












Halogen-free, thermoplastic, highly flame retardant sheathing compound for low and medium voltage cables

<p>■ Compound class Sheathing</p> <p>■ Standards BS 6724 DIN EN 50363-8 TM7 IEC 60092-360 SHF 1 VDE 0250 part 215 HM5</p> <p>■ Operating temperature [C°] -25 to 90</p>	<p>■ Compound category TP</p> <p>BS 7655 section 6.1 LTS 2 DIN VDE 0276-604 HM4 NF C 32-323</p> <p>■ Oil resistance level ★</p>	<p>■ Flame retardant ATH</p> <p>CEI 20-11 M1 DIN EN 50525-3-11 TM7 VDE 0207 part 24 HM 2, HM 4</p>						
<p>■ Typical applications <i>Halogen-free, low smoke, thermoplastic, highly flame retardant compound for the sheathing of low and medium voltage cables in General Installation applications.</i></p>								
 <p>Installation</p>	 <p>Shipboard</p>							
<p>■ Features</p> <table border="0"> <tr> <td style="text-align: center;"></td> <td>Flame retardant</td> <td style="text-align: center;"></td> <td>Halogen-free</td> <td style="text-align: center;"></td> <td>Low smoke</td> </tr> </table>				Flame retardant		Halogen-free		Low smoke
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PHYSICAL PROPERTIES

■ Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1,57	DIN EN ISO 1183-1A
Hardness*	Shore D	53	DIN ISO 48-4
Mooney viscosity, ML (1+4) 140°C	MU	35	DIN ISO 289-1
Melt Flow Index (150°C; 21,6kg)	g/10 min	6,0	DIN EN ISO 1133
Abrasion*	mm ³	181	DIN VDE 0472-605
■ Water absorption **	Unit	Typical value	Test method
Water absorption after 240h at 70°C	mg/cm ²	1,17	IEC 60811-402
Water absorption after 24h at 23°C	mg/cm ³	0,065	ASTM D-570
Water absorption after 24h at 23°C	%	0,07	IEC 60811-402

MECHANICAL PROPERTIES

■ Thermoplastic **	Unit	Typical value	Test method
Tensile strength	N/mm ²	11,7	IEC 60811-501
Elongation at break	%	203	IEC 60811-501
Tear strength	N/mm ²	4,5	BS 6469:99.1
■ After ageing in air oven 240h at 100°C **	Unit	Typical value	Test method
Variation in tensile strength	%	+12,7	IEC 60811-401
Variation in elongation at break	%	-14,3	IEC 60811-401
■ After ageing in air oven 168h at 110°C **	Unit	Typical value	Test method
Variation in tensile strength	%	+7,3	IEC 60811-401
Variation in elongation at break	%	-13,8	IEC 60811-401

THERMAL PROPERTIES **

■ Heat tests	Unit	Typical value	Test method
Hot pressure test: penetration 6h at 90°C	%	5	IEC 60811-508
Hot pressure test: penetration 6h at 100°C	%	9	IEC 60811-508
Heat shock 1h at 150°C	%	Pass	IEC 60811-509
■ Low temperature tests	Unit	Typical value	Test method
Cold impact strength at -25°C	-	Pass	IEC 60811-506

ELECTRICAL PROPERTIES *

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity (16h at 20°C, 500V)	Ω cm	2,5 x 10¹²	DIN VDE 0303-30
Dielectrical constant at 50Hz	-	4,8	IEC 250
Dissipation factor at 50Hz	-	0,08	IEC 250

RESISTANCE **

■ Fluid IRM 902 4h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	-18,8	IEC 60811-404
Variation in elongation at break	%	-16,8	IEC 60811-404
Variation in weight	%	+11,7	IEC 60811-404

BURNING PROPERTIES *

■ Main burning properties	Unit	Typical value	Test method
LOI	%	40	ASTM D 2863 A
Temperature index	°C	300	ASTM D 2863 D
Toxicity index	-	1,1	NES 713

■ Acid gas emission	Unit	Typical value	Test method
Corrosivity: pH (min.)	-	5,3	IEC 60754-2
Conductivity (max.)	μS/mm	8,4	IEC 60754-2
■ Smoke density	Unit	Typical value	Test method
Flaming mode		150	ASTM E 662
Non-flaming mode		290	ASTM E 662

* pressed plaques, 155°C / 5 min.

** extruded tapes

PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic processing.

■ **Screw configuration**

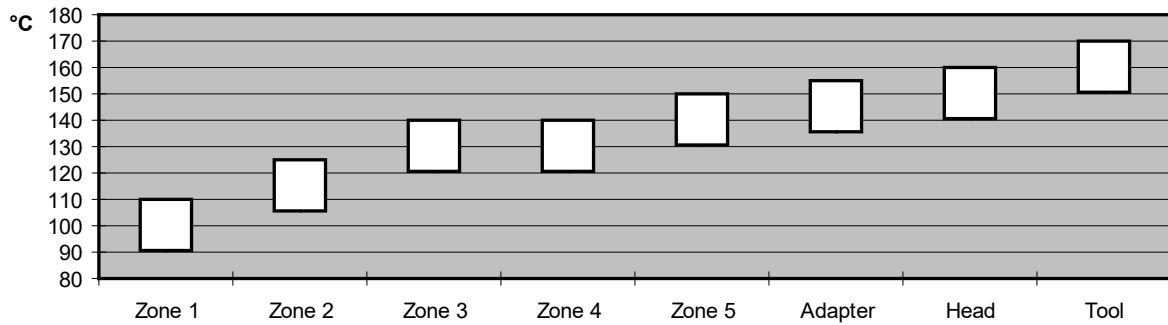
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **Tooling**

For insulation pressure tools, for jacketing tube tools are recommended.
Note: Pressure Tooling may have an effect on low temperature flexibility.

■ **Temperature profile extruder**

The profile shown below may vary slightly depending on extruder type, head design & output.



■ **Maximum mass temperature**

160 – 170°C

■ **Drying**

Not necessary if the compound has been stored in original packing under cool (max. 30°C) and dry conditions. Mecoline compounds used from open packing require pre-drying during 4–6 hours at 60–70°C.

STORAGE INFORMATION

■ **Form & packaging**

Pellets in sizes 2.8mm & 5.5mm
Moisture-resistant bags (25kg) & octabins (alu-innerliner, max. 1250kg)

■ **Shelf life**

1 year after production

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