







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

<p>■ <b>Compound class</b> Sheathing</p>	<p>■ <b>Compound category</b> <b>TP</b></p>	<p>■ <b>Flame retardant</b> ATH</p>
<p>■ <b>Standards</b> 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 EN 50525-3-11 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 data communications, 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>Telecomm., Optical Fibre, Coaxial</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 48-4
Melt Flow Index (150°C; 21,6kg)	g/10 min	<b>9.0</b>	DIN EN ISO 1133

## 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
Thermal contraction	%	<b>5</b>	IEC 60811-503
■ 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
■ Water purified 24h at 90°C	Unit	Typical value	Test method
Absorption	mg/cm <sup>2</sup>	<b>2,1</b>	IEC 60811-402

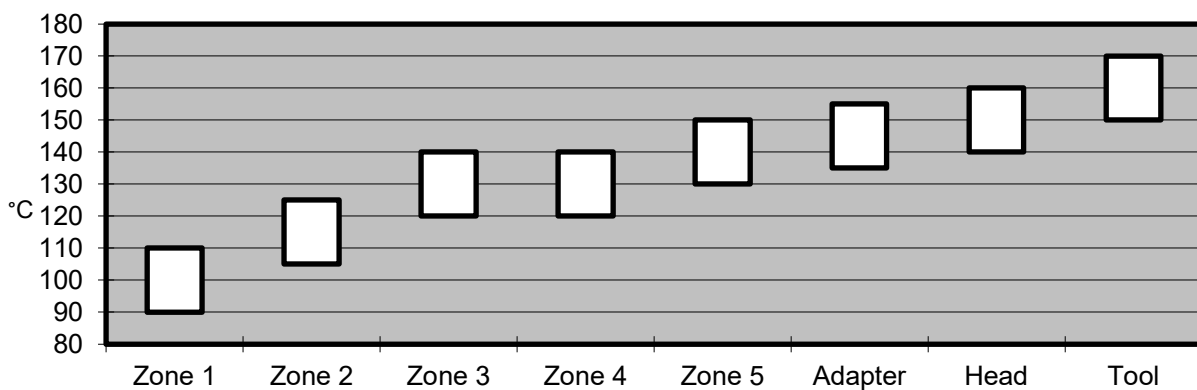
## BURNING PROPERTIES\*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	<b>42</b>	ASTM D 2863 A
Temperature index	°C	<b>325</b>	ISO 4589-3
Halogen content	%	<b>0</b>	IEC 754-1
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

<b>■ Extruder Type</b>	Standard extruders for elastomeric or thermoplastic materials.
<b>■ Screw configuration</b>	Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2
<b>■ Tooling</b>	Pressure, semi-compression or tube possible
<b>■ Temperature profile extruder</b>	The profile shown below may vary slightly depending on extruder type, head design & output.



<b>■ Maximum mass temperature</b>	160 – 170°C
<b>■ Drying</b>	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

<b>■ Form &amp; packaging</b>	Pellets in sizes 2.8mm & 5.5mm Moisture-resistant bags (25kg) & octabins (alu-innerliner, max. 1250kg)
<b>■ Shelf life</b>	1 year after date of manufacturing

Note: The information given in this datasheet is believed to be accurate and reliable. However, no warranty, express or implied, or guarantee is given as to the suitability, accuracy, reliability or completeness of the information. This information does not hold us liable for damages or penalties resulting from following our suggestions or recommendations.

Technical data sheet

# Mecoline S TP 1021 F



S TP 1021 F TDS ENG rev12 \*08.02.2018\* SK