




## Halogen-free, radiation cross-linkable, flame retardant sheathing compound

<p>■ <b>Compound class</b> Sheathing</p>	<p>■ <b>Compound category</b> </p>	<p>■ <b>Flame retardant</b> ATH</p>
<p>■ <b>Standards</b> IEC 60092-360 SHF 2</p>	<p>NEK 606</p>	
<p>■ <b>Operating temperature [C°]</b> -50 to 125</p>	<p>■ <b>Oil resistance level</b> ★★★★★</p>	

■ **Typical applications**  
*Halogen-free, low smoke, flexible at low temperatures, highly oil and extra fuel resistant, radiation cross-linkable, flame retardant, max. operating temperature 125°C, compound for power and telecommunication cables for Offshore/Shipboard applications.*










Offshore



Shipboard

■ **Features**

 Flame retardant	 Halogen-free	 Low smoke
 High temperature resistant	 Oil resistant	 Flexible
 Flexible at low temperatures		

## PHYSICAL PROPERTIES

Physical properties	Unit	Typical value	Test method
Density*	g/cm <sup>3</sup>	<b>1,51</b>	DIN EN ISO 1183-1A
Hardness*	Shore A	<b>87</b>	DIN ISO 7619-1
Mooney viscosity, ML (1+4) 160°C	MU	<b>26</b>	DIN ISO 289-1
Melt Flow Index (165°C; 21,6kg)	g/10 min	<b>19,3</b>	DIN EN ISO 1133

## MECHANICAL PROPERTIES

Before cross-linking **	Unit	Typical value	Test method
Tensile strength	N/mm <sup>2</sup>	<b>4,4</b>	IEC 60811-501
Elongation at break	%	<b>400</b>	IEC 60811-501
After cross-linking ***	Unit	Typical value	Test method
Tensile strength (150kGy)	N/mm <sup>2</sup>	<b>11,1</b>	IEC 60811-501

Elongation at break (150kGy)	%	<b>272</b>	IEC 60811-501
<b>■ After ageing in air oven 240h at 120°C ***</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>+22,0</b>	IEC 60811-401
Variation in elongation at break	%	<b>-0,5</b>	IEC 60811-401
<b>■ After ageing in air oven 168h at 150°C ***</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>+18,3</b>	IEC 60811-401
Variation in elongation at break	%	<b>-20,9</b>	IEC 60811-401

## THERMAL PROPERTIES \*\*\*

<b>■ Low temperature tests</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Elongation at break at -40°C (150kGy)	%	<b>110</b>	DIN EN ISO 527
Brittleness temperature (150kGy)	°C	<b>-44,6</b>	ASTM D 746-14
<b>■ Hot set test at 200°C / 15min / 0,2MPa</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Elongation under load	%	<b>15</b>	IEC 60811-507
Residual elongation	%	<b>5</b>	IEC 60811-507

## RESISTANCE \*\*\*

<b>■ Fluid IRM 902 168h at 100°C</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>-1,0</b>	IEC 60811-404
Variation in elongation at break	%	<b>-18,6</b>	IEC 60811-404
Variation in weight	%	<b>+19,5</b>	IEC 60811-404
<b>■ Fluid IRM 902 60d at 75°C</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>+1,7</b>	IEC 60811-404
Variation in elongation at break	%	<b>-12,6</b>	IEC 60811-404
Variation in weight	%	<b>+6,0</b>	IEC 60811-404
<b>■ Fluid IRM 903 168h at 100°C</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>+4,4</b>	IEC 60811-404
Variation in elongation at break	%	<b>-21,9</b>	IEC 60811-404
Variation in weight	%	<b>+18,1</b>	IEC 60811-404
<b>■ Carbo Sea (oil based) 56d at 70°C <sup>1</sup></b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>-13,9</b>	IEC 60811-404
Variation in elongation at break	%	<b>-9,6</b>	IEC 60811-404
Variation in weight	%	<b>+6,3</b>	IEC 60811-404
<b>■ EDC 95-11 56d at 70°C</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>-8,0</b>	IEC 60811-404
Variation in elongation at break	%	<b>-11,9</b>	IEC 60811-404
Variation in weight	%	<b>0</b>	IEC 60811-404
<b>■ 1 N NaOH 168h at 23°C</b>	<b>Unit</b>	<b>Typical value</b>	<b>Test method</b>
Variation in tensile strength	%	<b>-2,3</b>	IEC 60811-404
Variation in elongation at break	%	<b>-20,5</b>	IEC 60811-404
Variation in weight	%	<b>-2,0</b>	IEC 60811-404

