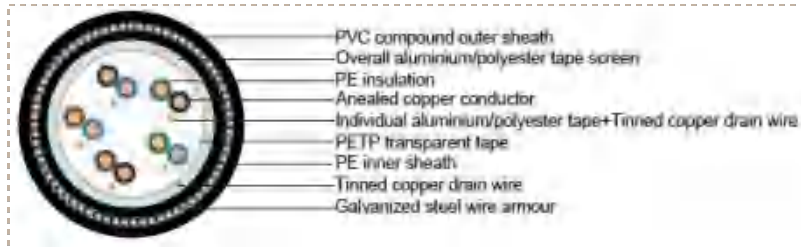


## Application

These cables are designed to connect electrical instrumentation and communication systems in and around process plants and similar applications, Generally used to transmit analogue or digital signals in measurement and process control where chemicals may be present. The armoured version are well adapted to underground use in industrial applications where chemical and mechanical protections are needed (refinery areas, chemical plant...).The individual screening of each pair limits the consequence of crosstalk.

## Construction



|                          |  |
|--------------------------|--|
| <b>CONDUCTOR</b>         | Annealed copper, sizes: 0.5mm <sup>2</sup> multistranded(Class 5), 0.5 mm <sup>2</sup> and 1.0 mm <sup>2</sup> solid(Class 1), 1.5mm <sup>2</sup> or 2.5 multistranded(Class 2) to BS EN 60228                 |
| <b>INSULATION</b>        | thermoplastic PE to BS EN 50290-2-23:2002, grade L/MD or a cross-linked PE to BS EN 50290-2-29   |
| <b>PAIRING</b>           | Two insulated conductors uniformly twisted together with a lay not exceeding 100mm, Two-pair cables without individual pair screens (quads) shall have four cores laid in quad formation round a central dummy |
| <b>COLOUR CODE</b>       | See technical information  |
| <b>INDIVIDUAL SCREEN</b> | Aluminium/polyester tape is applied over each pair metallic side down in contact with tinned copper drain wire, 0.5mm <sup>2</sup>   |
| <b>BINDER TAPE</b>       | Non-hygroscopic binder tape of minimum thickness 0.023 mm  |
| <b>COLLECTIVE SCREEN</b> | Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm <sup>2</sup>   |
| <b>INNER SHEATH</b>      | Extruded bedding of a PE compound conforming to BS EN 50290-2-24:2002, grade LD  |
| <b>AMOUR</b>             | Galvanized steel wire armour   |
| <b>OUTER SHEATH</b>      | extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51  |
| <b>SHEATH COLOUR</b>     | Generally black  |

## Electrical Properties

Temperature range: above 0°C( fixed installation)

-15°C to +65°C(during operation )

|                                 |                       |                |          |          |          |          |
|---------------------------------|-----------------------|----------------|----------|----------|----------|----------|
| <b>CONDUCTOR AREA SIZE</b>      | <b>MM<sup>2</sup></b> | 0.5            | 0.5      | 1.0      | 1.5      | 2.5      |
| <b>CONDUCTOR STRANDING</b>      | <b>NO. X MM</b>       | 1 x 0.8        | 16 x 0.2 | 1 x 1.13 | 7 x 0.53 | 7 x 0.67 |
| <b>CONDUCTOR RESISTANCE MAX</b> | <b>OHM/KM</b>         | 36.8           | 39.7     | 18.4     | 12.3     | 7.6      |
| <b>INSULATION RESISTANCE</b>    | <b>INDIVIDUAL</b>     | <b>GOHM/KM</b> | 5        | 5        | 5        | 5        |

| MIN   | CONDUCTOR         |         |         |         |         |         |         |
|---|-------------------|---------|---------|---------|---------|---------|---------|
|   | INDIVIDUAL SCREEN | MOHM/KM | 1       | 1       | 1       | 1       | 1       |
| CAPACITANCE UNBALANCE AT 1 KHZ(PAIR TO PAIR SCREEN)                                     |                   | PF/250M | 250     |         |         |         |         |
| MAX. MUTUAL CAPACITANCE @ 1 KHZ FOR NON OS OR OS CABLES (EXCEPT ONE-PAIR AND TWO-PAIRS) |                   | PF/M    | 75      | 75      | 75      | 85      | 105     |
| MAX. MUTUAL CAPACITANCE @ 1 KHZIS/OS CABLES (INCLUDE 1 PAIR AND 2 PAIR)                 |                   | PF/M    | 115     | 115     | 115     | 120     | 140     |
| MAX. L/R RATIO FOR ADJACENT CORES(INDUCTANCE/RESISTANCE)                                |                   | MH/OHM  | 25      | 25      | 25      | 40      | 60      |
| TEST VOLTAGE  |                   | V       | 2000    | 2000    | 2000    | 2000    | 2000    |
| RATED VOLTAGE   |                   | V       | 300/500 | 300/500 | 300/500 | 300/500 | 300/500 |

