



# SHAKUN POLYMERS LIMITED

## SPL-ZHFR-35 SiXL



### ZERO-HALOGEN LOW SMOKE FLAME RETARDANT COMPOUND

#### Description

**SPL-ZHFR-35 SiXL** is a Zero Halogen, Low Smoke, Flame Retardant, Silane Crosslinkable Compound, Polyolefin based for insulation and sheathing applications. It has good electrical properties and high thermal stress resistance. It is good for insulation of small thickness cables used in house wiring, panel boards, data cables etc.

#### Specifications

Cables manufactured with **SPL-ZHFR-35 SiXL** according to standard technology meet the following industrial cable specifications.

- BS 7211
- EN 50363-5:2005 EI 5
- IEC 332-1 / IEC 332-2
- EN 50363-6:2005 EM 10

#### Features

**SPL-ZHFR-35 SiXL** consists of special thermoplastic polymers, inorganic filler and other additives. It shows good processing and physical properties. Cross linking is activated by heat and moisture after extrusion.

**SPL-ZHFR-35 SiXL** provides following properties

- Good abrasion resistance
- Excellent mechanical and Electrical Properties
- Zero Halogen acid gas generation
- Long-term reliability
- Excellent 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>	1.40
Hardness	ASTM D 2240	Shore D	50
Tensile Strength at break	ASTM D 638	MPa	15
Elongation at break	ASTM D 638	%	250
Variation of Tensile Properties after heat ageing (7 days at 135°C)	ASTM D 638	%	± 25
Hot Set Elongation, @ 200°C, 0.2 N/mm <sup>2</sup> load	IEC 60811-2-1	%	50
Elongation after unloading	IEC 60811-2-1	%	Nil
Limiting Oxygen Index	ASTM D 2863	% O <sub>2</sub>	31
Temperature Index	ASTM D 2863	° C	250
Smoke Density Rating	ASTM D 2843	%	< 20
Halogen Acid Gas Generation	IEC 60754-1	%	< 0.5
Test on Gases Evolved During Combustion pH.	IEC 60754-2	pH	5.5
Conductivity		μs / mm	<5
Volume Resistivity	ASTM D 257	Ohm-cm	1 x 10 <sup>15</sup>
Pressure Test at 100°C, 4 hrs	IEC 60811-3-1	%	30

\*All Data on 1 mm Tape extruded at Temperatures between 100-165°C on Zones and 165-170°C on Crosshead and Die and then Cured in Water at temperature of 85°C

\* Data should not be used for specification work.

## Processing Techniques

**Do not dry the compound under any circumstances.**

In general, it is recommended that this product be processed using a low compression screw with a L/D of 20:1. Extrusion temperatures of 120 – 170°C on Extruder Barrel Zones, 165°C on neck, 170°C on head and 175°C on Die are recommended. SPL-ZHFR-35 SiXL can be cross linked by immersion in hot water at a temperature of 80-85°C for a period of 4-6 hrs approx. This duration can be adjusted depending upon insulation thickness, reel size etc. [Specific recommendations for processing conditions can be determined only when the application and type of equipment are known]. Ensure that the layers of the core do not stick with each other during crosslinking process.

## Colorability

**SPL-ZHFR-35 SiXL** is a Colorable Compound with PE/EVA base master batch..

## Packaging

**SPL-ZHFR-35 SiXL** 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.

## Safety

**SPL-ZHFR-35 SiXL** 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 at SHAKUN POLYMERS 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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