














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

<p>■ Compound class Insulation / Sheathing</p>	<p>■ Compound category TP</p>	<p>■ Flame retardant ATH / MDH</p>												
<p>■ Standards DIN EN 50363-7 T16, T17 BS 7655 LTS 1 & LTS 3</p>	<p>DIN EN 50363-8 TM7 VDE 0207 part 24 HM 2</p>	<p>VDE 0250 part 215 HM 5 IEC 60092-360 SHF 1</p>												
<p>■ Operating temperature [°C] -40 to 80</p>	<p>■ Oil resistance level ★</p>													
<p>■ Typical applications <i>Halogen-free, low smoke, thermoplastic, flame retardant compound for the sheathing of data communications, low and medium voltage cables in general installations applications. This compound is flexible and features a high line speed and good processability.</i></p> 														
<p>Installation</p>														
<p>■ Features</p> <table border="0"> <tr> <td></td> <td>Flame retardant</td> <td></td> <td>Halogen-free</td> <td></td> <td>Low smoke</td> </tr> <tr> <td></td> <td>Flexible</td> <td colspan="4"></td> </tr> </table>				Flame retardant		Halogen-free		Low smoke		Flexible				
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PHYSICAL PROPERTIES

Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1.46	DIN EN ISO 1183-1A
Hardness*	Shore D	50	DIN ISO 48-4
Melt Flow Index (150°C; 21,6kg)	g/10 min	5.7	DIN EN ISO 1133

MECHANICAL PROPERTIES**

Thermoplastic	Unit	Typical value	Test method
Tensile strength	N/mm ²	12.4	IEC 60811-501
Elongation at break	%	230	IEC 60811-501

■ After ageing in air oven 168h at 80°C ***	Unit	Typical value	Test method
Variation in tensile strength	%	-2.2	IEC 60811-401
Variation in elongation at break	%	-18.0	IEC 60811-401
■ After ageing in air oven 168h at 100°C ***	Unit	Typical value	Test method
Variation in tensile strength	%	1.5	IEC 60811-401
Variation in elongation at break	%	-18.9	IEC 60811-401

THERMAL PROPERTIES **

■ Low temperature tests	Unit	Typical value	Test method
Elongation at break at -30°C	%	91	IEC 60811-505
Elongation at break at -40°C	%	78	IEC 60811-505
■ Heat tests	Unit	Typical value	Test method
Hot pressure test: penetration 6h at 80°C	%	17	IEC 60811-508

ELECTRICAL PROPERTIES*

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity (23°C, 100V)	Ω cm	2.68 x 10¹⁴	IEC 62631-3-1
Volume resistivity (90°C, 100V)	Ω cm	2.04 x 10¹²	IEC 62631-3-1

RESISTANCE **

■ Water purified 168h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	-27.4	IEC 60811-404
Variation in elongation at break	%	-7.8	IEC 60811-404
Variation in weight	%	1.0	IEC 60811-404

BURNING PROPERTIES*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	45	ASTM D 2863 A
Halogen content	%	0	IEC 754-1
■ Acid gas emission	Unit	Typical value	Test method
Corrosivity: pH (min.)	-	≥4.5	IEC 60754-2
Conductivity (max.)	μS/mm	≤10	IEC 60754-2

* pressed plaques, 155°C / 5 min

** extruded tapes

PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic materials.

■ **Screw configuration**

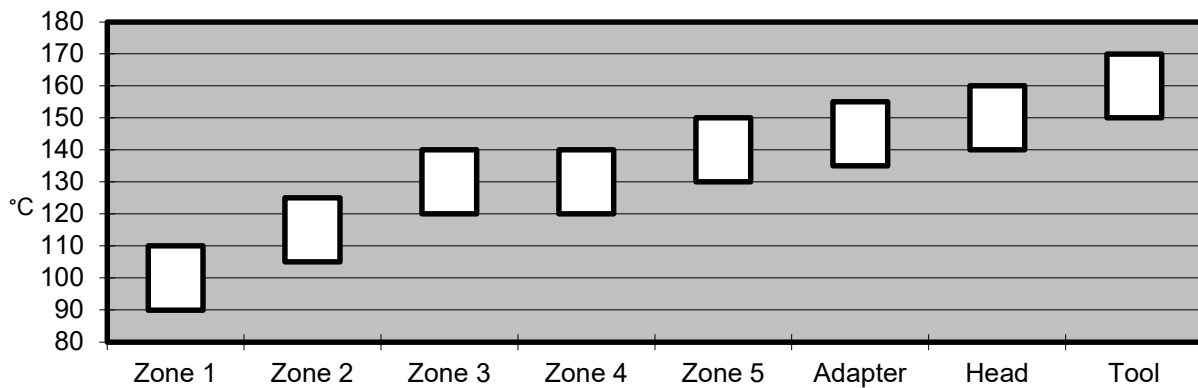
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **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**

170 – 180°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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Technical data sheet

Mecoline IS TP 1043 F



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