

















Halogen-free, thermoplastic, highly flame retardant sheathing compound for 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 1 - LTS 4 DIN VDE 0276-604 HM4 NF C 32-323</p>	<p>CEI 20-11 M1 DIN VDE 0281 part 14 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 low and medium voltage cables in General Installation applications.</i></p> 								
<p>Installation</p>								
<p>■ Features</p> <table border="0"> <tr> <td> Flame retardant</td> <td> Halogen-free</td> <td> Low smoke</td> </tr> <tr> <td> Tear resistant</td> <td> Abrasion resistant</td> <td></td> </tr> </table>			 Flame retardant	 Halogen-free	 Low smoke	 Tear resistant	 Abrasion resistant	
 Flame retardant	 Halogen-free	 Low smoke						
 Tear resistant	 Abrasion resistant							

PHYSICAL PROPERTIES

Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1,49	DIN EN ISO 1183-1A
Hardness*	Shore D	55	DIN ISO 7619-1
Melt Flow Index (150°C; 21,6kg)	g/10 min	11,5	DIN EN ISO 1133
Abrasion*	mm ³	94	DIN VDE 0472-605
Water absorption **	Unit	Typical value	Test method
Water absorption after 24h at 70°C	mg/cm ²	1,62	IEC 60811-402

MECHANICAL PROPERTIES

Thermoplastic **	Unit	Typical value	Test method
Tensile strength	N/mm ²	13,8	IEC 60811-501
Elongation at break	%	205	IEC 60811-501
Tear strength	N/mm	10,5	BS 6469:99.1

■ After ageing in air oven 168h at 120°C **	Unit	Typical value	Test method
Variation in tensile strength	%	+9,4	IEC 60811-401
Variation in elongation at break	%	-4,4	IEC 60811-401
■ After ageing in air oven 240h at 100°C **	Unit	Typical value	Test method
Variation in tensile strength	%	-5,8	IEC 60811-401
Variation in elongation at break	%	+2,4	IEC 60811-401

THERMAL PROPERTIES **

■ Heat tests	Unit	Typical value	Test method
Hot pressure test: penetration 6h at 80°C	%	3	IEC 60811-508
Hot pressure test: penetration 6h at 90°C	%	13	IEC 60811-508
Shrinkage at 70°C	%	Pass	IEC 60811-508
■ Low temperature tests	Unit	Typical value	Test method
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	7,8 x 10¹³	DIN VDE 0303-30
Dielectric constant (23°C, 100V, 50Hz)	-	5,44	IEC 60250
Dielectric constant (23°C, 1V, 1kHz)	-	5,04	IEC 60250
Dielectric constant (23°C, 1V, 1MHz)	-	3,96	IEC 60250

RESISTANCE **

■ Fluid IRM 902 6h at 100°C	Unit	Typical value	Test method
Variation in tensile strength	%	-10,9	IEC 60811-404
Variation in elongation at break	%	+2,4	IEC 60811-404
■ Fluid IRM 902 168h at 100°C	Unit	Typical value	Test method
Variation in tensile strength	%	-65,0	IEC 60811-404
Variation in elongation at break	%	-60,0	IEC 60811-404
■ Water purified 24h at 23°C	Unit	Typical value	Test method
Variation in tensile strength	%	-3,0	IEC 60811-404
Variation in elongation at break	%	-1,4	IEC 60811-404
Absorption	mg/cm ³	0,13	IEC 60811-404
Absorption	%	0,15	IEC 60811-404
■ Water purified 168h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	-11,8	IEC 60811-404
Variation in elongation at break	%	-11,7	IEC 60811-404

BURNING PROPERTIES *

■ Main burning properties	Unit	Typical value	Test method
LOI	%	36	ASTM D 2863 A
Temperature index	°C	295	ASTM D 2863 D
Toxicity index (max.)	-	1,1	NES 713
■ Acid gas emission	Unit	Typical value	Test method
Corrosivity: pH (min.)	-	6,5	IEC 60754-2
Conductivity (max.)	μS/cm ⁻¹	14	IEC 60754-2
■ NBS-smoke chamber test	Unit	Typical value	Test method
DS max. (non-flaming)		15	ASTM 662
Time to DS max.	m:s	05:53	ASTM E 662
DS max. (non-flaming)		208	ASTM 662
Time to DS max.	m:s	09:11	ASTM E 662

* pressed plaques, 155°C / 5 min.

** extruded tapes

PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic processing.

■ **Screw configuration**

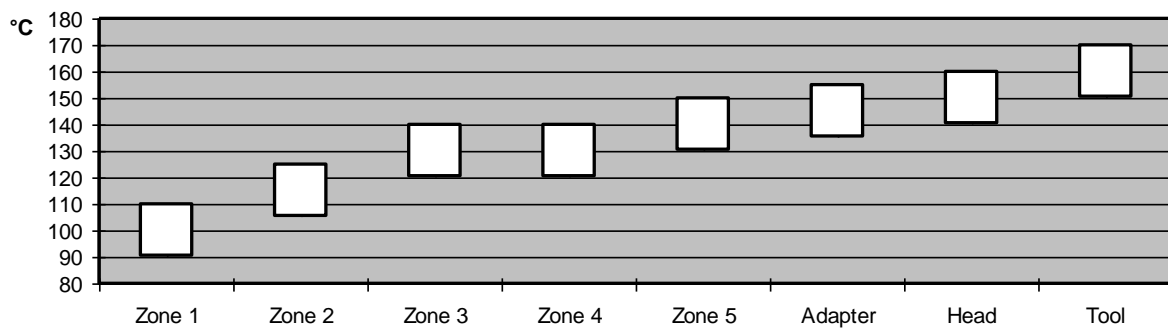
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **Tooling**

Pressure, semi-compression or tube possible

■ **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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