






















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

<p>■ Compound class Insulation / sheathing</p> <p>■ Standards UL 3288, 3289, 3321, 3398</p> <p>■ Operating temperature [C°] -50 to 150</p>	<p>■ Compound category </p> <p>■ Oil resistance level ★</p>	<p>■ Flame retardant Halogenated</p>						
<p>■ Typical applications</p> <p><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
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PHYSICAL PROPERTIES

Physical properties	Unit	Typical value	Test method
Density*	g/cm ³	1.22	DIN EN ISO 1183-1A
Hardness*	Shore D	43	DIN ISO 7619-1
Melt Flow Index (190°C; 2,16kg)	g/10 min	3.5	DIN EN ISO 1133
Abrasion*	-	Excellent	ASTM D-2240

MECHANICAL PROPERTIES

Thermoplastic / before crosslinking **	Unit	Typical value	Test method
Tensile strength	N/mm ²	>8	IEC 60811-501
Elongation at break	%	>500	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	%	>30	IEC 60811-505
■ Hot set test at 200°C / 15min / 0,2MPa	Unit	Typical value	Test method
Elongation under load	%	40	IEC 60811-507
Residual elongation	%	< 10	IEC 60811-507

ELECTRICAL PROPERTIES*

■ Major electrical properties	Unit	Typical value	Test method
Dielectric strength	kV/mm	25	DIN EN 60243-1
Dielectric constant at 50Hz	-	2.8	ASTM D 150
Volume resistivity	Ω cm	10 ¹⁵	IEC 60093

BURNING PROPERTIES*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	27	ASTM D 2863 A
Flammability	-	Pass	UL 224

* pressed plaques

** extruded tapes

*** cross-linked plaques or tapes

PROCESSING GUIDE

■ **Screw configuration**

Barrier 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**

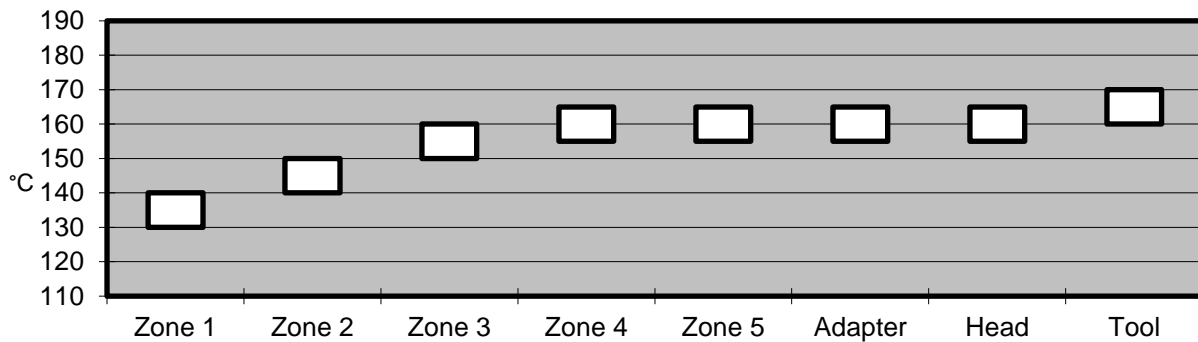
For pressure extrusion, normal dies are recommended.

■ **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

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