



Halogen-free, radiation cross-linkable, flame retardant insulation and sheathing compound for photovoltaic/solar cables





<p>■ Compound class Insulation / Sheathing</p>	<p>■ Compound category </p>	<p>■ Flame retardant ATH</p>
<p>■ Standards DIN/VDE DKE AK 411.2.3</p>	<p>TUV 2 PFG 1169/08.2007</p>	
<p>■ Operating temperature [C°] -40 to 130</p>	<p>■ Oil resistance level ★</p>	

■ **Typical applications**
Halogen-free, low smoke, UV and ozone resistant, max. operating temperature 125°C, radiation cross-linkable, flame retardant compound for photovoltaic/solar cables for Green Energy/Solar applications.



Green Energy

■ **Features**

 Flame retardant	 Halogen-free	 Low smoke
 High temperature resistant		

PHYSICAL PROPERTIES

■ Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1,50	DIN EN ISO 1183-1A
Hardness*	Shore D	49	DIN ISO 48-4
Melt Flow Index (170°C; 21,6kg)	g/10 min	27	DIN EN ISO 1133

MECHANICAL PROPERTIES

■ Before cross-linking **	Unit	Typical value	Test method
Tensile strength	N/mm ²	10	IEC 60811-501
Elongation at break	%	225	IEC 60811-501
■ After cross-linking ***	Unit	Typical value	Test method
Tensile strength (175kGy)	N/mm ²	12,3	IEC 60811-501
Elongation at break (175kGy)	%	160	IEC 60811-501

THERMAL PROPERTIES ***

■ Low temperature tests	Unit	Typical value	Test method
Cold bend test at -40°C	-	Pass	IEC 60811-506
Cold impact strength at -15°C	-	Pass	IEC 60811-506
Elongation at break at -40°C	%	> 30	IEC 60811-501
■ Heat tests	Unit	Typical value	Test method
Hot pressure test: penetration 4h at 140°C	%	24	IEC 60811-508
■ Hot set test at 200°C / 15min / 0,2MPa (175kGy)	Unit	Typical value	Test method
Elongation under load	%	15	IEC 60811-507
Residual elongation	%	5	IEC 60811-507
■ Hot set test at 250°C / 15min / 0,2MPa (175kGy)	Unit	Typical value	Test method
Elongation under load	%	60	IEC 60811-507
Residual elongation	%	13	IEC 60811-507

ELECTRICAL PROPERTIES *

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity at 20°C	Ω cm	> 10 ¹⁴	EN 50395
Volume resistivity at 90°C	Ω cm	> 10 ¹¹	EN 50395

BURNING PROPERTIES *

■ Main burning properties	Unit	Typical value	Test method
LOI	%	34	ASTM D 2863 A
Temperature index	°C	250	ASTM D 2863 D
■ 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
 *** cross-linked plaques / tapes

PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic processing

■ **Screw configuration**

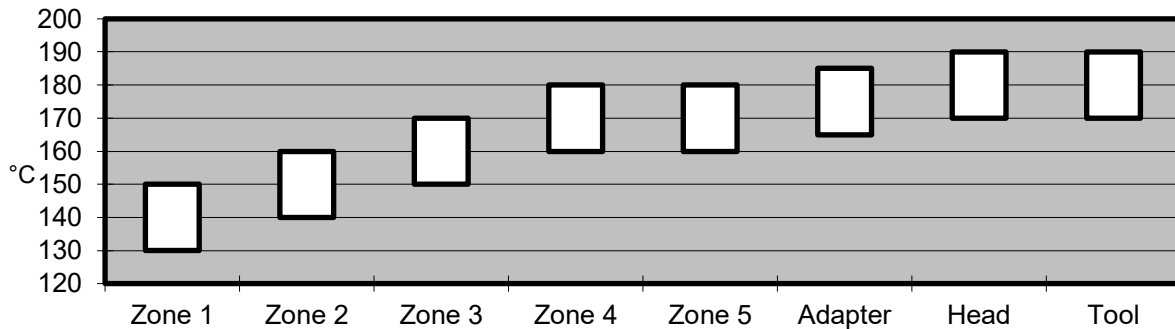
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **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**

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.

CROSSLINKING INFORMATION

■ **Recommended radiation dose**

175 kGy

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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