

TECHNICAL INFORMATION



HF 417

September 2022

THERMOPLASTIC HALOGEN FREE, FLAME RETARDANT AND LOW SMOKE EMISSION COMPOUND, FOR CABLE INSULATION AND SHEATING

Description

HF 417 is a thermoplastic, flame retardant, and halogen free compound on polyolefinic basis. It can be used for the production of energy, signal and control cables.

Range material operating temperatures : -25 °C(fixed installation.)//+80 °C.

The properties of this compound comply with the requirements of EN 50363-0 type M1-M16, EN 50363-7 type T17, IEC 60502 ST8, VDE 0207 Part 24 type HM2-HM4 ,BS 7655 type LTS1-LTS2-LTS3-LTS4, EN 50290-2-27, UNE 21123-4:2010 - ANNEX A-Table1 type DMZ-E, IEC 60092-360 type SHF1.

Technical characteristics

Property	Test method	Unit	Typical Value
Density	ISO 1183	g/cm ³	1.50
Hardness at 15"	ISO 868	Shore D	50
Tensile strength	ISO 527	N/mm ²	12.0
Elongation at break	ISO 527	%	180
Tear strength 23 °C(500 mm/min)	BS 6469 99.1	N/mm	6.0*
Oxygen Index	ISO 4589	% O ₂	40
Hot pressure test at 90 °C	IEC 60811	%	< 50
Melt Flow Index (150 °C/21.6Kg)	ISO 1133	g/10 min	6.0
Volume Resistivity 20 °C (Alternating Polarity Method)	ASTM D257 Electrodes	Ω·cm	1· 10 ¹⁵
Water absorption	IEC 60811	mg/cm ²	< 5.0
Emission of Halogenidric acids	EN 50267-2-1/IEC 60754-1	%	< 0.5
pH	EN 50267-2-2/IEC 60754-2		> 4.3
Conductivity	EN 50267-2-2/IEC 60754-2	μS/mm	< 10
Temperature Index	ISO 4589-3	°C	> 330
Ozone Resistance	EN 50396:2007-8.1 A,B		No Cracks
Optical density of smoke	EN 61034-2	% trasmittance	> 80
Fluorine content	EN 60684-2	%	< 0.1
Cold flex	ISO 458-2	°C	-18 ± 2

The typical values reported in the table have been obtained from measurements made on extruded samples or pressed plate

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Thermal Resistance	Test method	Unit	Typical Value
Ageing in oven 168h at 100°C			
Variation in tensile strength	ISO 527	%	5
Variation in elongation at break	ISO 527	%	-20

The values reported in the table have been obtained from measurements made on specimens of 1,5 mm thickness

Processing

This thermoplastic compound has been designed for an easy processing, whilst maintaining good mechanical-thermal properties, and a medium-high LOI value. It can be processed using extruders with a low screw compression ratio (halogen free or PVC type), and with a temperature profile as that given below, which is however indicative, as it may depend on the equipment design adopted.

Zone 1	Zone 2	Zone 3	Zone 4	Collar	Head	Die
130 - 150	130 - 160	140 - 160	140 - 160	150 - 165	150 - 165	150 - 170

Storage

The thermoplastic compound must be stored at ambient temperature (not exceeding 30°C) in closed and unbroken bags, in order to avoid exposure to sunlight and moisture. Long stocking time may negatively affect the quality of the material. Therefore it shall be used within 3 months from the compounding date. After this time it's necessary to dry the material before extrusion.

Packaging

Available in 25 Kg PE bags, big bags or oktamins of 1250 Kg on wooden pallet
Our technical service is at your disposal, for further information and assistance.

* The use of this product is not indicated for external sheathings of armored cables with a diameter greater than 15mm, where, to better prevent the sheath for tearing over time, it is advisable to use materials with Tear Strength at 23°C ≥ 7 N/mm and UV protection inside of the polymer matrix.

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