



SHAKUN POLYMERS PRIVATE LIMITED



SPL-ZHFR-EXP-INS-423 XL

ZERO-HALOGEN CROSSLINKED LOW SMOKE FLAME RETARDANT INSULATION COMPOUND

Description

SPL-ZHFR-EXP-INS-423 XL is a Zero Halogen, Flame Retardant, Low smoke, Silane grafted, moisture curable by addition of a catalyst master-batch cross-linkable (**ZHFR-XLPO**), RoHS compliance compound. It has good mechanical & electrical properties especially designed to meet stringent electrical properties for insulation.

Specifications

Cables manufactured with **SPL-ZHFR-EXP-INS-423 XL** according to standard technology meet the following industrial cable specifications.

Type HF 90 to IEC 60092 / 351 Type EI 8 to BS EN 50363-5
BS EN 50618: 2014

Features

SPL-ZHFR-EXP-INS-423 XL compose of blends of polymers, flame retardant additives and High heat-resistant additive package to meet long term thermal endurance as per BSEN 50618. It exhibits balance of flexibility on cable with higher mechanical and processing properties. Recommended dosage of catalyst MB is required for cross linking activated by heat and moisture after extrusion.

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	1.30
Hardness	ASTM D 2240	Shore D	47
Tensile Strength at break	IEC 60811-1-1	MPa	11
Elongation at Break	IEC 60811-1-1	%	350
Variation in Tensile Properties after heat ageing (7 days at 150°C) - Tensile strength - Elongation	IEC 60811-1-2	% %	+13 -17
Variation in Tensile Properties after ageing in air bomb (at 127°C for 40 hrs, 0.55 MPa) - Tensile strength - Elongation	IEC 60811-1-2	% %	+19 -16
Hot Set Elongation, at 250°C for 15 min. at 0.2 N/mm ² load	IEC 60811-2-1	%	45
Elongation after unloading (P.S)	IEC 60811-2-1	%	Nil
Limiting Oxygen Index	ASTM D 2863	% O ₂	27
Smoke Density Rating	ASTM D 2843	%	5
Retention of Tensile Properties after UV-Exposure for 720 Hours Tensile Strength Elongation at break	ASTM G 154	%	88 86
Halogen Acid Gas Generation	IEC 60754-1	%	Nil
Test on Gases Evolved During Combustion pH.	IEC 60754-2	pH	5.3
Conductivity		μS / mm	1.7
Volume Resistivity	ASTM D 257	Ohm-cm	2 x 10 ¹⁵
Pressure Test at 100°C, 4 hrs	IEC 60811-3-1	%	24

*All Data on 1 mm Tape extruded at Temperatures between 130-160°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

Catalyst MB dosage is 3 - 5% by weight and blending must be done just before using (2-3 hours max.), preferably in the extruder hopper. Catalyst doesn't need any pre-drying.

In general, it is recommended that this product be processed using a low compression screw with a L/D of 20-24:1. Extrusion temperatures of 120 – 170°C on Zones, 165°C on Neck, 170°C on Crosshead, 175°C on Die are recommended. **Do not dry the compound under any circumstances.**

SPL-ZHFR-EXP-INS-423 XL can be cross-linked by immersion in hot water at a temperature of 85°C for a period of 3-4 hrs approx. This duration can be adjusted depending upon 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 during crosslinking process.

Screw: Recommended ZHFR screw with low compression ratio 1.2 - 1.5:1

Packaging

SPL-ZHFR-EXP-INS-423 XL is available in the form of free-flowing pellets and supplied in bags which will be placed directly on wooden pallet, duly shrink wrapped, completely export worthy. Material will be supplied with net content of 1380 Kgs as under.

44 Bags of **SPL-ZHFR-EXP-INS-423 XL** @ 30 Kgs = 1320 Kgs & 03 Bags of Catalyst MB @ 20 Kgs = 60 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 09 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.

General Information

SPL-ZHFR-EXP-INS-423 XL: The product is supplied in form of pellets of about 2 – 3 mm in size and can be readily handled with commercially available equipment.

The product is intended for industrial use only. A Material Safety Datasheet is available on request.

This information is to the best of our knowledge accurate but all recommendations or suggestions are made without guarantee 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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