

# KLJ-XL (XLPE SIOPLAS COMPOUNDS)

KLJ-XL compounds are a combination of LLDPE base material and catalyst master batch. The base polymer LLDPE is grafted with Vinyl Silane. The process results in moisture / ambient curable polymer having excellent processing characteristics without any volatiles. When properly mixed, addition of 5 parts of corresponding catalyst master batch to 95 parts of grafted polymer, an insulation with excellent thermo-oxidative stability is achieved.

**Application:** Grafted polymer & corresponding catalyst master batch of each grade is designed for insulation of low voltage (up to 6 kVA) / medium voltage (up to 33kVA) application and power cables.

**Specifications:** Grafted polymer in combination with corresponding catalyst master batch meets the following specifications, when processed using sound extrusion practice and testing procedures.

**IEC – 60502, IS-7098 (Part-I & II), IS 3396**

SPECIFICATION	UNIT	TEST METHOD	LOW VOLTAGE	LOW VOLTAGE	MEDIUM VOLTAGE	MEDIUM VOLTAGE	FR SIOPLAS
CHARACTERISTICS			KLJ-XL-01	KLJ-XL-01 AC*	KLJ-XL-11	KLJ-XL-33	KLJ-XL FR
<b>PHYSICAL PROPERTIES</b>							
Tensile Strength (Min.)	Mpa	IS 10810 Part 7/IEC 60502	12.5	12.5	12.5	12.5	12.5
Elongation at Break (Min.)	%	IS 10810 Part 7/IEC 60502	200	200	200	200	200
Variation in Tensile Strength after ageing at 135±3 °C for 7 days	%	IS 10810 Part 11 / IEC 60502	± 25	± 25	± 25	± 25	± 25
Variation in Elongation at Break after ageing at 135±3 °C for 7 days	%	IS 10810 Part 11 / IEC 60502	± 25	± 25	± 25	± 25	± 25
Hot Set Test at 200°C for 15 minutes at 20N/cm <sup>2</sup>							
Elongation under Load (Max.)	%	IS 10810 Part 30 / IEC 60502	175	175	175	175	175
Permanent Deformation (Max.)	%	IS 10810 Part 30 / IEC 60502	15	15	15	15	15
Shrinkage at 130±3°C for 1 hour (Max.)	%	IS 7098	4	4	4	4	4
Water absorption (gravimetric at 85±2°C for 14 days (Max.)	mg/cm <sup>2</sup>	IS 7098	1	1	1	1	1
<b>ELECTRICAL PROPERTIES</b>							
Volume Resistivity at 27°C (Min.)	Ω-cm	IS 3396	1 x 10 <sup>14</sup>	1 x 10 <sup>14</sup>	1 x 10 <sup>14</sup>	1 x 10 <sup>14</sup>	1 x 10 <sup>14</sup>
Moisture Content (Max.)	ppm	ASTM D-1045	600	600	400	400	400
Cold Bend Test at -30°C	—	IS 10810 Part 20	No Crack	No Crack	No Crack	No Crack	No Crack
Cold Impact Test at -30°C	—	IS 10810 Part 21	No Crack	No Crack	No Crack	No Crack	No Crack
Cold Elongation Test at -30°C (Min.)	%	IS 10810 Part 11	300	300	300	300	300
Dielectric Constant (50 Hz) (Max.)	—	IEC 60250	—	—	2.2	2.2	2.2
Dissipation Factor (50 Hz) (Max.)	—	IEC 60250	—	—	0.004	0.004	0.004
Dielectric Strength (Min.)	KV/mm	IEC 60243	—	—	22	22	22
Limiting Oxygen Index (Min.)	%	ASTM D-2863	—	—	—	—	24
Flammability Test	—	UL 94	—	—	—	—	V0