Technical data sheet

Mecoline IS RDX 5258 F

Radiation cross-linkable, flame retardant compound

■ Compound class	■ Compound category	■ Flame retardant
Insulation / sheathing	RDX	Halogenated

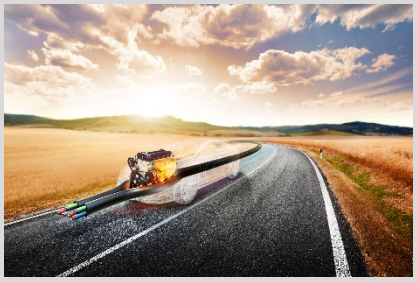
■ Standards		
UL 3289, 3321 CSA AWM I A/B	SAE J1127 STX and SGX	CSA CL 1251, 1503

■ Operating temperature [C°]	■ Oil resistance level
-50 to 150	★★★

■ **Typical applications**

Motor lead wires for coil connections, class F motors and transformers, pumps, solenoids, Internal wiring of appliances, sensor wires, flexible battery cables and wire insulation of low voltage multicore cables for road vehicles.

General Applications



Automotive

■ **Features**

- Flame retardant
- Flexible at low temperatures
- Oil resistant
- Abrasion resistant
- High temperature resistant
- Flexible

PHYSICAL PROPERTIES

■ Physical properties	Unit	Typical value	Test method
Density*	g/cm³	**1,2**	DIN EN ISO 1183-1A
Melt Flow Index (190°C ; 2,16 kg)	g/10 min	7,0	DIN EN ISO 1133
Hardness*	Shore A	**79**	DIN ISO 48-4
Hardness*	Shore D	**26**	DIN ISO 48-4

MECHANICAL PROPERTIES

■ Thermoplastic / Before cross-linking **	Unit	Typical value	Test method
Tensile strength	N/mm²	**12,3**	IEC 60811-501
Elongation at break	%	**650**	IEC 60811-501
■ After crosslinking * **	**Unit**	**Typical value**	**Test method**
Tensile strength (120 kGy)	N/mm²	**22,4**	IEC 60811-501
Elongation at break (120 kGy)	%	**425**	IEC 60811-501

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THERMAL PROPERTIES ***

■ Low temperature tests	Unit	Typical value	Test method
Elongation at break at -55°C (120 kGy)	%	**>30**	IEC 60811-505
■ Hot set test at 200°C / 15min / 0,2MPa	**Unit**	**Typical value**	**Test method**
Elongation under load	%	**30**	IEC 60811-507
Residual elongation	%	**<10**	IEC 60811-507

ELECTRICAL PROPERTIES*

■ Major electrical properties	Unit	Typical value	Test method
Volume resistivity	Ω cm	**10^{15}**	ASTM D 257
Dielectric strength	kV/mm	**25**	ASTM D 149
Dielectric constant at 50Hz 20°C	-	**2.9**	ASTM D 150

BURNING PROPERTIES*

■ Main burning properties	Unit	Typical value	Test method
LOI	%	**23**	ASTM D 2863 A

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

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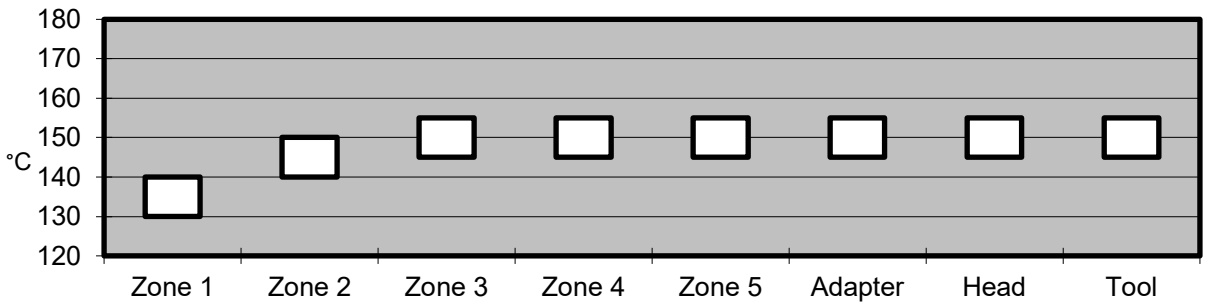
PROCESSING GUIDE

■ **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 can be very effective although this could lead to pulsation
■ **Screen pack**	40/60/80/40 mesh
■ **Extrusion dies**	Pressure or tube. For pressure extrusion, normal dies are recommended.
■ **Die opening**	Die opening approximately slightly 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**	170°C
■ **Conductor pre-heating**	Preheating not required, but may positively influence elongation at break
■ **Wire/conductor**	Bare copper / Tin-coated
■ **Quenching**	Warm water in the first cooling section (60-80°C)
■ **Drying**	Pre-dry at 60°C during 4 hrs.
■ **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.

CROSS-LINKING INFORMATION

■ **Recommended radiation dose**	100-150 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 production

IS RDX 5258 F TDS ENG rev03*09.02.2018* SK