner @ 45° Vertical burn	Pass	Pass/Fail
Flammability	FMVSS3042	≤100mm/min	0	mm/min

Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free		<0.5%	Pass	Pass/Fail
Phosphorous Free		<0.5%	Pass	Pass/Fail
Sulphur Free		<0.5%	Pass	Pass/Fail

Pre Test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	BS EN IEC 61386-1	23 (°C)	50 (%)