KLJ GROUP

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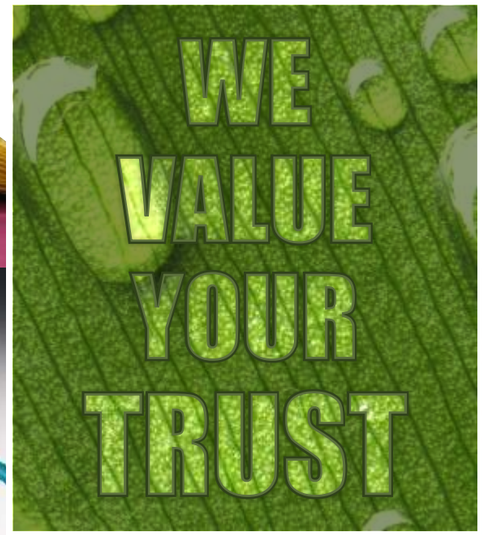
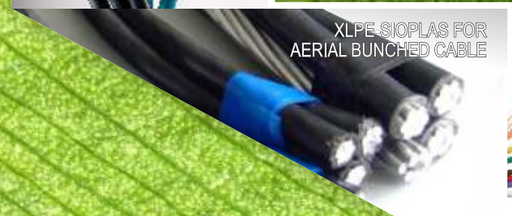




... sustaining life with material footprints

TOTAL SOLUTIONS FOR WIRE & CABLE INDUSTRY

World class plants strategically located in India & South East Asia with installed Capacity of over 300,000 tpa & expanding

One Stop Total Solutions provider for all the Plasticizer needs.

