

RavaSafe® ZH-LSF 21 is a thermoplastic zero halogen, low smoke flame retardant compound designed for general purpose insulation and sheathing applications. This compound combines excellent flame retardancy, good processing, good mechanical properties and lower water absorption.

Typical Application: Telecom, LV power cable application

Standard norms (type of material) : EN 50363 (T17, TM7), VDE 0207 / 0250 (HM2&4, HI2) , BS 7655 (LTS1 , LTS2, LTS3, LTS4) , IEC 60502 (ST8), IEC 60092-360 (SHF1)

Technical properties:

Physical and Mechanical Properties	Typical Value	Units (SI)	Test Method
Density, 23°C	1,53	g/cm³	ISO 1183-1 (ASTM D792)
Melt flow index (150°C /21,6kg)	7,9	g/10 min	ISO 1133 (b)
Hardness (15 seconds)	49	Shore D	ISO R 868 (ASTM D2240)
Water immersion test (7d @ 70°C)	1,23	mg/cm²	IEC 60811-402
Tear strength 23°C	6,5	N/mm	BS 6469-99.1
Unaged mechanical properties (200 mm/min)			
Tensile strength	11,5	MPa	IEC 60811-501
Elongation at break	165	%	
Thermal ageing 7 days at 120°C			
Tensile strength variation (Δ)	6	%	IEC 60811-501
Elongation at break variation (Δ)	-16	%	
Thermo Mechanical Properties			
Hot Pressure Deformation (6h @ 90°C)	< 50	%	IEC 60811-508
Elongation at break (-30°C)	> 40	%	IEC 60811-505
Elongation at break (-40°C)	> 20	%	IEC60811-505
Water Absorption 7 days at 70°C			
Tensile strength variation (Δ)	- 8	%	BS 7655-6.1
Elongation at break variation (Δ)	- 2	%	
Oil resistance test 4h at 70°C (IRM 902 – immersion)			
Tensile strength variation (Δ)	-7	%	IEC 60811-404
Elongation at break variation (Δ)	-10	%	

Flammability	Typical Value	Units (SI)	Test Method
Oxygen Index	39	%	ISO 4589-2 (ASTM D2863) IEC 60754-1
Halogen content	< 0,5	%	
Acid gas emission			
pH	> 4,3	/	IEC 60754-2
Conductivity	< 2,5	μS/mm	IEC 60754-1

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 21 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 21 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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