

## APPLICATION

Fire resistant, halogen-free, high security cable, for rated voltages up to 0.6/ 1 kV. For power supply to priority security systems that should be maintained in function during fire. Suitable for indoor use, fixed installations, in public areas such as hospitals, hotels, shopping malls, airports, underground railway networks, tunnels, communication centers and in all general places where it is required a high degree of protection of persons and assets or/and with a largenumber of people and electrical/electronic equipment.

## CABLE DESIGNATION

Cu/MICA/XLPE/LSHF

## CONSTRUCTION CHARACTERISTICS

### Conductor

Copper (plain annealed): stranded class 2 or flexible class 5, circular.

### Insulation

Mica tapes. XLPE – (Cross-linked polyethylene)

### Oversheath

LSHF – Low Smoke Halogen Free thermoplastic compound. Fire retardant.

## GENERAL CHARACTERISTICS

|                                                                                         |                                                                              |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Construction and test standards                                                         | IEC 60228 • IEC 60502-1                                                      |
| Rated voltage $U_0/U$                                                                   | 0.6 / 1 kV                                                                   |
| Test voltage                                                                            | 3.5 kV a.c. 5 minutes                                                        |
| Conductor maximum operating temperature                                                 | 90° C                                                                        |
| Maximum short-circuit temperature                                                       | 250°C ( $t \leq 5s$ )                                                        |
| Minimum bending radius (mm)<br>(permanent, after installation)<br>(during installation) | 4xd if $d < 25$ • 6xd if $d \geq 25$<br>6xd if $d < 25$ • 9xd if $d \geq 25$ |
| Maximum pulling force over conductor (N)                                                | 50 x S                                                                       |

S – conductor cross-section ( $\text{mm}^2$ )  
d – cable outer diameter (mm)



## LOW VOLTAGE CABLES

### INDUSTRIAL CABLES

**Cu - MICA - XLPE - LSHF**

Unarmoured - Fire Resistant - Halogen Free - IEC 60502-1

#### GENERAL CHARACTERISTICS

|                      |                                                                                                                  |
|----------------------|------------------------------------------------------------------------------------------------------------------|
| Flame retardant      | IEC 60332-1-2 · EN 60332-1-2 (cable vertically mounted. length of charred cable ≤ 540 mm)                        |
| Fire retardant (frt) | IEC 60332-3-24 · EN 60332-3-24 (bunch of cables vertically mounted on a ladder, length of charred cable ≤ 2.5 m) |
| Fire resistant (frs) | IEC 60331-21 (750°C, charge circuit, time ≥ 90 minutes)                                                          |
| Halogen free (zh)    |                                                                                                                  |
| Low smoke            | IEC 61034-2 · EN 61034-2 (cable light transmittance ≥ 60%)                                                       |
| Low toxicity         | IEC 60754-1 · EN 50267-2-1 (halogen acid gas content ≤ 0.5%)                                                     |
| Low corrosivity      | IEC 60754-2 · EN 50267-2-3 (pH ≥ 4.3 · conductivity ≤ 10μS/mm)                                                   |