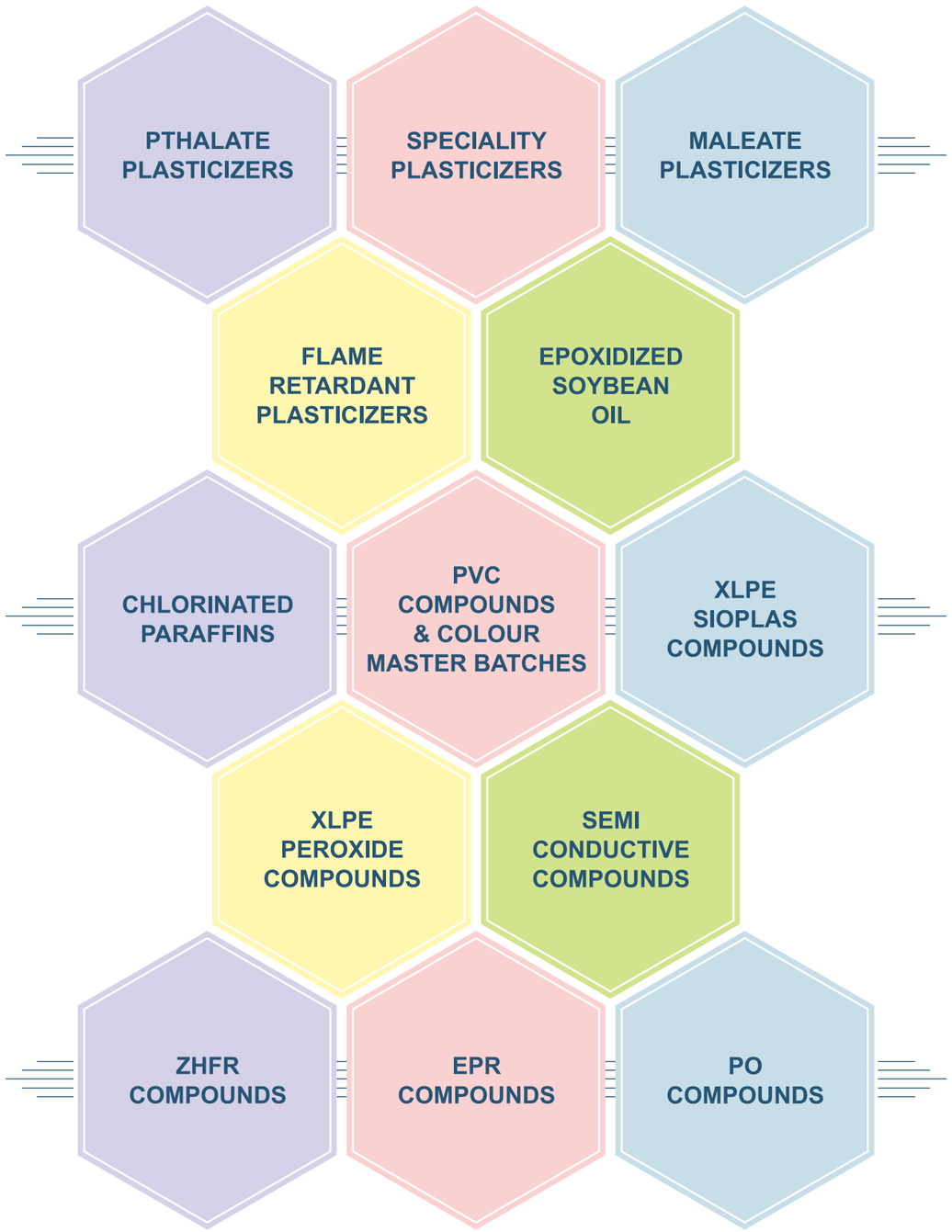
COMPLETE RANGE OF PLASTICIZERS

Phthalate | Adipate | Trimellitate | Citrate | Stearate | Benzoate | Sebacate | Maleate | Phosphate | ESBO | Chlorinated Paraffins

KLJ

Trust Built on Performance

TOTAL SOLUTIONS FOR WIRE & CABLE INDUSTRY



PRIMARY PLASTICIZERS

PROPERTIES \ GRADE	UNIT	TEST METHOD	✦ KANATOL 1212	✦ KANATOL 1210	KANATOL 1001	KANATOL 1010	● KANATOL 900	KANATOL 800	KANATOL 1056	● KANATOL 8A	✦ KANATOL TM 8-10 (L)	KANATOL 3800	✦ KANATOL HT 9	KANATOL 40 S	KANATOL 8 S	✦● KANATOL 8080 FG
			DI-DO-DECYL PHTHALATE	DI-UN-DECYL PHTHALATE	DI-ISO-DECYL PHTHALATE	BIS-2 PROPYL HEPTYL PHTHALATE	DI-ISO-NONYL PHTHALATE	DI-2-ETHYL HEXYL PHTHALATE		DI-OCTYL ADIPATE	TRI-OCTYL DECYL TRI-MELLITATE (LINEAR)	TRI-OCTYL TRI MELLITATE		N-BUTYL STEARATE	DI-OCTYL SEBACATE	BIS-2 ETHYL HEXYL 1.4 BENZENE DI-CARBOXYLATE
Appearance		Visual	Water White Clear Liquid													
Colour (Max.)	Hazen	ASTM-D-1045-08	40	50	20	20	20	20	20	30	100	50	40	60	40	20
Specific Gravity at 27°C	N/A	ASTM-D-1045-08	0.942 ± 0.003	0.952 ± 0.003	0.963 ± 0.003	0.961 ± 0.003	0.973 ± 0.003	0.983 ± 0.003	0.983 ± 0.003	0.923 ± 0.003	0.997 ± 0.003	0.989 ± 0.003	0.969 ± 0.003	0.857 ± 0.003	0.913 ± 0.003	0.983 ± 0.003
Refractive Index at 27°C	N/A	ASTM-D-1045-08	1.480 ± 0.003	1.482 ± 0.003	1.485 ± 0.003	1.485 ± 0.003	1.486 ± 0.003	1.486 ± 0.003	1.486 ± 0.003	1.447 ± 0.003	1.487 ± 0.003	1.487 ± 0.003	1.488 ± 0.003	1.447 ± 0.003	1.450 ± 0.003	1.487 ± 0.003
Volatile Loss at 130°C for 3 Hrs. (Max.)	% By Mass	KLJ TM-P-11-92	0.10	0.10	0.10	0.10	0.10	0.10	0.15	0.10	0.10	0.10	0.10	0.20 (110°C for 2 Hrs.)	0.20	0.10
Moisture Content (Max.)	% By Mass	ASTM-E-203-08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Acidity as Acid (Max.)	% By Mass	ASTM-D-1045-08	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.15 (AV)	0.02	0.02	0.01
Acidity after heat treatment at 180°C for 2 Hours (Max.)	% By Mass	ISI-9591-03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.02	0.05	0.05 (AV)	N. A.	0.03	0.03
Heat Stability at 180°C for 2 Hrs.	Colour	ISI-9591-03	No Change	No Change	No Change	No Change	No Change	No Change	No Change	40 Hu.	No Change	65 Hu.	No Change	–	No Change	No Change
Heat Stability at 150°C for 2 Hrs.	Colour	ISI-9591-03	–	–	–	–	–	–	–	–	–	–	–	No Change		
Ester Value	mg KOH/gm	ASTM-D-1045-08	223 ± 3	236 ± 3	251 ± 3	251 ± 3	267 ± 3	287 ± 3	287 ± 3	303 ± 3	277 ± 3	306 ± 3	271 ± 3	172 ± 5	263 ± 3	287 ± 3
Ester Content (Min.)	% By Weight	ASTM-D-1045-08	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99	99	99.5	99	99.5	99.5
Plasticizing Esters By GLC (Min.)	% By Area	KLJ TM-P-12-98	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99	99	99.5	99	99.5	99.5
Viscosity at 20°C	cPs	KLJ TM-P-13-97	N. A.	118 - 124	105 - 111	117 - 123	76 - 82	79 - 85	71 - 77	12-18 (at 25°C)	107 - 113	271 - 277	–	8 - 14 (at 25°C)	58 - 64	60 - 66
Boiling Point at Atmospheric Pressure	°C	IS-5298-05	N. A.	N. A.	400°C	251- 254°C at 7 mmHg	250°C at 7 mbar	231°C at 7 mbar	N. A.	335°C	–	283°C at 13.2 mbar	–	343°C	248°C at 5 mmHg	400°C
Residual/Free Alcohol (Max.)	% By Area	KLJ TM-P-12-98	0.20	0.20	0.10	0.10	0.10	0.10	0.10	–	–	–	–	–	–	–
REACh Compliance	Y/N		Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	N. A.	Yes	Yes	Yes	Yes

