



SHAKUN POLYMERS PRIVATE LIMITED



SPL-ZHFR-1700

ZERO-HALOGEN LOW SMOKE FLAME RETARDANT COMPOUND**Description**

SPL-ZHFR-1700 is a Zero Halogen, Low Smoke, Flame Retardant, Polyolefin based, Thermoplastic RoHS compliance Compound. It can be used for sheathing / jacketing applications for cables having large diameters & inner sheath /bedding of armoured cables. Further the compound is UV Stabilized.

Specifications

Cables manufactured with **SPL-ZHFR-1700** according to standard technology meet the following industrial cable specifications.

- SHF1 as per IEC 60092-359
- IEC 332-1 / IEC 332-2

Features

SPL-ZHFR-1700 consists of special thermoplastic polymers, inorganic filler and other additives. It shows good processing and physical properties.

SPL-ZHFR-1700 provides following properties

- Good abrasion resistance
- Good mechanical properties
- Long-term reliability & UV stability
- Good 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 ³ | 1.48 |
| Melt Index at 21.6 kg & 160°C | ASTM D 1238 | g/10min | 6 |
| Hardness | ASTM D 2240 | Shore D | 50 |
| Tear Strength | BS 6469 | N/mm | 6 |
| Tensile Strength | IEC 60811-1-1 | MPa | 12 |
| Elongation at Break | IEC 60811-1-1 | % | 180 |
| Variation in Tensile Properties after heat ageing (7 days at 100°C) | IEC 60811-1-2 | % | ± 20 |
| Retention of Tensile Properties after UV-Exposure for 720 Hours | ASTM G 154 | % | 87 |
| Tensile Strength | | | |
| Elongation at break | | | |
| Limiting Oxygen Index | ASTM D 2863 | % O ₂ | 34 |
| Temperature Index | ASTM D 2863 | ° C | 280 |
| Smoke Density Rating | ASTM D 2843 | % | 8 |
| Halogen Acid Gas Generation | IEC 60754-1 | % | Nil |
| Toxicity Index | NES 713 | - | 1.5 |
| Test on gases evolved during combustion pH. | IEC 60754-2 | pH | 5.6 |
| Conductivity | | μs / mm | 1.5 |
| Pressure Test at 90°C, 4 hrs | IEC 60811-3-1 | % | 32 |

* Tensile Properties on 1mm Extruded Tape

* Data should not be used for specification work

Processing Techniques

SPL-ZHFR-1700 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. The required extrusion temperature of **SPL-ZHFR-1700** is in 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 2 hours at 70°C is recommended to obtain a cable having smooth and glossy appearance.

Colorability

SPL-ZHFR-1700 is a Colorable Compound with PE/EVA base master batch.

Packaging

SPL-ZHFR-1700 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-1700 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 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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