Technical data sheet

Mecoline S RDX 1247 F

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

■ Compound class	■ Compound category	■ Flame retardant
Sheathing	RDX	MDH

■ Standards	
IEC 60092/360 Table II, SHF2	UL 1277

■ Operating temperature [C°]	■ Oil resistance level
-40 to 105	★★

■ **Typical applications**

The compound can be an ideal solution for applications like coax cables, electronic cables, communication cables, low voltage power cables, instrumentation and control cables in harsh environments.

General Applications

Offshore, Shipboard

■ **Features**

- Flame retardant
- Halogen-free
- Low smoke
- Oil resistant
- High temperature resistant

PHYSICAL PROPERTIES

■ Physical properties	Unit	Typical value	Test method
Density*	g/cm³	**1.45**	DIN EN ISO 1183-1A
Hardness*	Shore A	**90**	DIN ISO 48-4
Melt Flow Index (190°C; 2,16kg)	g/10 min	**12**	DIN EN ISO 1133
■ Water absorption **	**Unit**	**Typical value**	**Test method**
Water absorption after 240h at 70°C	mg/cm²	**5**	IEC 60811-402
Water absorption after 24h at 23°C	%	**0.5**	IEC 60811-402

MECHANICAL PROPERTIES

■ Before crosslinking **	Unit	Typical value	Test method
Tensile strength	N/mm²	**>8**	IEC 60811-501
Elongation at break	%	**>250**	IEC 60811-501
■ After crosslinking ***	**Unit**	**Typical value**	**Test method**
Tensile strength (150kGy)	N/mm²	**16**	IEC 60811-501
Elongation at break (150kGy)	%	**180**	IEC 60811-501
Tear strength	Kg/mm	**5**	ASTM D 624

■ After ageing in air oven 240h at 120°C***	Unit	Typical value	Test method
Variation in tensile strength	%	**+6**	IEC 60811-401
Variation in elongation at break	%	**-12**	IEC 60811-401

THERMAL PROPERTIES***

■ Low temperature tests	Unit	Typical value	Test method
Cold bend test at -30°C	-	**No cracks**	IEC 60811-504
Cold bend test at -40°C	-	**No cracks**	IEC 60811-504
Elongation at break at -30°C	%	**45**	IEC 60811-505
Elongation at break at -40°C	%	**25**	IEC 60811-505
■ Heat tests	Unit	Typical value	Test method
Heat shock 4h at 200°C	-	**Pass**	IEC 60811-508
Variation in tensile strength	%	**+14**	IEC 60811-501
Variation in elongation at break	%	**-10**	IEC 60811-501
■ Hot set test at 200°C / 15min / 0,2MPa	Unit	Typical value	Test method
Elongation under load	%	**20**	IEC 60811-507
Residual elongation	%	**3**	IEC 60811-507

ELECTRICAL PROPERTIES*

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity	Ω cm	**10^{11}**	IEC 60167
Dielectric constant at 50Hz	-	**3.9**	IEC 250

RESISTANCE***

■ Fluid IRM 902 24h at 100°C	Unit	Typical value	Test method
Variation in tensile strength	%	**-25**	IEC 60811-404
Variation in elongation at break	%	**-15**	IEC 60811-404
■ Fluid IRM 902, 72hr@100°C	Unit	Typical value	Test method
Variation in tensile strength	%	**-28**	IEC 60811-404
Variation in elongation at break	%	**-18**	IEC 60811-404
■ Fluid IRM 903 168h at 70°C	Unit	Typical value	Test method
Variation in tensile strength	%	**-28**	IEC 60811-404
Variation in elongation at break	%	**-26**	IEC 60811-404

BURNING PROPERTIES*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	**38**	ASTM D 2863 A
Halogen content	%	**<0,1HCl**	IEC 754-1
Temperature index	°C	**300**	ASTM D 2863 D
Toxicity index	-	**1**	NES 713
■ Acid gas emission	**Unit**	**Typical value**	**Test method**
Corrosivity: pH (min.)	-	**5.6**	IEC 60754-2
Conductivity (max.)	µS/mm	**0.9**	IEC 60754-2

* pressed plaques
** extruded tapes
*** cross-linked plaques or tapes

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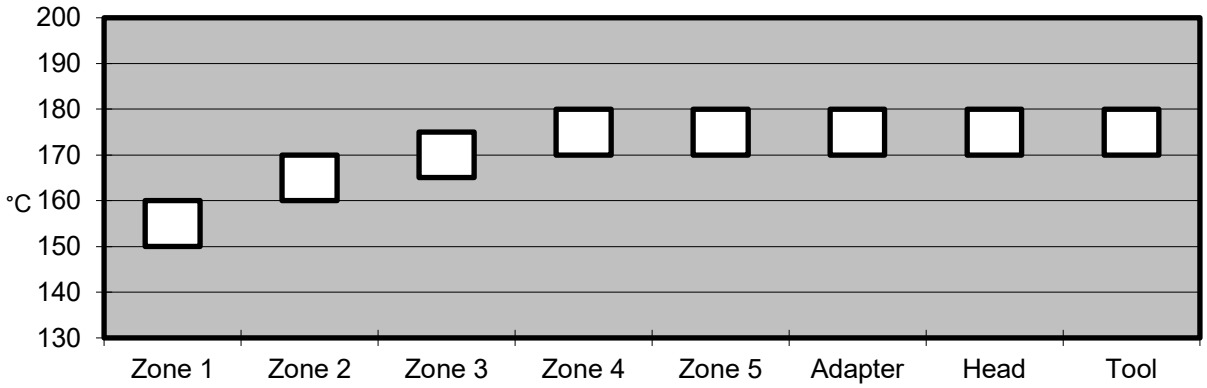
Processing Guide

■ **Screw configuration**	Good results have been achieved with screws designed to process LSFOH compounds. Shear should be kept as low as possible. Low compression is preferred
■ **Screw cooling**	For high line speeds, cooling the screw to around 100°C could be effective, although this could lead to pulsation.
■ **Extrusion dies**	For pressure extrusion, normal dies are recommended. Too small clearance may result in excessive pressure and a 'rough' surface. Too large clearance could result in diameter fluctuations. Die angles are not very critical.
■ **Temperature profile extruder**	The profile shown below may vary slightly depending on extruder type, head design & output.



■ **Maximum mass temperature**	200°C
■ **Recommended colour master batches**	Well dispersed EVA master batch 0,5-1,0%. For black jacket applications, UV resistance can be obtained by adding a higher level of master batch depending on requirements and type of carbon black master batch used.

Crosslinking information

■ **Recommended radiation dose**	150 kGy

Storage information

■ **Form & packaging**	Pellets in sizes 2.8mm Moisture-resistant bags (25kg) & octabins (alu-innerliner, max. 1250kg)
■ **Shelf life**	1 year after production

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