SECONDARY PLASTICIZERS

KANACHLOR CHLORINATED PARAFFIN

SPECIFICATION \ GRADE	UNIT	TEST METHOD	42 WAX	42 WH	45 D/AD/ AI/AD1	✦ 45 KL-10	52 D/AD/ AI/AD1	52 KD-5	62 D/AD AI/AD1	62 KD-5
Colour (Max.)	Hazen	ASTM D-1045-86	60	300	60	60	60	150	60	150
Specific Gravity at 27°C	N/A	ASTM D-1045	1.20 ± 0.02	1.18 ± 0.02	1.20 ± 0.02	1.21 ± 0.02	1.28 ± 0.02	1.28 ± 0.02	1.40 ± 0.03	1.40 ± 0.03
Refractive Index at 27°C	N/A	ASTM D-1807	1.506 ± 0.002	1.503 ± 0.002	1.498 ± 0.002	1.505 ± 0.002	1.509 ± 0.002	1.510 ± 0.002	1.526 ± 0.003	1.525 ± 0.003
Volatile Loss at 180°C for 4 Hours (Max.)	% By Weight	KLJ/QCD/ WIN/26	0.80	2.50	3.00	1.50	1.50	4.00	0.90	3.00
Chlorine Content	% By Weight	ISI-1448-77	42 ± 2	42 ± 2	45 ± 2	45 ± 2	52 ± 2	52 ± 2	62 ± 2	62 ± 2
Free Mineral Acidity (Max.)	% By Weight	KLJ/QCD/ WIN/24	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Free Chlorine (Max.)	% By Weight	KLJ/QCD/ WIN/25	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Viscosity at 27°C	Poise	Brookfield ASTM D-445	50 - 100	15 - 50	2 - 5	15 - 30	12 - 35	10 - 25	400 - 1200	300-700
Heat Stability at 180°C for 20 Minutes (Max.)	Colour	KLJ/QCD/ WIN/28	Yellow	Brown	Yellow	Yellow	Yellow	Brown	Yellow	Brown
Thermal Stability at 175°C for 4 Hours (Max.)	% By Weight	KLJ/QCD/ WIN/27	0.10	0.40	0.10	0.10	0.10	0.20	0.10	0.20
pH Value (Min.)	–	KLJ/QCD/ WIN/29	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0

