



# SHAKUN POLYMERS PRIVATE LIMITED



## SPL-ZHFR-3400H

### ZERO-HALOGEN LOW SMOKE FLAME RETARDANT COMPOUND

#### Description

**SPL-ZHFR-3400H** is a zero halogen, low smoke, flame retardant, thermoplastic, polyolefin based, RoHS compliance compound for insulation applications. It has good electrical properties and high thermal stress resistance.

#### Specifications

Cables manufactured with **SPL-ZHFR-3400H** according to standard technology meet the following cable specifications.

- EN:50363-7:2005 Type TI 6 and TI 7
- IEC 332-1 / IEC 332-2

#### Features

**SPL-ZHFR-3400H** consists of special thermoplastic polymers, inorganic filler and other additives. It shows good processing and physical properties.

**SPL-ZHFR-3400H** provides following properties

- Good mechanical and electrical properties
- Long-term reliability
- Good abrasion resistance
- flame retardancy and low smoke

#### Properties

<i>Property</i>	<i>Test Method</i>	<i>Unit</i>	<i>Typical Value</i>
Density at 27°C	ASTM D 792	g/cm <sup>3</sup>	1.47
Melt Index at 21.6 kg & 160°C	ASTM D 1238	g/10min	9
Hardness	ASTM D 2240	Shore D	48
Tensile Strength at break	IEC 60811-1-1	MPa	12
Elongation at break	IEC 60811-1-1	%	220
Variation in Tensile Properties after heat ageing (7 days at 100°C) - Tensile strength - Elongation	IEC 60811-1-2	% %	+ 12 - 17
Variation in Tensile Properties after water immersion (7 days at 70°C) - Tensile strength - Elongation	BS 6469	% %	- 15 - 11
Limiting Oxygen Index	ASTM D 2863	% O <sub>2</sub>	34
Temperature index	ASTM D 2863	° C	280
Smoke Density Rating	ASTM D 2843	%	7
Halogen Acid gas generation	IEC 60754-1	%	Nil
Toxicity Index	NES 713	-	<3
Test on Gases Evolved During Combustion pH.	IEC 60754-2	pH	5.1
Conductivity		μS / mm	1.7
Volume Resistivity	ASTM D 257	Ohm-cm	1 X 10 <sup>14</sup>
Pressure Test at 80°C, 4 hrs	IEC 60811-3-1	%	35

\*Tensile Properties on 1 mm Extruded Tape

\* Data should not be used for specification work

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**Processing Techniques**

**SPL-ZHFR-3400H** can be processed in a wide range of commercially available fabrication equipment. In general, it is recommended that this product be processed using low C/R screw rather than regular polyethylene screw. Besides, the required extrusion melt temperature of **SPL-ZHFR-3400H** is suitable for the range of 120 – 170°C. Specific recommendations for processing conditions can be determined only when the application and type of equipment are known. Be cautious! Do not overheat more than 180°C. Predrying of compound in dehumidifying drier for 4 hours at 70°C is recommended to obtain a cable having smooth and glossy appearance.

**Colorability**

**SPL-ZHFR-3400H** is a Colorable Compound with PE/EVA base master batch.

**Packaging**

**SPL-ZHFR-3400H** is available in the form of free flowing pellets and supplied in bags of moisture resistant material with a net content of 30 Kgs. Material also available in Jumbo Boxes with a net content of 950 Kgs.

**Storage & shelf life**

The product/compound should remain in

- Sealed condition
- Without exposing to direct sunlight and temperature not exceeding 45°C

Shelf life of the compound is 12 months from the date of manufacture.

Product alteration may occur due to extended period of storage.

Shakun accepts no liability of any kind in case the above mentioned storage conditions are not fulfilled.

**Safety**

**SPL-ZHFR-3400H** is not classified as a dangerous preparation.

The product is supplied in form of pellets of about 2 – 3 mm in size and can be readily handled with commercially available equipment. All handling and transport of the product may generate some dust and fines, which constitute a potential risk for dust explosion. Therefore, all instruments in the system should be properly grounded. Properly designed equipment and good storage will reduce the potential risk. Please, check and follow local disposal regulations!

Inhalation of any type of dust may irritate the air passages and should be avoided. For hot products: immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.

In case of adverse exposure to melting products formed at elevated temperatures, immediately remove, the affected victim from exposure.

Sweep up spilled granules and place in suitable containers for recycle or disposal. Consult an expert on disposal or recovered material and ensure conformity to local disposal regulations.

The product is intended for industrial use only. A Material Safety Datasheet is available on request. Please contact our Technical Team of SHAKUN POLYMERS PRIVATE LTD., for more details on various aspects of safety, recovery and disposal of the product.

This information is to the best of our knowledge accurate but all recommendations or suggestions are made without guarantee or legal liabilities since the conditions of use are beyond our control. The typical values given do not constitute specification for the product but represent typical analytical values.

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