

# js-link KDC-950 NATURAL

## THE MOISTURE CURABLE CROSSLINKABLE POLYETHYLENE COMPOUND (XLPE)

**js-link KDC-950** is “Sioplas” moisture curable crosslinkable polyethylene compound natural which is a silane system developed for use in low voltage power cable insulation and control cable application with range of 600 volt and up to 6 kv.

The crosslinking is activated in the presence of moisture.

All components exist within the compound as a one pack system and no premixing or no preheating is required.

### Physical and Electrical Properties

Meet to the following standards VDE 0207, VDE 0272, VDE0472, IEC 502, BS 6899

| Test  | Dimension           | Requirement                | Test value          |
|---|---------------------|----------------------------|---------------------|
| 1) Tensile strength before aging  | N / mm <sup>2</sup> | > 12.5                     | 19                  |
| 2) Tensile strength after aging<br>change after 7 days at 135 C                     | %                   | < 25                       | 10                  |
| 3) Elongation at break before aging   | %                   | > 200                      | 600                 |
| 4) Elongation at break after aging<br>change after 7 days at 135 C                  | %                   | < 25                       | 10                  |
| 5) Thermal expansion characteristics 15min 200 C<br>under load 20 N/cm <sup>2</sup> | %                   | < 175                      | 80                  |
| after no load   | %                   | < 15                       | 5                   |
| 6) Shrinkage of insulation jacket<br>1h, 130 C                                      | %                   | < 4                        | 3                   |
| 1) Voltage test<br>3.5 KV 5min per conductor<br>1.8 KV 4H in water                  | —<br>—<br>—         | no dielectric<br>breakdown | —<br>—<br>—         |
| 2) Insulation resistance<br>(Spec. Volume resistance)<br>at ambient temperature     | Ω x cm              | —                          | 10 <sup>15</sup>    |
| at operating temperature  | Ω x cm              | —                          | 10 <sup>15</sup>    |
| 3) Dielectric constant  | ε γ                 | —                          | 2.31                |
| 4) Dielectric loss factor   | tan δ               | —                          | 5 x 10 <sup>4</sup> |

## EXTRUSION EQUIPMENT

Normal PVC or PE extruders are suitable

|  |   |
|--|---|
| L/D ratio                                      | : 18/ 1 --- 26/1  |
| Screw compression ratio                        | : 1.0 -- 3.5  |
| Die head design                                | : Flat surface die design is preferred<br>For extrusion die, the recommended draw down ratio is > 2.0 : 1.0 |
| Screen mesh                                    | : 60 / 40   |
| Cooling water temperature should be above 15 C |   |

## EXTRUSION TEMPERATURES

The following temperature profile is recommended

| Zone 1      | Zone 2      | Zone 3      | Neck        | Die         |
|-------------|-------------|-------------|-------------|-------------|
| 165 – 175 C | 180 - 185 C | 195 – 200 C | 200 - 220 C | 220 - 240 C |

## CURING TIME

The time of full cure will depend on insulation thickness and temperature of hot water or steam.

| Insulation thickness | Temperature hot water | Time    | Ambient 80% RH, 28 C |
|----------------------|-----------------------|---------|----------------------|
| 0.2 - 0.7 mm         | 100 C                 | 3 Hours | 7 - 10 Days          |
| 0.8 - 2 mm           | 100 C                 | 4 Hours | 10 - 15 Days         |

In case of 80 C hot water, curing time will be extended by additional 1 hour.

## STORAGE

Store under cool and dry conditions for best effect.

## SHELF LIFE

The period of 6 months from date of manufacture can normally be estimated.

## FORM AND PACKING

Form : Pellets

Packing : Moisture resistant polymer 25 Kg specially lined bags.

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