EPOXIDIZED SOYBEAN OIL

PROPERTIES \ GRADE	UNIT	TEST METHOD	✦ KANAMOLL 620	✦ KANAMOLL 650
			ESBO 6.2	ESBO 6.5
Appearance		Visual	Pale Yellow Clear Liquid	
Colour (Max.)	Hazen	ASTM D-1045-08	150	150
Specific Gravity at 27°C	N/A	ASTM D-1045-08	0.996 ± 0.003	0.996 ± 0.003
Moisture Content (Max.)	% By Mass	ASTM E-203-08	0.10	0.10
Acid Value (Max.)	% By Mass	ASTM D-1045-08	1.0 ± 0.2	0.8 ± 0.2
Ester Value	mg KOH/gm	ASTM D-1045-08	1.0 ± 0.2	0.8 ± 0.2
Oxirane Value (Min.)		HBR Method	6.2 ± 0.1	6.5 ± 0.1
Iodine Value (Max.)		Wij's Method	5	3
REACh Compliance	Y/N		Yes	Yes

✦ **New Launch**

Note: Specific grades of CPW can be made on request.
The above list contains only a few representative grades out of a comprehensive list of regular grades available.
Also available full range of Phosphate Esters (Flame Retardant Plasticizers)
RoHS: All the above products are complying to RoHS requirements.

The above properties are indicative and represent the values as tested in our laboratories. There is no guarantee / warranty whatsoever. Suitability of the product for particular application may be verified before use.

Pioneer in Polymer Compounding with an Installed Capacity of over 100,000 tpa & expanding

High Capacity Automated Plants to ensure Consistent Quality

PRODUCT RANGE OF COMPOUNDS

PVC | Sioplas | Peroxide | Semi-Conductive | EPR | ZHFR | PO | PP | TPR | TPE | EVA | Colour/Performance Master Batch

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Trust Built on Performance

KLJ-VINYL (PVC COMPOUNDS)

KLJ offers PVC Compound for wire & cable industries for both insulation & sheathing applications. The products conform to the following quality guidelines & standards.
IS:5831:1984, BS:7655, IS:694, BIS, ASTM & RDSO.