■ 1 N Oxalis acid 168h at 23°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-25,0</b>	IEC 60811-404
Variation in elongation at break	%	<b>+15,6</b>	IEC 60811-404
Variation in weight	%	<b>-6,0</b>	IEC 60811-404
■ Diesel 24h at 23°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>+2,0</b>	IEC 60811-404
Variation in elongation at break	%	<b>+1,9</b>	IEC 60811-404
Variation in weight	%	<b>+4,9</b>	IEC 60811-404
■ Water purified 672h at 50°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>-8,5</b>	IEC 60811-404
Variation in elongation at break	%	<b>+20,6</b>	IEC 60811-404
Variation in weight	%	<b>+0,9</b>	IEC 60811-404
■ Calcium Bromide Brine (water based) 56 d at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	<b>+2,3</b>	IEC 60811-404
Variation in elongation at break	%	<b>+5,5</b>	IEC 60811-404
Variation in weight	%	<b>+2,4</b>	IEC 60811-404

- 1 This specified drilling fluid resistance qualification may be used as a reference for the compound properties only. No guarantee can be given for compounds and cable configurations that have been approved in this drilling fluid will also pass the requirements and operating conditions of other specific drilling fluids and/or cable configurations. Additional agreements with the cable manufacturer will be required and additional testing in fluids and oil may be needed to guarantee safe operation in other particular conditions and environments.

## BURNING PROPERTIES \*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	<b>28</b>	ASTM D 2863 A
■ Acid gas emission	Unit	Typical value	Test method
Conductivity (max.)	μS/mm	<b>0,68</b>	IEC 60754-2
Corrosivity: pH (min.)	-	<b>6,3</b>	IEC 60754-2

\* pressed plaques, 165°C / 5 min.

\*\* extruded tapes

\*\*\* cross-linked plaques / tapes

## PROCESSING GUIDE

■ **Extruder Type**

Standard extruders for elastomeric or thermoplastic processing

■ **Screw configuration**

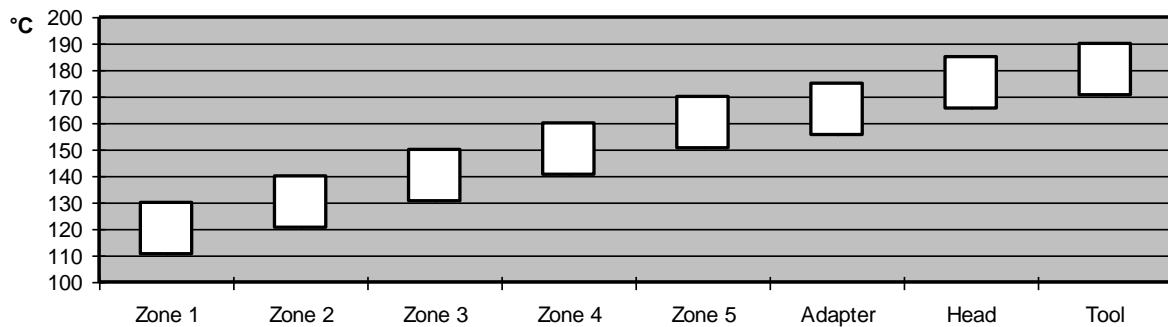
Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2

■ **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**

165 – 175°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**

150 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

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.

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