



# Conduit Systems - Polyamide 12

## HNC Standard Weight - Low Temperature



### Technical Characteristics

Conforms to	CE Mark to the Low Voltage Directive RoHS Compliant to 2011/65/EU End of Life Vehicle Directive (ELV) EU200/53/EC		
Approvals and Standards	 		
Degree of mechanical protection	Very High flexibility & fatigue life. High abrasion, impact and shock resistance at low temperatures		
Degree of protection	IP40 - Hinged fittings IP67 - Sealed fittings		
UV protection	Very High		
Finish	Black (BL) only - Other colours available on request		
Application	HNC Conduit is particularly used in applications requiring repeated flexing coupled with low temperature impact resistance, such as robotics or rapid continuous motion, demanding high fatigue life and extra flexibility even in low temperature environments.		
Normal operating temperature range	Application	Min Temp	Max Temp
	Static	- 50°C	+105°C
	Dynamic	- 45°C	+105 °C
For use with - Fitting range	For use with all <a href="#">hinged</a> and <a href="#">sealed</a> fittings in the Harnessflex range		
Fire performance	<b>Test Standard</b>	<b>Performance Rating</b>	
	IEC 61386 - 1 KW	Pass	
	ISO 4589-2	23%	
	UL94	HB	
		Self Extinguishing Low smoke toxicity & Halogen Free	
Testing data	Click or See pages <a href="#">3</a> & <a href="#">4</a>		
Type of material	Heat Stabilised Polyamide (Nylon) 12		

Image



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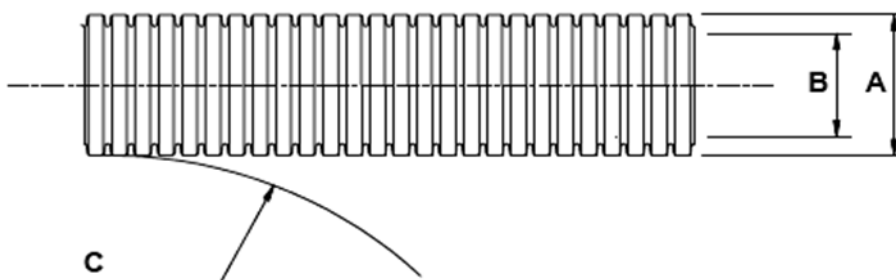
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### Technical & Dimensional Data

Part No.	Conduit Size		Dimensions				Average Weight (Kg/100m)
	(NC)	(NW)	(A) Outside Diameter	(B) Inside Diameter	(C) Min. Bend Radius	Reel Length (m)	
HNC08	08	7.5	10.0mm	6.2mm	15mm	50	2.6
HNC12	12	10	13.0mm	9.9mm	25mm	50	3.9
HNC16	16	13	15.8mm	11.7mm	30mm	50	5.3
HNC20	20	17	21.2mm	16.6mm	40mm	50	8.4
HNC25	25	22	25.3mm	21.0mm	45mm	50	13.5
HNC28	28	23	28.5mm	21.7mm	45mm	50	14.0
HNC32	32	29	34.5mm	27.7mm	55mm	50	17.3
HNC40	40	36	42.5mm	35.5mm	60mm	25	20.6
HNC50	50	48	54.5mm	46.6mm	70mm	25	33.0

To order quote part number, colour & reel length, e.g HNC/25m



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SPECIALIST CONDUIT SYSTEMS

### Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Crush Strength	IEC61386-1	<25% crush >90% recovery	>125N
Tensile Strength	IEC61386-1	Fitting Pull off (Hinged Fitting)	>120N
Impact Strength @-25°C	IEC61386-1	No Cracks <20% deformation min value	>20J
Impact Strength @-45°C	IEC61386-23	No Cracks <20% deformation min value	>2J
Dynamic Bend radius @-45°C	IEC61386-23	5000 cycles minimum	6xOD
Dynamic Bend radius @23°C	IEC61386-23	Under IEC61386-23 (Continuous)	>10,000,000

### Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Minimum Temperature		Static Permanent Use	-60°C
Minimum Temperature	IEC61386-23	Dynamic Use (5000 cycles)	-45°C
Maximum Temperature		Permanent Use (30,000) Hours	105°C
Short Term Temperature		Temporary Use (3,000) Hours	120°C
Cold Bend @-40°C	NFR13-903	2XOD	Pass

### 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 >34%	23.0	%
Flammability	UL94	Vertical (V0) or Horizontal (HB)	HB	HB/V0
Flammability	IEC 61386	Vertical Burn	Pass	Pass/Fail
Flammability	IEC 61386	Self extinguishing <30s	8	Seconds
Ignition Rating	NF F16-101/2	Glow Wire & oxygen index	I4	-

### Toxicity

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

### Pre Test Conditions

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