PROPERTIES	SPECIFIC GRAVITY	HARDNESS SHORE-A	THERMAL STABILITY AT 200 °C (MIN.)	BEFORE AGEING		AGEING CONDITIONS		VARIATION AFTER AGEING			VOLUME RESISTIVITY AT 27 °C	VOLATILE LOSS AT 130 °C FOR 3 HRS	APPLICATION
				TENSILE STRENGTH	ELONGATION AT BREAK	TEMP.	TIME	TENSILE STRENGTH	ELONGATION AT BREAK	LOSS OF MASS			
UNIT	–	Nos.	Minutes	N/mm² (Min.)	% (Min.)	°C	Days	%	%	mg/cm² (Max.)	Ω-cm (Min.)	% (Max.)	
TEST METHOD / GRADE	ASTM D-792	ASTM D-2240	IS 5831	IS 10810 (Part 7)		IS 10810 (Part 11)		IS 10810 (Part 11)		IS 10810 (Part 10)	IS 3396 (Part 10)	KPCL/QCD WIN-2	
KLJ-01	1.37 ± 0.02	95 ± 2	100	12.5	135	100	7	± 25	± 25	2	1×10^{14}	0.6	Type-B Insulation above 3.3 KV for Rly. Signalling/Jumper wire
CG-B3S M	1.38 ± 0.02	95 ± 2	100	12.5	135	100	7	± 25	± 25	2	1×10^{15}	0.6	Type-B Insulation for Rly. Signalling/Telecommunication wire
KLJ-22	1.32 ± 0.02	90 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	0.6	Type-A GP Insulation upto 1.1KV for Fast Extrusion
KLJ-19	1.31 ± 0.02	90 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	0.6	Skin of house wire for high speed line insulation upto 700m/min.
KLJ-20	1.43 ± 0.02	91 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	0.6	Type-A GP Insulation
KLJ-21ND/ KLJ-21ND LF	1.45 ± 0.02	91 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	0.6	Type-A GP Insulation
KLJ-48 LF	1.48 ± 0.02	94 ± 2	80	12.5	150	80	7	± 20	± 20	2	5×10^{13}	0.6	Type-A GP Insulation
KLJ-48 HD	1.52 ± 0.02	93 ± 2	80	12.5	150	80	7	± 20	± 20	2	5×10^{13}	0.6	Type-A GP Insulation
CG-86T	1.46 ± 0.02	84 ± 2	60	12.5	150	80	7	± 20	± 20	2	N.A.	0.7	ST-1 GP Sheathing
KLJ-34	1.45 ± 0.02	84 ± 2	60	12.5	150	80	7	± 20	± 20	2	N.A.	0.7	ST-1 GP Sheathing
KLJ-06 RC	1.47 ± 0.02	93 ± 2	80	12.5	150	100	7	± 25	± 25	2	N.A.	0.7	ST-2 GP Sheathing
KLJ-04 HM	1.55 ± 0.03	93 ± 2	80	12.5	150	100	7	± 20	± 20	2	5×10^{13}	0.7	Type- A/ST-2 GP
KLJ-05 H	1.52 ± 0.02	94 ± 2	80	12.5	150	100	7	± 25	± 25	2	–	0.7	ST-2 for Power Cable
KLJ-06 M	1.52 ± 0.03	90 ± 2	80	12.5	150	80	7	± 20	± 20	2	–	1.5	GP House Wire
CG-17	1.53 ± 0.02	89 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	1.5	GP House Wire
CG-18	1.50 ± 0.02	88 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	1.5	GP House Wire
KLJ-09C	1.32 ± 0.02	94 ± 2	100	12.5	125	135	7	± 25	± 35	-	1×10^{13}	0.6	Type-C Heat Resistant upto 105°C
KLJ-11	1.36 ± 0.02	95 ± 2	100	12.5	125	135	7	± 25	± 35	-	1×10^{13}	0.6	Type-C Heat Resistant upto 85°C
KLJ-40	1.43 ± 0.02	82 ± 2	80	10	150	80	7	± 20	± 20	2	1×10^{12}	0.6	ST-1 Soft Sheathing
KLJ-04 FR**	1.50 ± 0.02	90 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	0.6	Type-A / ST-1 FR Insulation
KLJ-92FR**	1.52 ± 0.02	96 ± 2	80	12.5	150	100	7	± 25	± 25	2	–	0.6	ST-2 FR Sheathing
KLJ-FRLS** @@#	1.56 ± 0.02	96 ± 2	80	12.5	150	100	7	± 25	± 25	2	1×10^{13}	0.6	ST-2 Flame Retardant & Low Smoke Sheathing
KLJ-FRLS HS** @@#	1.56 ± 0.02	96 ± 2	80	12.5	150	100	7	± 25	± 25	2	1×10^{13}	0.6	ST-2/Type-A Flame Retardant & Low Smoke Sheathing
KLJ-FRLS M1** @@#	1.56 ± 0.02	96 ± 2	80	12.5	150	100	7	± 25	± 25	2	1×10^{13}	0.6	ST-2 Flame Retardant & Low Smoke Sheathing
SPECIAL COMPOUNDS													
KLJ-AYI2-LFM	1.37 ± 0.02	96 ± 2	130	20	200	100	7	± 10	± 10	2	5×10^{13}	0.6	ST-2 AVSS Wire Harnessing and Automobile Cable
KLJ-HRFRLF **	1.41 ± 0.02	95 ± 2	100	16	225	100	7	± 20	± 20	2	5×10^{13}	0.6	ST-2 HR FR Sheathing
KLJ-TI-3-I	1.32 ± 0.02	80 ± 2	240	15	150	135	14	± 25	± 25	1.5	1×10^{13}	0.5	High Temperature Insulation Type-TI3
KLJ-TI-3-II	1.32 ± 0.02	95 ± 2	240	15	150	135	14	± 25	± 25	1.5	1×10^{13}	0.5	High Temperature Insulation Type-TI3
KLJ-LT-30	1.30 ± 0.02	92 ± 2	-	10	150	80	7	± 20	± 20	2	1×10^{13}	0.6	(- 30°C) application Type-TI5
KLJ-LT-40	1.32 ± 0.02	90 ± 2	-	12.5	125	80	7	± 20	± 20	2	N.A	0.6	(- 40°C) application Type-TI4
KLJ-LT-55	1.27 ± 0.02	73 ± 2	-	12.5	125	80	7	± 20	± 20	2	N.A	0.6	(- 55°C) application
KLJ-86 VG	1.34 ± 0.02	90 ± 2	80	12.5	150	80	7	± 20	± 20	2	1×10^{13}	0.6	Type-A Skinning compound

Remark: Anti-Rhodent/Anti-Termite grades are also available.
Smoke Density Rating 60% max, **** Halogen Acid Gas Emission - 20% Max., @@Temp. Index - 300°C Min., ** LOI-29% Min., G.P-General Purpose.
The above properties are indicative and represent the values as tested in our laboratories. There is no guarantee / warranty whatsoever.
Suitability of the product for particular application may be verified before use.

