















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

<p>■ Compound class Insulation / sheathing</p> <p>■ Standards BS 6724 DIN EN 50363-7 T1 6, T17 VDE 0207 part 24 HM2, HM4</p> <p>■ Operating temperature [C°] -30 to 90</p>	<p>■ Compound category TP</p> <p>BS 7655 section 6.1 LTS 2 DIN EN 50363-8 TM7 VDE 0250 part 215 HM5</p> <p>■ Oil resistance level ★★</p>	<p>■ Flame retardant ATH</p> <p>DIN EN 50525-3-11 TI 6, TM 7 IEC 60092-360 SHF 1 VDE 0276 part 604 HM 4</p>												
<p>■ Typical applications <i>Halogen-free, low smoke, thermoplastic, flame retardant, UV resistant compound for the sheathing and insulation 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> <tr> <td style="text-align: center;"></td> <td>Weather resistant</td> <td colspan="4"></td> </tr> </table>				Flame retardant		Halogen-free		Low smoke		Weather resistant				
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PHYSICAL PROPERTIES

Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1,58	DIN EN ISO 1183-1A
Hardness*	Shore D	55	DIN ISO 48-4
Mooney viscosity, ML (1+4) 150°C	MU	38	DIN ISO 289-1
Melt Flow Index (150°C; 21,6kg)	g/10 min	7,0	DIN EN ISO 1133

MECHANICAL PROPERTIES **

Thermoplastic	Unit	Typical value	Test method
Tensile strength	N/mm ²	11,0	IEC 60811-501
Elongation at break	%	186	IEC 60811-501
After ageing in air oven 240h at 100°C	Unit	Typical value	Test method
Variation in tensile strength	%	+5,5	IEC 60811-401

Variation in elongation at break	%	-2,7	IEC 60811-401
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■ After ageing in air oven 168h at 110°C	Unit	Typical value	Test method
Variation in tensile strength	%	-10,0	IEC 60811-401
Variation in elongation at break	%	-3,8	IEC 60811-401

THERMAL PROPERTIES **

■ Heat tests	Unit	Typical value	Test method
Hot pressure test: penetration 6h at 80°C	%	1	IEC 60811-508
Hot pressure test: penetration 6h at 90°C	%	8	IEC 60811-508

ELECTRICAL PROPERTIES *

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity at 23°C / 500V	Ω cm	1,5 x 10¹²	DIN IEC 60093
Voltage resistance at 50 Hz / 23°C	kV/mm	20,4	IEC 60243-1
Dielectric constant at 23 °C/3 V/100 Hz	[]	4,76	IEC 60250 (1969)
Dielectric constant at 23 °C/3 V/1 MHz	[]	3,99	IEC 60250 (1969)

RESISTANCE **

■ Fluid IRM 902 6h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	-33,6	IEC 60811-404
Variation in elongation at break	%	-11,3	IEC 60811-404
■ Fluid IRM 902 20h at 50°C	Unit	Typical value	Test method
Variation in tensile strength	%	-9,8	IEC 60811-404
Variation in elongation at break	%	-0,5	IEC 60811-404
Variation in weight	%	6,0	IEC 60811-404
■ Fluid IRM 902 72h at 50°C	Unit	Typical value	Test method
Variation in tensile strength	%	-25,5	IEC 60811-404
Variation in elongation at break	%	-18,6	IEC 60811-404
Variation in weight	%	10,7	IEC 60811-404
■ UV weathering – ISO 4892-2 / 720 h	Unit	Typical value	Test method
Variation in tensile strength	%	+1,2	IEC 60811-401
Variation in elongation at break	%	-19,5	IEC 60811-401

BURNING PROPERTIES *

■ Main burning properties	Unit	Typical value	Test method
LOI	%	37	ASTM D 2863 A
Temperature index	°C	295	NES 715

* pressed plaques, 155°C / 5 min.

** extruded tapes

PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic processing.

■ **Screw configuration**

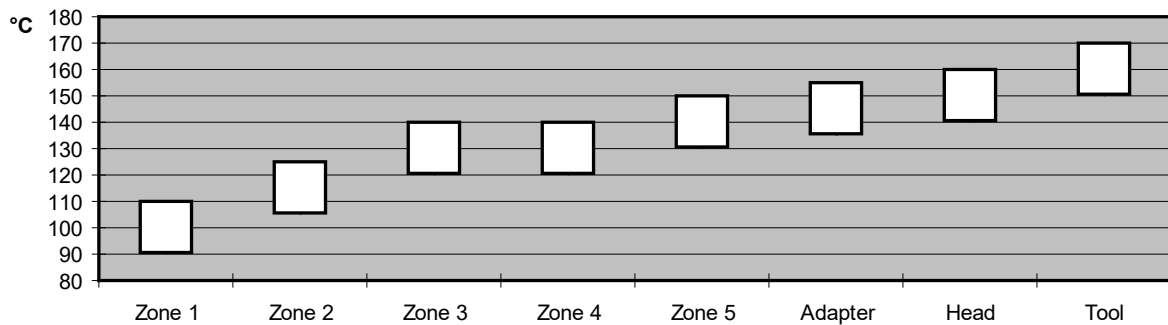
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **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

■ **Conductor pre-heating**

Pre-heating between 100°C-140°C to achieve maximum properties of elongation at break of the insulation.

■ **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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