



## ELECTROPLAST<sup>®</sup> UNIVERSAL COMPOUNDING LLP

### TECHNICAL DATA SHEET XL-HFFR (EP-18)

#### Description:

**XL-HFFR, EP-18** is a Halogen Free, Flame Retardant, Low smoke, Vinyl Trimethoxy silane and Dycumyl Peroxide crosslinked compound. It is moisture/self-curable by addition of a catalyst master-batch cross-linkable polyolefin. EP-18 is RoHS compliance Compound for **insulation & sheathing of PV/Solar cables**. It has good mechanical & electrical properties. The material contains a metal deactivator, hence suitable for direct insulation on bare copper conductor too.

**Specifications:** EP-18 conforms to BS EN 50618, IS 17293, IEC 62930.

#### Typical Properties after Cross linking and Curing:

Property	Test Method	Unit	Typical Value
Density at 27 <sup>0</sup> C	ASTM D 792	g/cm <sup>3</sup>	1.43
Hardness	ASTM D 2240	Shore D	50
Tensile Strength at break	IEC 60811-1-1	MPa	11.5
Elongation at Break	IEC 60811-1-1	%	260
Variation in Tensile Properties after heat ageing (7 days at 150 <sup>0</sup> C) - Tensile strength - Elongation	IEC 60811-1-2	% %	+10 -15
Variation in Tensile Properties after ageing in air bomb (at 127 <sup>0</sup> C for 40 hrs, 0.55 MPa) - Tensile strength - Elongation	IEC 60811-1-2	% %	+15 -15
Hot Set Elongation, at 250 <sup>0</sup> C for 15 min. at 0.2 N/mm <sup>2</sup> load	IEC 60811-2-1	%	45
Elongation after unloading (P.S)	IEC 60811-2-1	%	Nil
Retention of Tensile Properties after UV- Exposure for 720 Hours Tensile Strength Elongation at break	ASTM G 154	%	88 86
Limiting Oxygen Index	ASTM D 2863	% O <sub>2</sub>	30
Temperature Index	ASTM D 2863	°C	280
Smoke Density Rating	ASTM D 2843	%	6
Halogen Acid Gas Generation	IEC 60754-1	%	Nil
Test on Gases Evolved During Combustion pH.	IEC 60754-2	pH	5.3
Volume Resistivity	ASTM D 257	Ohm-cm	2 x 10 <sup>15</sup>
Pressure Test at 100 <sup>0</sup> C, 4 hrs	IEC 60811-3-1	%	24

All properties have been determined on Extruded tape after Crosslinking and Curing.

**Processing Guidelines:** Recommended low compression ratio 1.2 - 1.5:1 extrusion line. The recommended melt extrusion temperature is 120°C – 150°C. The actual processing condition has to be determined by trial on specific extruder as this may vary depending on the extruder, cross head and tooling used.



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**Pre-Drying:** EP-18 Compounds absorb moisture, which is undesirable to get smooth surface. It is therefore recommended that the compound should be thoroughly dried (preferably by dehumidified hot air) at 70°C – 80°C for 50 – 60 minutes prior to changing in extruder feed.

### Shelf Life/Storage:

EP-18 can be stored for 3 months from the date of manufacturing, without significant deterioration of the quality of material. However, it is recommended to be consumed as soon as possible.

EP-18 is recommended to be stored in a cool, dry & clean environment in unopened original packaging.

### Packaging:

25 Kg packed in **Double Moisture Barrier Multilayer Alu-Myler liner** with PP Woven bag.

### Safety:

**EP-18 is not classified as dangerous preparation.**

The products are supplied in the form of free-flowing granules of approx. 2-3 mm size and can be readily handled with commercially available equipment. Handling and transporting products may generate some dust and fines, which constitute a potential hazard for dust explosion. All metal parts in the system should therefore be properly grounded. Properly designed equipment and good housekeeping will reduce the risk. Inhalation of any type of dust should be avoided as it may cause irritation of the respiratory system. The product is intended for industrial use only. MSDS is available on request.

### Disclaimer:

- The specifications given are the guidelines only.
- The above compound is suitable for running different machines; however, some adjustments may be required on individual machines.
- All properties are tested as per ASTM/IS/IEC standards.
- Any data may change without prior information.
- The customers are advised to check the quality prior to commercial use. There is no guarantee and/or warranty whatsoever, after processing.