The specifications given are the guidelines only. Above compound are suitable to run on different machines; however some adjustments may be needed on individual machine. There is no guarantee and or warranty whatsoever. The customers are advised to check the grade suitability for their application, prior to commercial use. Any data may change without prior information and do not constitute the agreed quality of our product.

COLOUR MASTER BATCHES FOR CABLE COMPOUNDS

KLJ offers wide range of Colour Master Batches in PVC, PE and EVA base as well as Universal range of Colour Master Batch. The range of color master batch meets various national/international requirements of cable industry.

KLJ-VMB | VINYL MASTER BATCH
FOR PVC COMPOUNDS

KLJ-UMB | UNIVERSAL MASTER BATCH
FOR SIOPLAS & PVC COMPOUNDS

KLJ-PMB | PE MASTER BATCH
FOR SIOPLAS COMPOUNDS

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 / CHARACTERISTICS	UNIT	TEST METHOD	LOW VOLTAGE	LOW VOLTAGE	MEDIUM VOLTAGE	MEDIUM VOLTAGE	FR SIOPLAS
			KLJ-XL-01	KLJ-XL-01 AC*	KLJ-XL-11	KLJ-XL-33	KLJ-XL FR
PHYSICAL PROPERTIES							
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/cm²							
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/cm²	IS 7098	1	1	1	1	1
ELECTRICAL PROPERTIES							
Volume Resistivity at 27°C (Min.)	Ω-cm	IS 3396	1×10^{14}	1×10^{14}	1×10^{14}	1×10^{14}	1×10^{14}
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

KLJ-PX (PEROXIDE BASED XLPE COMPOUNDS)

Description: KLJ-PX-11 & 33 is based on Low Density, Cross Linkable Poly-Ethylene Compound for Continuous Vulcanization process to produce medium and high voltage power cable up to 33 KV.

Specifications: KLJ-PX-11 & 33 Compound meets the following specifications, when processed using sound extrusion and testing processes.

IEC – 60502/ 60840.,HD-620-S1 ,IS-7098 (Part-II)

PHYSICAL PROPERTIES (TYPICAL)

PARAMETER	UNIT	TEST METHOD	SPECIFICATION	KLJ PX 11	KLJ PX 33
Density	g/cm³	ASTM D - 792	—	0.922	0.922
Tensile Strength (Min.)	Mpa	IS 10810 Part-7	12.5	15 -18	15 -18
Elongation at Break (Min.)	%	IS 10810 Part-7	200	400	400
Variation in properties after ageing at 135±3 °C for 7 days					
Tensile Strength	%	IS 10810 Part-11	±25	< 20	< 20
Elongation at Break	%	IS 10810 Part-11	±25	< 20	< 20
Hot Set at 200°C, 20N/cm² (Max.) On moulded sheet at180°C for 20 minutes	%	IS 10810 Part-30	175	65	65
Permanent Set after cooling (Max.)	%	IS 10810 Part-30	15	5	5
DC Volume Resistivity @ 25°C (Min.)	Ω-cm	IS-3396	1×10^{14}	1×10^{16}	1×10^{16}
Moisture Content (Max.)	ppm	ASTM D-1045	—	200	200
Dielectric Constant at 25°C (Max.)	—	IEC-60250	2.3	2.2	2.2
Dissipation Factor at 25°C (Max.)	—	IEC-60250	0.0004	0.0004	0.0004
Dielectric Strength (Min.)	KV/mm	IEC-60243	22	25	25
Impuriy Diameter					
0.175 – 0.250	mm		⩽5	—	2
>250	mm		0	—	0

Pioneer in Polymer Compounding with an Installed Capacity of over 100,000 tpa & expanding

High Capacity Automated Plants to ensure Consistent Quality

PRODUCT RANGE OF COMPOUNDS

PVC | Sioplas | Peroxide | Semi-Conductive | EPR | ZHFR | PO | PP | TPR | TPE | EVA | Colour/Performance Master Batch

Trust Built on Performance

KLJ-SC (SEMI-CONDUCTING COMPOUND)

Description: KLJ SC XL 500 is a Semi Conducting Thermoplastic Bonded Compound for Sioplas application having excellent heat deformation resistant characteristics and specially designed for use as a thermoplastic conductor and insulation shield. Further the material has superior thermal stress crack resistance, toughness to avoid sticking of cable layers at the time of curing. It is also easy to process and has low volume resistivity..

