


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

<b>■ Compound class</b> Insulation / sheathing	<b>■ Compound category</b> 	<b>■ Flame retardant</b> Halogenated
<b>■ Standards</b> UL 3288, 3289, 3321, 3398, 3456, 3470, 3505, and 3575	CSA CL 1503 SAE J-1127 STX	CSA AWM I A/B
<b>■ Operating temperature [C°]</b> -50 to 150	<b>■ Oil resistance level</b> ★	

### ■ Typical applications

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.









General Applications



Automotive

### ■ Features

 Flame retardant	 Oil resistant	 High temperature Resistant
 Flexible	 Flexible at low temperatures	 Weather / UV resistant

## PHYSICAL PROPERTIES

■ Physical properties	Unit	Typical value	Test method
Density*	g/cm <sup>3</sup>	<b>1.22</b>	DIN EN ISO 1183-1A
Hardness*	Shore D	<b>43</b>	DIN ISO 48-4
Melt Flow Index (190°C; 2,16kg)	g/10 min	<b>3.5</b>	DIN EN ISO 1133
Abrasion*	-	<b>Excellent</b>	ASTM D-2240

## MECHANICAL PROPERTIES

■ Before crosslinking **	Unit	Typical value	Test method
Tensile strength	N/mm <sup>2</sup>	<b>&gt;8</b>	IEC 60811-501
Elongation at break	%	<b>&gt;500</b>	IEC 60811-501
■ After crosslinking ***	Unit	Typical value	Test method
Tensile strength (100-150kGy)	N/mm <sup>2</sup>	<b>&gt;16</b>	IEC 60811-501
Elongation at break (100-150kGy)	%	<b>&gt;300</b>	IEC 60811-501

## THERMAL PROPERTIES\*\*\*

■ Low temperature tests	Unit	Typical value	Test method
Elongation at break at -50°C	%	<b>&gt;30</b>	IEC 60811-505
■ Hot set test at 200°C / 15min / 0,2MPa	Unit	Typical value	Test method
Elongation under load	%	<b>40</b>	IEC 60811-507
Residual elongation	%	<b>&lt; 10</b>	IEC 60811-507

## ELECTRICAL PROPERTIES\*

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

## RESISTANCE \*\*\*

■ UV weathering – ISO 4892-3 450h	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-4,2</b>	IEC 60811-401
Variation in elongation at break	%	<b>-8,4</b>	IEC 60811-401

## BURNING PROPERTIES\*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	<b>27</b>	ASTM D 2863 A
Flammability	-	<b>Pass</b>	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**

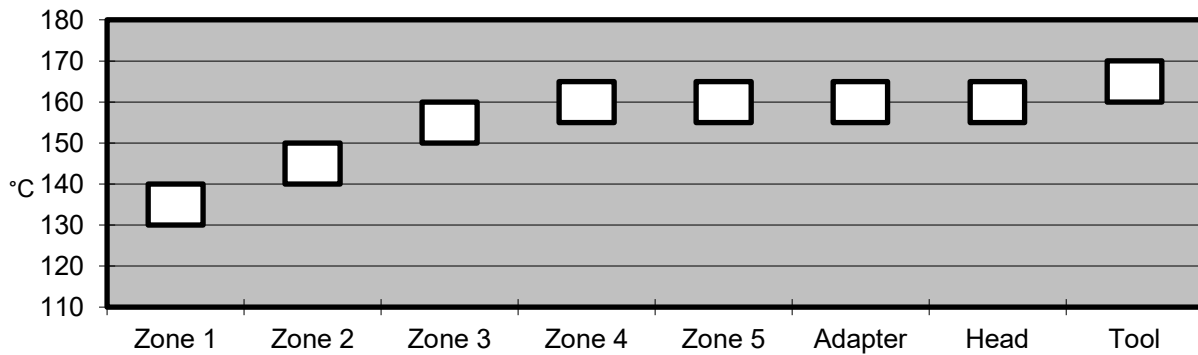
For pressure extrusion, normal dies are recommended.

■ **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%.

## 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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