**Parameter**

| NUMBER OF PAIRS                                      | NOMINAL THICKNESS OF INSULATION | NOMINAL THICKNESS OF BEDDING | NOMINAL DIAMETER OVER BEDDING | NOMINAL THICKNESS OF ARMOR | NOMINAL DIAMETER OVER ARMOR | NOMINAL THICKNESS OF SHEATH | NOMINAL DIAMETER OF CABLE |
|--|---------------------------------|------------------------------|-------------------------------|----------------------------|-----------------------------|-----------------------------|---------------------------|
|  | MM                              | MM                           | MM                            | MM                         | MM                          | MM                          | MM                        |
| solid conductor 0.5mm <sup>2</sup> (1/0.8mm)         |                                 |                              |                               |                            |                             |                             |                           |
| 2  | 0.5                             | 0.9                          | 8.5                           | 0.9                        | 10.3                        | 1.4                         | 13.1                      |
| 5  | 0.5                             | 0.9                          | 10.9                          | 0.9                        | 12.7                        | 1.5                         | 15.7                      |
| 10   | 0.5                             | 1.1                          | 15.6                          | 1.25                       | 18.1                        | 1.6                         | 21.3                      |
| 15   | 0.5                             | 1.2                          | 18.1                          | 1.6                        | 21.3                        | 1.7                         | 24.7                      |
| 20   | 0.5                             | 1.3                          | 20.4                          | 1.6                        | 23.6                        | 1.8                         | 27.2                      |
| 30   | 0.5                             | 1.4                          | 24.2                          | 1.6                        | 27.4                        | 1.9                         | 31.2                      |
| 50   | 0.5                             | 1.7                          | 31.2                          | 2                          | 35.2                        | 2.1                         | 39.4                      |
| stranded conductor 0.5 mm <sup>2</sup> (16/0.0.20mm) |                                 |                              |                               |                            |                             |                             |                           |
| 2  | 0.6                             | 0.9                          | 9.7                           | 0.9                        | 11.5                        | 1.4                         | 14.3                      |
| 5  | 0.6                             | 1                            | 12.6                          | 1.25                       | 15.1                        | 1.5                         | 18.1                      |
| 10   | 0.6                             | 1.2                          | 18                            | 1.6                        | 21.2                        | 1.7                         | 24.6                      |
| 15   | 0.6                             | 1.3                          | 20.9                          | 1.6                        | 24.1                        | 1.8                         | 27.7                      |
| 20   | 0.6                             | 1.4                          | 23.6                          | 1.6                        | 26.8                        | 1.9                         | 30.6                      |
| 30   | 0.6                             | 1.6                          | 28.2                          | 1.6                        | 31.4                        | 2                           | 35.4                      |

|   |     |     |      |      |      |     |      |
|---|-----|-----|------|------|------|-----|------|
| 50  | 0.6 | 1.8 | 36.1 | 2    | 40.1 | 2.2 | 44.5 |
| solid conductor 1.0mm <sup>2</sup> (1/1.13mm)     |     |     |      |      |      |     |      |
| 2   | 0.6 | 0.9 | 10.3 | 0.9  | 12.1 | 1.4 | 14.9 |
| 5   | 0.6 | 1   | 13.5 | 1.25 | 16   | 1.5 | 19.0 |
| 10  | 0.6 | 1.2 | 19.4 | 1.6  | 22.6 | 1.7 | 26.0 |
| 15  | 0.6 | 1.4 | 22.7 | 1.6  | 25.9 | 1.8 | 29.5 |
| 20  | 0.6 | 1.5 | 25.7 | 1.6  | 28.9 | 1.9 | 32.7 |
| 30  | 0.6 | 1.6 | 30.4 | 2    | 34.4 | 2.1 | 38.6 |
| 50  | 0.6 | 1.9 | 39.1 | 2.5  | 44.1 | 2.3 | 48.7 |
| stranded conductor 1.5 mm <sup>2</sup> (7/0.53mm) |     |     |      |      |      |     |      |
| 2   | 0.6 | 1   | 12.1 | 1.25 | 14.6 | 1.5 | 17.6 |
| 5   | 0.6 | 1.1 | 15.8 | 1.25 | 18.3 | 1.6 | 21.5 |
| 10  | 0.6 | 1.4 | 22.9 | 1.6  | 26.1 | 1.8 | 29.7 |
| 15  | 0.6 | 1.5 | 26.6 | 1.6  | 29.8 | 1.9 | 33.6 |
| 20  | 0.6 | 1.6 | 30.1 | 2    | 34.1 | 2.1 | 38.3 |
| 30  | 0.6 | 1.8 | 35.8 | 2    | 39.8 | 2.2 | 44.2 |
| 50  | 0.6 | 2.2 | 46.2 | 2.5  | 51.2 | 2.5 | 56.2 |
| stranded conductor 2.5 mm <sup>2</sup> (7/0.67mm) |     |     |      |      |      |     |      |
| 2   | 0.6 | 1   | 13.5 | 1.25 | 16   | 1.5 | 19   |
| 5   | 0.6 | 1.2 | 17.9 | 1.6  | 21.1 | 1.7 | 24.5 |
| 10  | 0.6 | 1.5 | 25.9 | 1.6  | 29.1 | 1.9 | 32.9 |
| 15  | 0.6 | 1.6 | 30.1 | 2    | 34.1 | 2.1 | 38.3 |
| 20  | 0.6 | 1.8 | 34.3 | 2    | 38.3 | 2.2 | 42.7 |
| 30  | 0.6 | 2   | 40.8 | 2.5  | 45.8 | 2.4 | 50.6 |
| 50  | 0.6 | 2.4 | 52.6 | 2.5  | 57.6 | 2.7 | 63   |