KLJ SC PX 535 is a Semi Conducting Bonded Cross-Linkable conductor shielding & insulation shielding compound for medium voltage power cables for CCV Lines. Further the material has very high resistance to scorch. It is easy to process and has low volume resistivity.

KLJ SC PX 835 is a Semi Conducting Cross-Linkable insulation shielding strippable compound for Medium Voltage Power Cables for CCV Lines. Further the material has very high resistance to scorch. It is easy to process and has low volume resistivity.

Specifications: KLJ- SC meets the requirement of: • ICEA S-66-524/NEMA WC7, • BS 6622, • IEC 60502, • IEC 60840

PHYSICAL PROPERTIES

PARAMETER	UNIT	TEST METHOD	KLJ SC XL 500	KLJ SC PX 535 BONDED	KLJ SC PX 835 STRIPPABLE
Melt Flow Index 190°C, 21.6 kg	g/10 min	ASTM D-1238	30	NA	NA
Density at 27°C	g/cm^3	ASTM D-1505	1.10	1.10	1.15
Tensile Strength (Min.)	Mpa	ASTM D-638	11	18	15
Elongation (Min.)	%	ASTM D-638	300	200	270
Variation in Tensile Strength after ageing for 168 hrs. at 121°C	%	ASTM D-638	< 25	< 25	< 25
Shore D Hardness	Sh-D	ASTM D-2240	54	—	—
DC Volume Resistivity					
at 23 °C	Ω-cm	ASTM D-257	< 50	< 100	< 100
at 90 °C	Ω-cm	ASTM D-257	< 200	< 1500	< 1000
Hot Set @ 200°C, 20N/cm^2 (Max.)	%	IS 18010 Part-30	—	50	100
Permanent Set after cooling (Max.)	%	IS 18010 Part-30	—	5	5
Stripping Force	N/cm	—	—	—	10 – 45

Application: Semiconducting KLJ-SC XL 500 has been designed to meet the conductivity and bondability requirements of both conductor and insulation shield for medium voltage cables.Cables manufactured with KLJ-XL SEM 500 conductor and insulation shields are rated for 90 °C continuous service and 130 °C overload temperature.

KLJ-SC PX 535 has been designed to Semiconducting cross-linkable insulation shielding Bonded compound.

KLJ-SC PX 835 has been designed to Semiconducting cross-linkable insulation shielding strippable compound.

KLJ-ZHFR (ZHFR COMPOUND)

Thermoplastic Zero Halogen Flame Retardant Compound for cable grades.

ZHFR compound is based on thermoplastic compound containing a flame retardant system and self extinguishable properties. Compound does not emit halogen acid and produce very low toxic and corrosive gases as well as low smoke under fire condition. ZHFR compounds are used for both insulation application & sheathing application in cable industries.

Specification : The cable made by the above grades meets the following standard specifications.

Cable made by KLJ ZHFR 323	**Cable made by KLJ ZHFR 3220**
BS EN :- 50363 Type TI6 & TI7	BS EN - 50363 Type TM7
VDE 0270/24 VDE 0207/23 HJ1	VDE 0270/24 Hm2, HM4 VDE 0207/23 HJ2
BS 7211	BS 7655 LTS2, IEC 600092 SHF1

PHYSICAL PROPERTIES

PARAMETERS	UNIT	TEST METHOD	KLJ ZHFR 323	KLJ ZHFR 3220
Density	g/cm^3	ASTM-D-792	1.45 ± 0.02	1.45 ± 0.02
Hardness	Sh-D	ASTM-D-2240	47 ± 2	47 ± 2
Tensile Strength (Min.)	Mpa	IEC-811-1-1	12	10.5
Elongation at Break (Min.)	%	IEC-811-1-1	220	200
After Ageing in Air at 100°C for 168 Hrs.				
Tensile Strength (Min.)	Mpa	IEC-811-1-2		
Variation in Tensile Strength	%	IEC-811-1-2	± 20	± 20
Elongation at Break (Min.)	%	IEC-811-1-2		
Variation in Elongation at Break	%	IEC-811-1-2	± 20	± 20
Oxygen Index (Min.)	%	ASTM D-2863	30.5	30.5
Smoke Density Rating (Max.)	%	ASTM D-2843	20	20
Pressure Test at 80°C Indentation (Max.)	Mpa	IEC 811-3-1	35	35
Acid Gas Emission Test (% HCL Emission) (Max.)	%	IEC-60754 Part-1	0.30	0.30

