






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

<p>■ <b>Compound class</b> Insulation/Sheathing</p>	<p>■ <b>Compound category</b> <b>TP</b></p>	<p>■ <b>Flame retardant</b> ATH</p>
<p>■ <b>Standards</b> DIN EN 50363-7 T16, T17 BS 7655 LTS 1 &amp; LTS 3 IEC 60092-360 SHF 1</p>	<p>DIN EN 50363-8 TM7 VDE 0207 part 24 HM 2</p>	<p>DIN VDE 0281 part14 TM 7 VDE 0250 part 215 HM 5</p>
<p>■ <b>Operating temperature [C°]</b> -30 to 80</p>	<p>■ <b>Oil resistance level</b> ★</p>	
<p>■ <b>Typical applications</b> <i>Halogen-free, low smoke, thermoplastic, highly flame retardant compound for the sheathing of low and medium voltage cables in General Installations applications. This compound features a high line speed and good processability.</i></p>		
 <p>Installation</p>	 <p>Shipboard</p>	
<p>■ <b>Features</b></p>		
 <p>Flame retardant</p>	 <p>Halogen-free</p>	 <p>Low smoke</p>

## PHYSICAL PROPERTIES

■ Physical properties	Unit	Typical value	Test method
Density*	g/cm <sup>3</sup>	<b>1.48</b>	DIN EN ISO 1183-1A
Hardness*	Shore D	<b>48</b>	DIN ISO 7619-1
Melt Flow Index (150°C; 21,6kg)	g/10 min	<b>9.0</b>	DIN EN ISO 1133
■ Water absorption	Unit	Typical value	Test method
Water absorption after 24h at 90°C	mg/cm <sup>2</sup>	<b>1.11</b>	IEC 60811-402

## MECHANICAL PROPERTIES\*\*

■ Thermoplastic	Unit	Typical value	Test method
Tensile strength	N/mm <sup>2</sup>	<b>10.8</b>	IEC 60811-501
Elongation at break	%	<b>226</b>	IEC 60811-501
Tear strength	N/mm	<b>7.1</b>	BS 6469:99.1
■ After ageing in air oven 168h at 100°C ***	Unit	Typical value	Test method
Variation in tensile strength	%	<b>+3.3</b>	IEC 60811-401
Variation in elongation at break	%	<b>-13.4</b>	IEC 60811-401

■ After ageing in air oven 168h at 110°C ***	Unit	Typical value	Test method
Variation in tensile strength	%	<b>+8.9</b>	IEC 60811-401
Variation in elongation at break	%	<b>-29.4</b>	IEC 60811-401

## THERMAL PROPERTIES \*\*

■ Low temperature tests	Unit	Typical value	Test method
Elongation at break at -30°C	%	<b>27</b>	IEC 60811-505
Brittleness temperature	°C	<b>-25</b>	ASTM D 746
■ Heat tests	Unit	Typical value	Test method
Hot pressure test: penetration 6h at 80°C	%	<b>13</b>	IEC 60811-508
Heat shock 1h at 150°C	%	<b>Pass</b>	IEC 60811-509

## ELECTRICAL PROPERTIES\*

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity ( 23°C, 500V)	Ω cm	<b>1.2 x 10<sup>13</sup></b>	IEC 60167
Volume resistance at 50Hz / 23°C	Kv/mm	<b>20.5</b>	IEC 60167

## RESISTANCE \*\*

■ Fluid IRM 902 4h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-9.1</b>	IEC 60811-404
Variation in elongation at break	%	<b>-8.5</b>	IEC 60811-404
Variation in weight	%	<b>9.0</b>	IEC 60811-404
■ Fluid IRM 902 20h at 23°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-8.2</b>	IEC 60811-404
Variation in elongation at break	%	<b>-12</b>	IEC 60811-404
Variation in weight	%	<b>0</b>	IEC 60811-404
■ Fluid IRM 902 20h at 50°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-3.7</b>	IEC 60811-404
Variation in elongation at break	%	<b>0.0</b>	IEC 60811-404
Variation in weight	%	<b>4.0</b>	IEC 60811-404
■ Diesel 20h at 23°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-15.5</b>	IEC 60811-404
Variation in elongation at break	%	<b>-22.7</b>	IEC 60811-404
Variation in weight	%	<b>3.0</b>	IEC 60811-404
■ Water purified 168h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-19,5</b>	IEC 60811-404
Variation in elongation at break	%	<b>-25,9</b>	IEC 60811-404
Variation in weight	%	<b>1,0</b>	IEC 60811-404

## BURNING PROPERTIES\*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	<b>42</b>	ASTM D 2863 A
Halogen content	%	<b>0</b>	IEC 754-1
Temperature index	°C	<b>290</b>	ASTM D 2863 D
Toxicity index	-	<b>0.8</b>	EN 50305
■ Acid gas emission	Unit	Typical value	Test method
Corrosivity: pH (min.)	-	<b>≥4.5</b>	IEC 60754-2
Conductivity (max.)	μS/mm	<b>≤10</b>	IEC 60754-2

\* pressed plaques, 155°C / 5 min

\*\* extruded tapes

## PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic materials.

■ **Screw configuration**

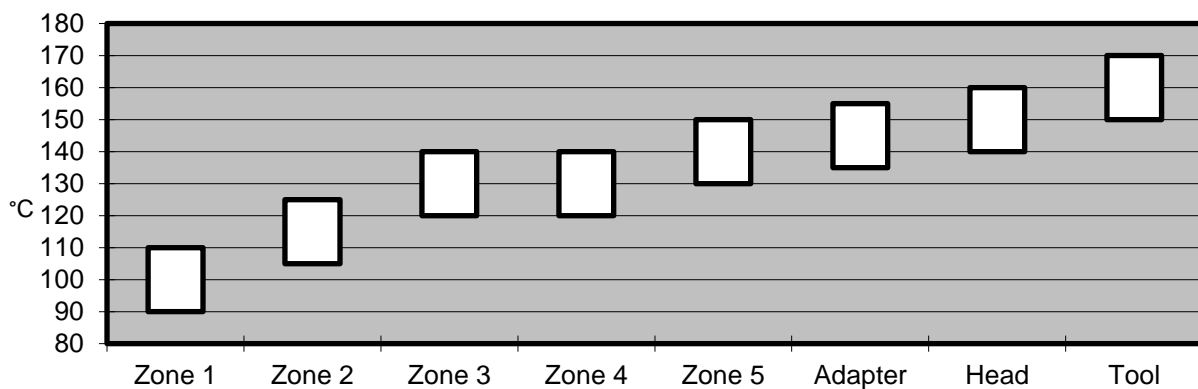
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **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 date of manufacturing

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