

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

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

Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1,56	DIN EN ISO 1183-1A
Hardness*	Shore D	50	DIN ISO 48-4
Melt Flow Index (160°C; 21,6kg)	g/10 min	5,0	DIN EN ISO 1133

MECHANICAL PROPERTIES **

Thermoplastic	Unit	Typical value	Test method
Tensile strength	N/mm ²	10,3	IEC 60811-501
Elongation at break	%	179	IEC 60811-501
Tear strength	N/mm ²	7,6	BS 6469:99.1
After ageing in air oven 240h at 100°C	Unit	Typical value	Test method
Variation in tensile strength	%	-9,7	IEC 60811-401
Variation in elongation at break	%	+10,6	IEC 60811-401

■ After ageing in air oven 168h at 120°C	Unit	Typical value	Test method
Variation in tensile strength	%	+1,9	IEC 60811-401
Variation in elongation at break	%	+11,2	IEC 60811-401

THERMAL PROPERTIES **

■ Low temperature tests	Unit	Typical value	Test method
Brittleness temperature	°C	-20	ASTM D 746
Elongation at break at -15°C	%	79	IEC 60811-505
■ Heat tests	Unit	Typical value	Test method
Hot pressure test: Penetration 6h at 90°C	%	27	IEC 60811-508
Heat shock 1h at 150°C		Pass	IEC 60811-509

ELECTRICAL PROPERTIES *

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity (23°C / 500V)	Ω m	5,6x10¹¹	DIN IEC 60093
Surface resistivity (16h at 20°C / 500V)	Ω	≥ 10¹²	DIN VDE 0303-31
Dielectric strength	kV/mm	27,6	IEC 60243-1

RESISTANCE **

■ Fluid IRM 902 4h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	-13,5	IEC 60811-404
Variation in elongation at break	%	+4,4	IEC 60811-404
Variation in weight	%	+9,0	IEC 60811-404
■ H ₂ SO ₄ 38% 168h at 23°C	Unit	Typical value	Test method
Variation in tensile strength	%	-15,1	IEC 60811-404
Variation in elongation at break	%	-8,9	IEC 60811-404
Variation in weight	%	+17,0	IEC 60811-404

BURNING PROPERTIES *

■ Main burning properties	Unit	Typical value	Test method
LOI *	%	45	ASTM D 2863 A
Temperature index	°C	280	ASTM D 2863 D
Amount of halogen acid gas	mg/g	<5	IEC 60754-1
Non-Halogen Verification	-	0,01	DIN VDE 0472-815
■ Acid gas emission	Unit	Typical value	Test method
Corrosivity: pH (min.)	-	≥ 4,5	IEC 60754-2
Conductivity (max.)	μS/mm	≤ 10	IEC 60754-2
■ Flame Rating	Unit	Typical value	Test method
Vertical (2mm thickness)	-	V0	UL 94 V
Vertical (3mm thickness)	-	V0	UL 94 V

* pressed plaques, 155°C / 5 min.

** extruded tapes

PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic processing

■ **Screw configuration**

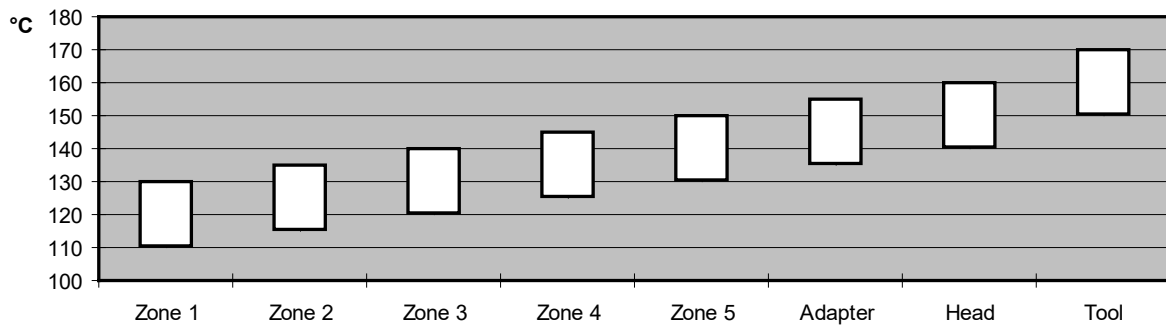
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **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**

155 – 165°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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