Note: Processing Guidelines, Packaging Details, MSDS and any further details can be provided upon request.

KLJ-EPR (SIOPLAS CROSS-LINKABLE ELASTOMERIC COMPOUNDS)

Description: KLJ-EPR is a silane cross-Linkable 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 Cross-Linking 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 11KV.

Specifications: KLJ EPR meets the following specifications.

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

PHYSICAL PROPERTIES

PARAMETER	UNIT	TEST METHOD	SPECIFICATION IS 6380 IE1, IE2	TYPICAL VALUE
Tensile Strength (Min.)	Mpa	IS 10810 Part-7	5	19
Elongation at Break (Min.)	%	IS 10810 Part-7	250	487
Variation in properties after ageing at 135 ± 3 °C for 7 days				
Tensile Strength (Max.)	%	IS 10810 Part-11	± 40	- 10
Elongation at Break (Max.)	%	IS 10810 Part-11	± 40	- 8.2
Hot Set at 250°C for 15 minute 20N/cm^2 (Max.)	%	IS 10810 Part-30	175	60
Permanent Set after cooling (Max.)	%	IS 10810 Part-30	15	7
Volume Resistivity at 27°C (Min.)	Ω-cm	IS 3396	1 x 10^{12}	3.0 x 10^{16}
Water absorption (gravimetric at 85 ± 2°C for 14 days) (Max.)	mg/cm^2	IS 7098	5	1
Dielectric Strength	KV/mm	IEC – 60250	—	33
Dielectric Constant	—	IEC – 60250	—	1.9
Dissipation Factor	—	IEC – 60250	—	0.0003
Ozone Resistance	—	IEC – 60811-2-1	No Crack	Pass
Cold Bend Test at -50°C	—	IS 10810 Part-20	No Crack	Pass
Cold Impact Test at -50°C	—	IS 10810 Part-21	No Crack	Pass
Cold Elongation Test at -50°C (Min.)	%	IS 10810 Part-11	—	> 20

KLJ-PO (MDPE COMPOUNDS)

Description: KLJ-MDPE is a natural , colourable medium density compound. It is characterized by good heat deformation properties. Its melt temperatureb is above 120°C . it has good abrasion resistance , low water permeability and low coefficient of friction. It is well suited for insulation and cable jacketing of power cables . It can resist severe laying conditions.

Specifications: KLJ-MDPE Compound meets the following specifications.

IEC – 60502, ST-7, IEC -60840 ST-7, BS 6234 : Type 03

PHYSICAL PROPERTIES

PARAMETER	UNIT	TEST METHOD	SPECIFICATION | IEC 60502 ST7	TYPICAL VALUE
Melt Flow Index. 190°C/2.16kg load	g/10 min.	ASTM D-1238	—	0.76
Density	g/cm^3	ASTM D-792	—	0.94
Tensile Strength (Min.)	Mpa	IS 10810 Part-7	12.5	25
Elongation at Break (Min.)	%	IS 10810 Part-7	300	766
Variation in properties after ageing at 110 ± 3 °C for 14 days				
Tensile Strength	%	IS 10810 Part-11	—	15
Elongation at Break	%	IS 10810 Part-11	300	400
Volume Resistivity at 27°C (Min.)	Ω-cm	IS 3396	1 x 10^{16}	2 x 10^{16}
Shrinkage at 80 ± 3°C/5 hours (Max.)	%	IS 7098	3	1
Dielectric Constant (Max.)	—	IEC-60250	—	2
Dissipation Factor (Max.)	—	IEC-60250	—	0.0003
Dielectric Strength (Min.)	V/mil	IEC-60243	—	812
Durometer Hardness	Sh-D	ASTM D-2240	—	58

Note: Processing Guidelines, Packaging Details, MSDS and any further details can be provided upon request.