

# 115 kV CE

#### 1 CORE - CROSSLINKED POLYETHYLENE POWER CABLE



### Construction

| 2. Conductor screen   | : Circular co<br>: Semi-conc<br>conductiv | luctive tap<br>e cross-link | e with ext<br>ed polyetl | ruded Sem<br>hylene cor | ni-<br>mpound | Refe<br>IEC 60<br>TIS 220 | 840                       | Standard                  | b  |         |                | 2<br>202        |
|---|---|-----------------------------|--------------------------|-------------------------|---------------|---------------------------|---------------------------|---------------------------|--|---------|----------------|-----------------|
|   | : Cross-linke<br>: Semi-conc<br>compoun   | luctive crc                 |                          |                         |               |                           | sificatio                 | P <b>N</b><br>uctor tempe | erature <u>;</u> 90°                                 | Ċ       | 3 <sup>B</sup> | çÇ.             |
|   | : Copper w                                | ires with co                | opper con                | tact tape               |               | 3                         | num circuit<br>st voltage | voltage                   | : 123<br>: 160                                       |         |                | 3 <sup>99</sup> |
| <ol> <li>7. Water blocking and<br/>Cushioning tape</li> <li>8. Radial water barrier</li> <li>9. Sheath</li> </ol> |   | r aluminiu                  | m tape                   | (                       | RIB)          | Prefero<br>shall b        | e suitable                |                           | s, factories and<br>ucts, trays and<br>ter all time. |         |                |                 |
| Conductor   | Thickness                                 | Thickness                   | Diameter                 | Thickness               | Area          | Thickness                 | Overall                   | DC.                       | Capacitance  | Current | Cable          | Standard        |

|                 | Conduc | tor       | Inickness | Inickness  | Diameter   | Inickness  | Area            | Inickness | Overall    | DC.          | Capacitance | Current   | Cable      | standard |
|-----------------|--------|-----------|-----------|------------|------------|------------|-----------------|-----------|------------|--------------|-------------|-----------|------------|----------|
| Cross-          | No.    | Diameter  | of        | of         | over       | of         | of              | of        | diameter   | Conductor    |             | rating    | weight     | length   |
| sectiona        | l of   |           | conductor | insulation | insulation | insulation | metallic        | sheath    | (Excluding | resistance   |             | direct    | (Excluding |          |
| area            | wires  |           | screen    |            |            | screen     | screen*         |           | Rib)       | at 20°C      |             | burial in | Rib)       |          |
|                 |        |           |           |            |            |            |                 |           |            |              |             | ground    |            |          |
|                 |        |           |           |            |            |            |                 |           |            |              |             | at 30°C   |            |          |
| mm <sup>2</sup> |        | mm        | mm        | mm         | mm         | mm         | mm <sup>2</sup> | mm        | mm         | $\Omega/$ km | μF/km       | А         | kg/km      | m/drum   |
|                 | (Min.) | (Approx.) | (Nominal) | (Nominal)  | (Approx.)  | (Nominal)  |                 | (Nominal) | (Approx.)  | (Max.)       | (Nominal)   |           | (Approx.)  |          |
| 400             | 53     | 23.39     | 1.5       | 16.0       | 59.4       | 1.5        | 120             | 3.5       | 78         | 0.0470       | 0.170       | 690       | 8,270      | 500      |
| 500             | 53     | 26.67     | 1.5       | 16.0       | 62.6       | 1.5        | 120             | 3.5       | 82         | 0.0366       | 0.187       | 785       | 9,500      | 500      |
| 630             | 53     | 30.22     | 1.5       | 16.0       | 66.2       | 1.5        | 120             | 3.5       | 85         | 0.0283       | 0.203       | 890       | 11,060     | 300      |
| 800             | 53     | 34.00     | 1.5       | 16.0       | 70.0       | 1.5        | 120             | 3.5       | 89         | 0.0221       | 0.219       | 1010      | 12,950     | 300      |

 $^{\ast}$  The area of metallic screen can be designed upon request by not less than 95  $\mathrm{mm}^{2}$ 



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| (63)   | Circular compact stranded an<br>Semi-conductive tape with ext<br>conductive cross-linked polyet | ruded Semi- | Refe<br>IEC 60<br>TIS 220 |   |              | O <sup>BCC</sup> |
|--|---|-------------|---------------------------|---|--------------|------------------|
| S  | : Cross-linked polyethylene (XLPE<br>: Semi-conductive cross-linked p                           |             | Clas                      | sification  | BCC          | i scc            |
|  | compound  |             | Maxin                     | num conductor temperature   | : 90°C       | @ ~              |
| 5. Water blocking tape                       | Semi-conductive water blockin   | ng tape     | Maxin                     | num circuit voltage   | : 123 kV     | C BC             |
| 6. Metallic screen                           | Copper wires with copper con  | tact tape   | AC te                     | st voltage  | : 160 kV     | (8) 🐖            |
| Cushioning tape<br>8. Radial water barrier : | Non-conductive water blockin<br>Copolymer aluminium tape<br>Black Polyethylene (PE) , (Optic    | OBCS        | Prefer<br>shall b         | lication<br>ably laid in substations, facto<br>be suitable for use in ducts, tr<br>sted to immerse in water all t | ays and dire |                  |
| Conductor<br>cross-                          | AC Resistance of conductor at 90 °C   | Inductance  |                           | Reactance   |              | Impedance        |

| Conductor       |                    | induordinoo | Rederance    | Impodditoo   |
|-----------------|--------------------|-------------|--------------|--------------|
| cross-          | conductor at 90 °C |             |              |              |
| sectional       |                    |             |              |              |
| area            |                    |             |              |              |
|                 |                    |             |              |              |
|                 |                    |             |              |              |
| mm <sup>2</sup> | $\Omega$ /km       | mH/km       | $\Omega$ /km | $\Omega$ /km |
|                 | (Approx.)          | (Approx.)   | (Approx.)    | (Approx.)    |
| 400             | 0.0614             | 0.614       | 0.193        | 0.203        |
| 500             | 0.0486             | 0.598       | 0.188        | 0.194        |
| 630             | 0.0385             | 0.580       | 0.182        | 0.186        |
| 800             | 0.0312             | 0.566       | 0.178        | 0.181        |

\* The area of metallic screen can be designed upon request by not less than 95  $\mathrm{mm}^2$