



KLJ POLYMERS & CHEMICALS LIMITED

SIOPLAS CROSSLINKABLE ELASTOMER

KLJ -EPR

Description:

KLJ-EPR is a silane crosslinkable elastomeric compound, curable when exposed to moist conditions. The compound is processed in the same way as a non-curable elastomer having good extrusion properties at high output rates. The graft component KLJ-EPR is to be mixed with a crosslinking catalyst master batch KLJ-XL-MB-01M in the ratio 95:5.

It is highly flexible and enables the production of soft rubber cables without the use of continuous vulcanization equipment.

This material is suitable to be used for cable up to 3KV.

Specifications:

KLJ-EPR Compound meets the following specifications.

- IEC – 60502-2 - EPR
- IS 6380 IE -2
- IS 6380 IE-1

Physical Properties:

Sr. No	Parameter	Unit	Test Method	Spécification IS 6380 IE-1,2	Typical Value
01	Tensile Strength (min.)	Mpa	IS 10810 Part-7	5	19
02	Elongation at break (min.)	%	IS 10810 Part-7	250	487
03	Variation in properties after ageing		@ 135±3 °C for 7 days		
a	Tensile Strength	%	IS 10810 Part-11	±40	-10
b	Elongation at break	%	IS 10810 Part-11	±40	-8.2
04	Hot Set @ 250°C/15 minute 20N/cm ² (max.)	%	IS 18010 Part-30	175	60
05	Permanent Set after cooling (max.)	%	IS 18010 Part-30	15	7
06	Volume Resistivity @ 27°C (min.)	Ohm-cm	IS 3396	1 x 10 ¹²	3.0 x 10 ¹⁶
07	Water absorption (gravimetric @ 85±2°C / 14 days (max.))	Mg/cm ²	IS 7098	5.0	1.00
08	Dielectric strength	Kv/mm	IEC – 60250	-	33
09	Dielectric Constant	-	IEC – 60250	-	1.9
10	Dispersion Factor	-	IEC – 60250	-	0.0003
11	Ozone Resistance	-		Without crack	UT
11	Cold bend test @ -50°C	-	IS 10810 Part-20	No Cra ck	Pass
12	Cold Impact test @ -50°C	-	IS 10810 Part-21	No Cr ack	Pass
13	Cold Elongation test @ -50°C (min.)	%	IS 10810 Pa rt-11	-	UT

Processing Guidelines:

Grafted Polymer mixed with pre-heated Catalyst MB in the ratio 95:5 is to be extruded on PE or PVC extruder having L/D ratio of 22:1 to 26:1.

Typical process parameters are recommended as under:

Zone -1: 130 ± 15°C, Zone-2 : 150 ± 15°C, Zone- 3 : 170 ± 15°C,
Zone-4 : 190 ± 15°C, Zone-5 : 200 ± 15°C, X-Hea d & Die : 205 ± 15°C.

Tube on die extrusion preferable with DDR (Draw Down Ratio) of 2:1 to 3:1

It is recommended to dry the catalyst @ 60°- 80°C for about 1 hour, before mixing with grafted polymer.

Note :- Special catalyst master batch will be available on demand as per below.

1. KLJ-XL-MB-MD For Metal deactivator
2. KLJ-XL-MB-UV For UV resistant
3. KLJ-XL-MB-07 For Thin insulation less than 0.8 mm thickness.

Cross Linking:

The above extruded product can be cross linked by immersion in hot water of 70°C. for 6 – 9 hrs . depending upon the cross-section of cable , reel size , thickness & length of the cable insulation / sheath.

Typical Cross linking data are as under.

	Thickness mm	Curing Hours	Hot Set %	Permanent Set (Max.) %
Tape Sample	1.1	3.0	50 – 70	8
	2.2	3.0	80 – 120	10
Cable Sample	0.9 – 1.4	6.0	100 – 130	9
		9.0	80 – 100	9

Shelf Life/Storage:

KLJ-EPR can be stored for 6 months from date of manufacturing , without significant deterioration of the quality of material. However, it is recommended to be consumed as soon as possible.

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

Packaging:

KLJ-EPR granules are packed in 25 kg bags, which are protected from moisture ingress.

Safety:

KLJ-EPR & KLJ-XL-MB-01N are 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 transport of the 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.
- Above compound is suitable to run on different machines; however some adjustments may be required on individual machine.
- 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 warrantee what so ever, after processing.