



RavaSafe® ZH-LSF 33

Ravago Manufacturing Europe - Thermoplastic

General Information

Product Description

RavaSafe® ZH-LSF 33 is a thermoplastic zero halogen, low smoke flame retardant compound designed for high flame retardancy sheathing applications to target the most fire challenging requirements.

This compound combines easy process, good mechanical properties and a robust and cohesive char formation during fire.

Typical Application: Telecom, Low and Medium power cable application

Standard norms (type of material) : EN 50363 (TM7), VDE 0207 / 0250 (HM2, HM4), BS 7655 (LTS 2), IEC 60502 (ST8) and IEC 60092-360 (SHF1)

General

Material Status	• Commercial: Active		
Availability	• Europe	• Latin America	• North America
Additive	• Flame Retardant		
Features	• Flame Retardant	• Halogen Free	• Low Smoke Emission
Uses	• Wire & Cable Applications		
Appearance	• Colors Available		
Processing Method	• Extrusion		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.55	g/cm ³	ASTM D792
Density (23°C)	1.55	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) ² (150°C/21.6 kg)	3.0	g/10 min	ISO 1133
Water Immersion - 7 days (70°C)	1.20	mg/cm ²	IEC 60811-402
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress ³	10.2	MPa	IEC 60811-501
Tensile Strain ³ (Break)	180	%	IEC 60811-501
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 15 sec)	45		ASTM D2240
Shore Hardness (Shore D, 15 sec)	45		ISO 868
Aging	Nominal Value	Unit	Test Method
Change in Tensile Stress (120°C, 168 hr)	6.0	%	IEC 60811-501
Change in Tensile Strain at Break (120°C, 168 hr)	-18	%	IEC 60811-501
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	42	%	ASTM D2863
Oxygen Index	42	%	ISO 4589-2
Acid Gas Emission Conductivity	< 2.50	µS/mm	IEC 60754-2
Acid Gas Emission pH	> 4.30		IEC 60754-2
Halogen Content	< 1	%	IEC 60754-1

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Processing Information

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	130	°C
Cylinder Zone 2 Temp.	140	°C
Cylinder Zone 3 Temp.	150	°C
Cylinder Zone 4 Temp.	160	°C
Cylinder Zone 5 Temp.	160	°C
Adapter Temperature	165	°C
Head Temperature	170	°C
Die Temperature	170	°C

Extrusion Notes

RavaSafe® ZH-LSF 33 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.

Notes

¹ Typical properties: these are not to be construed as specifications.

² Procedure B

³ 200 mm/min