

RavaSafe® ZH-LSF 11 is a thermoplastic zero halogen, low smoke flame retardant compound designed for general purpose sheathing and insulation application. This compound combines excellent processing, good flame retardancy and good mechanical properties.

Typical Application: Telecom, LV power application, complying with DIN VDE 0207-24 HM4 specification and also VDE 0207-part 23 HJ2.

Technical properties:

Physical and Mechanical Properties	Typical Value	Units (SI)	Test Method
Density, 23°C	1,51	g/cm³	ISO 1183-1 (ASTM D792)
Melt flow index (150°C /21,6kg)	4	g/10 min	ISO 1133 (b)
Hardness (15 seconds)	48	Shore D	ISO R 868 (ASTM D2240)
Water immersion test (24h @ 70°C)	2,7	mg/cm²	IEC 60811-402
Tear strength 23°C	7,6	N/mm	BS 6469-99.1
Unaged mechanical properties (200 mm/min)			
Tensile strength	11,0	MPa	IEC 60811-501
Elongation at break	180	%	
Thermal ageing 7 days at 120°C			
Tensile strength variation (Δ)	-21	%	IEC 60811-501
Elongation at break variation (Δ)	-11	%	
Thermo Mechanical Properties			
Hot Pressure Deformation (6h @ 90°C)	< 50	%	IEC 60811-508
Tear strength 50°C	3,4	N/mm	BS 6469-99.1
Oil resistance test 4h at 70°C (IRM 902 – immersion)			
Tensile strength variation (Δ)	-9	%	IEC 60811-404
Elongation at break variation (Δ)	4	%	

Flammability	Typical Value	Units (SI)	Test Method
Oxygen Index	37	%	ISO 4589-2 (ASTM D2863)
Halogen content	< 0,5	%	IEC 60754-1
<i>Acid gas emission</i>			
pH	> 4,3	/	IEC 60754-2
Conductivity	< 2,5	μS/mm	IEC 60754-1
<i>Smoke density measurement</i>			
Smoke density – Flaming mode (1,1 mm) Ds max	30	/	ASTM E 662
Smoke density – Non Flaming mode (1,1 mm) Ds max	217	/	

Electrical properties	Typical Value	Units (SI)	Test Method
Volume Resistivity	6x10 ¹⁵	Ω·cm	ASTM D 257
Surface Resistivity	3x10 ¹⁶	Ω	

Recommended extrusion profile:

Extrusion Temperatures	Zones							
	Z1	Z2	Z3	Z4	Z5	Collar	Head	Die
Temperature (Imperial)	266°F	284°F	302°F	320°F	320°F	329°F	338°F	338°F
Temperature (SI)	130°C	140°C	150°C	160°C	160°C	165°C	170°C	170°C

RavaSafe® ZH-LSF 11 is a product able to run on standard extruders, based on low compression screw and head. This compound is supplied in aluminium foil bags. Pre-drying is not required before extrusion process.

RavaSafe® ZH-LSF 11 is colorable. A full range of specific color masterbatches (RAVACOLOR™) and additive masterbatches (RAVABOOST™) are available.

For any further information, please contact Ravago W&C.

The material description is subject to changes during the validation period of the product.

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