



KLJ GROUP

# PE COMPOUND



October 2020, Ed1

## TECHNICAL INFORMATION KLJ LLDPE BK

### LINEAR LOW DENSITY POLYETHYLENE FOR SHEATH

#### Description:

KLJ LLDPE BK is a black, Linear low Density Polyethylene compound with excellent melt strength and extrudability as well with excellent mechanical and heat deformation properties. KLJ LLDPE BK has excellent stress crack resistance properties. It contains 2.5% well dispersed; fine particle size carbon black to ensure excellent weathering resistance.

#### Application:

KLJ LLDPE BK is recommended for sheathing of communication and power cables. It has very good low shrink-back property. The important property for sheathing application is low shrink-back and wide processing window which are met by this compound.

#### Specification:

KLJ LLDPE BK meets the applicable requirements as below when processed using sound extrusion and testing procedure:

IEC 60502 Part II, ST-3,ST-7.

The standards referred to above is a short selection of standards and does not cover all applicable standards. Contact your KLJ representative for additional information.

#### Technical Characteristics:

Properties	Unit	Test Method	Specification	Typical Value
<b>Physical Properties</b>				
Density, Compound	gm/cm <sup>3</sup>	ISO 1183-D	0.930±0.005	0.930
Melt Flow Index (190°C, 2.16 kg Load)	gm/10min	ISO 1133	≥1.0	0.8
Hardness Sh-D @25 °C	Shore	ASTM-D-2240	55±3	55
Tensile Strength at Break	MPa	ASTM D 638	≥ 20	27
Elongation at Break	%	ISO 527	≥ 600	700
Water Content	%	ISO 15512	≤ 0.05	0.01



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After ageing in air oven( 110°C/336hrs)

Variation in Elongation at Break	%	ASTM D 638	≥ 300	450
Carbon Content	%	ASTM D 1603	2.5±0.5	2.4
Carbon Black Dispersion	Rating	ISO 18553		0.5
ESCR @50°C (F <sub>50</sub> , 10% Igepal Co-630)	Hrs	ASTM D 1693	≥ 500	≥ 500
Pressure Test at high Temperature (115°C/6hrs)	%	IEC 60811-3-1	<10	7
Shrink Back	%	ASTM D 4565	≤3.0	2

## Electrical Properties

Volume Resistivity	Ohm-cm	ASTM D 257	≥ 10 <sup>16</sup>	2X 10 <sup>16</sup>
Dielectric Constant		IEC 60250	Max 2.3	2.18
Dissipation Factor		IEC 60250		0.0009
Dielectric withstand (1000 V/Sec. rise @+25 °C)	KV/mm	ASTM D 149	≥ 22	30

*\*The typical values reported in the above table have been obtained from measurements made on extruded samples or pressed plates.*

## Processing Guidelines:

The compound is sensitive to moisture; as very less percentage of moisture can also result in a poor surface. To mitigate this, this compound is produced using sound production and packing processes. Storage for long time or under unfavorable condition can increase the moisture content. We therefore recommend pre-drying at 90°C before use.

For extrusion, standard PE screw are recommended, however PVC extruders can also be used with good results. To minimize shrink back gradient cooling with hot water, minimum 60°C in the first part of cooling trough, is recommended.

Suggested melt temperature is approximately 180 -190°C depended on construction and line speed.

## Storage:

- KLJ LLDPE BK can be stored for 365 days from date of manufacturing. Shelf life is subject to storage in original intact packing, in cool and dry place, away from sunlight and weathering, storage temperature not generally exceeding 30°C, in intact packing.

## Packaging: /.,M.,,

### KLJ LLDPE BK

Form: Granules.

Package: 25 kg woven sack bag and 550 kg Octabin/Jumbo bags with PE liner Top & Bottom discharge as required by the customer.



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### Safety:

This compound is not classified as dangerous preparation.

The product is 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.

For technical service & further information and assistance:

KLJ POLYMERS & CHEMICALS LIMITED UNIT-II

Head Office:- KLJ HOUSE 63, Rama Marg, Najafgarh Road,  
New Delhi – 110 015 (INDIA)

Tel: +91-11-41427429, 25459706-08

Fax: +91-11-25910215, 25459709

E-mail: [cable@kljindia.com](mailto:cable@kljindia.com)

Disclaimer: The data given above are for the guidelines purpose 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.