

Radiation cross-linkable, flame retardant compound for insulation and sheathing applications

<p>■ Compound class Insulation / sheathing</p>	<p>■ Compound category </p>	<p>■ Flame retardant Halogenated</p>						
<p>■ Standards UL 3288, 3289, 3321, 3398</p>	<p>■ Oil resistance level ★</p>							
<p>■ Operating temperature [C°] -50 to 150</p>								
<p>■ Typical applications <i>This compounds results in an extremely smooth surface, while still showing an extrudability at high speeds. The high temperature rating makes this compound an ideal choice for the insulation of heat-resistant wires and cables for applications in areas where wires and cables should withstand the high temperatures in small compartments.</i></p>								
<p>General Applications</p>	<p>Automotive</p>							
<p>■ Features</p> <table border="0"> <tr> <td> Flame retardant</td> <td> Low smoke</td> <td> Oil resistant</td> </tr> <tr> <td> High temperature Resistant</td> <td> Flexible</td> <td> Flexible at low temperatures</td> </tr> </table>			Flame retardant	Low smoke	Oil resistant	High temperature Resistant	Flexible	Flexible at low temperatures
Flame retardant	Low smoke	Oil resistant						
High temperature Resistant	Flexible	Flexible at low temperatures						

PHYSICAL PROPERTIES

Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1.24	DIN EN ISO 1183-1A
Hardness*	Shore D	27	DIN ISO 48-4
Melt Flow Index (190°C; 2,16kg)	g/10 min	2.3	DIN EN ISO 1133

MECHANICAL PROPERTIES

Thermoplastic / before crosslinking **	Unit	Typical value	Test method
Tensile strength	N/mm ²	13.2	IEC 60811-501
Elongation at break	%	682	IEC 60811-501
After crosslinking ***	Unit	Typical value	Test method
Tensile strength (100-150kGy)	N/mm ²	>16	IEC 60811-501
Elongation at break (100-150kGy)	%	>300	IEC 60811-501

THERMAL PROPERTIES***

■ Low temperature tests	Unit	Typical value	Test method
Elongation at break at -50°C	%	tbd	IEC 60811-505
■ Hot set test at 200°C / 15min / 0,2MPa	Unit	Typical value	Test method
Elongation under load	%	tbd	IEC 60811-507
Residual elongation	%	tbd	IEC 60811-507

BURNING PROPERTIES*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	25	ASTM D 2863 A

* pressed plaques

** extruded tapes

*** cross-linked plaques or tapes

PROCESSING GUIDE

■ **Screw configuration**

Barrier type screw (BM) having high flights and a L/D-ratio > 24:1

■ **Screw cooling**

For high line speeds, cooling the screw to around 80°C could be effective, although this could lead to pulsation.

■ **Extrusion dies**

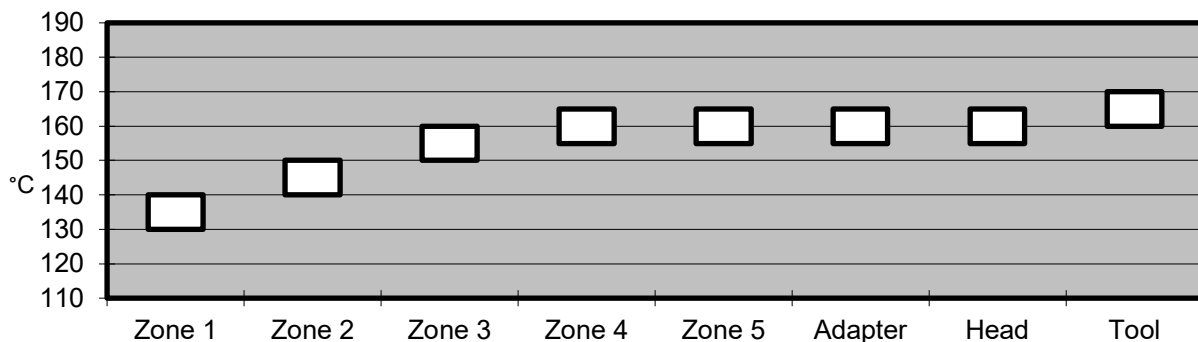
For pressure extrusion, normal dies are recommended.

■ **Die opening**

Die opening approximately 5% below the required OD of the wire.

■ **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**

Preheating at temperatures around 140°C to achieve maximum properties of elongation at break of the insulation material.

■ **Wire/conductor**

Tin-coated

■ **Quenching**

Warm water in the first cooling section (80°C).

■ **Drying**

Pre-dry at 50°C during 3 hrs

■ **Recommended colour master batches**

Well dispersed EVA master batch 0,5-1,0%. For black jacket applications, UV resistance can be improved by adding more black master batch. This depends on requirements and type of carbon black master batch used.

CROSSLINKING INFORMATION

■ **Recommended radiation dose**

100-150 kGy

STORAGE INFORMATION

■ **Form & packaging**

Pellets in sizes 2.8mm. PE-bags (25 kg)
Moisture-resistant bags (25kg) & octabins (alu-innerliner, max. 1250kg)

■ **Shelf life**

1 year after production

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.