



# RavaSafe® ZH- LSF 5P

## Ravago Manufacturing Europe - Thermoplastic

### General Information

#### Product Description

Ravasafe ZH-LSF 5P is a flame retardant thermoplastic zero halogen, low smoke flame retardant compound designed for thin wall insulation Optical Fibers Cables application.

Ravasafe ZH-LSF 5P combines excellent processing, good flame retardancy and mechanical properties in accordance with application.

Ravasafe ZH-LSF 5P is an easy peel solution.

#### General

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

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.49	g/cm <sup>3</sup>	ASTM D792
Density (23°C)	1.49	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) <sup>2</sup> (150°C/21.6 kg)	22	g/10 min	ISO 1133
Water Immersion - 7 days (70°C)	3.20	mg/cm <sup>2</sup>	IEC 60811-402
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress <sup>3</sup>	7.50	MPa	IEC 60811-501
Tensile Strain <sup>3</sup> (Break)	36	%	IEC 60811-501
Elastomers	Nominal Value	Unit	Test Method
Tear Strength (23°C)	7.10	kN/m	BS 6469 99.1
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 15 sec)	40		ASTM D2240
Shore Hardness (Shore D, 15 sec)	40		ISO 868
Thermal	Nominal Value	Unit	Test Method
Temperature Index	312		ISO 4589-3
Aging	Nominal Value	Unit	Test Method
Change in Tensile Stress			IEC 60811-501
100°C, 168 hr	120	%	
110°C, 168 hr	130	%	
120°C, 168 hr	130	%	
Change in Tensile Strain at Break			IEC 60811-501
100°C, 168 hr	130	%	
110°C, 168 hr	110	%	
120°C, 168 hr	140	%	

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Flammability	Nominal Value	Unit	Test Method
Oxygen Index	33	%	ASTM D2863
Oxygen Index	33	%	ISO 4589-2
Acid Gas Emission Conductivity	0.930	μS/mm	IEC 60754-2
Acid Gas Emission pH	5.23		IEC 60754-2
Halogen Content	< 1	%	IEC 60754-1
Smoke Density <sup>4</sup>			ASTM E662
Flaming mode : 1.50 mm	79		
Non Flaming mode : 1.50 mm	270		

Additional Information	Nominal Value	Unit	Test Method
Pressure Test at High Temperature - 6h (90°C)	7.7	%	IEC 60811-508

### Processing Information

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	110	°C
Cylinder Zone 2 Temp.	140	°C
Cylinder Zone 3 Temp.	150	°C
Cylinder Zone 4 Temp.	155	°C
Cylinder Zone 5 Temp.	155	°C
Adapter Temperature	165	°C
Head Temperature	165	°C
Die Temperature	170	°C

### Extrusion Notes

RavaSafe ZH LSF 5P is a product able to run on standard extruders, based on low compression screw and head.

Compounds are supplied in Aluminium foil bags. Pre-drying is not required before extrusion process.

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Procedure B

<sup>3</sup> 200 mm/min

<sup>4</sup> Ds max