#### ELECTRICAL AND DIMENSIONAL CHARACTERISTICS

| Cable composition<br>n.º cond. x cross-section<br>(mm²) | Approximate<br>outer diameter<br>(mm) | Approximate<br>weight<br>(kg/km) | Current carrying capacity<br>In open air <sup>(1)</sup> T = 30°C<br>(A) |                      |
|---------------------------------------------------------|---------------------------------------|----------------------------------|-------------------------------------------------------------------------|----------------------|
|                                                         |                                       |                                  | 2 charged conductors                                                    | 3 charged conductors |
|                                                         |                                       |                                  | Cu / MICA / XLPE / LSHF                                                 |                      |
| 1 x 10                                                  | 9.5                                   | 150                              | 75                                                                      | 66                   |
| 1 x 16                                                  | 10.5                                  | 210                              | 100                                                                     | 88                   |
| 1 x 25                                                  | 12.0                                  | 310                              | 161                                                                     | 135                  |
| 1 x 35                                                  | 13.0                                  | 405                              | 200                                                                     | 169                  |
| 1 x 50                                                  | 14.5                                  | 530                              | 242                                                                     | 207                  |
| 1 x 70                                                  | 16.5                                  | 805                              | 310                                                                     | 268                  |
| 1 x 95                                                  | 18.0                                  | 995                              | 377                                                                     | 328                  |
| 1 x 120                                                 | 20.0                                  | 1 235                            | 437                                                                     | 383                  |
| 1 x 150                                                 | 21.5                                  | 1 500                            | 504                                                                     | 444                  |
| 1 x 185                                                 | 24.0                                  | 1 865                            | 575                                                                     | 510                  |
| 1 x 240                                                 | 26.5                                  | 2 400                            | 679                                                                     | 607                  |
| 1 x 300                                                 | 29.5                                  | 3 010                            | 783                                                                     | 703                  |
| 2 x 1.5                                                 | 11.0                                  | 140                              | 26                                                                      |                      |
| 2 x 2.5                                                 | 12.0                                  | 175                              | 36                                                                      |                      |
| 2 x 4                                                   | 13.0                                  | 225                              | 49                                                                      |                      |
| 2 x 6                                                   | 14.0                                  | 280                              | 63                                                                      |                      |
| 2 x 10                                                  | 15.5                                  | 385                              | 86                                                                      |                      |
| 2 x 16                                                  | 18.0                                  | 545                              | 115                                                                     |                      |
| 2 x 25                                                  | 21.0                                  | 810                              | 149                                                                     |                      |
| 3 x 1.5                                                 | 11.5                                  | 160                              |                                                                         | 26                   |
| 3 x 2.5                                                 | 12.0                                  | 175                              |                                                                         | 36                   |
| 3 x 4                                                   | 14.0                                  | 270                              |                                                                         | 49                   |
| 3 x 6                                                   | 14.5                                  | 335                              |                                                                         | 63                   |
| 3 x 10                                                  | 16.5                                  | 480                              |                                                                         | 86                   |

**ELECTRICAL AND DIMENSIONAL CHARACTERISTICS**

| Cable composition<br>n.º cond. x cross-section<br>(mm <sup>2</sup> ) | Approximate<br>outer diameter<br>(mm) | Approximate<br>weight<br>(kg/km) | Current carrying capacity<br>In open air <sup>(1)</sup> T = 30°C<br>(A) |                      |
|----------------------------------------------------------------------|---------------------------------------|----------------------------------|-------------------------------------------------------------------------|----------------------|
|                                                                      |                                       |                                  | 2 charged conductors                                                    | 3 charged conductors |
| 4 x 1.5                                                              | 12.5                                  | 190                              |                                                                         | 23                   |
| 4 x 2.5                                                              | 13.5                                  | 240                              |                                                                         | 32                   |
| 4 x 4                                                                | 15.0                                  | 325                              |                                                                         | 42                   |
| 4 x 6                                                                | 16.0                                  | 410                              |                                                                         | 54                   |
| 4 x 10                                                               | 18.0                                  | 595                              |                                                                         | 75                   |
| 4x 16                                                                | 21.0                                  | 850                              |                                                                         | 100                  |
| 3 x 16 + 1 x 10                                                      | 20.0                                  | 800                              |                                                                         | 100                  |
| 3 x 25 + 1 x 16                                                      | 23.5                                  | 1205                             |                                                                         | 127                  |
| 3 x 35 + 1 x 16                                                      | 25.5                                  | 1525                             |                                                                         | 158                  |
| 3 x 50 + 1 x 25                                                      | 29.0                                  | 2050                             |                                                                         | 192                  |
| 3 x 70 + 1 x 35                                                      | 35.5                                  | 2870                             |                                                                         | 246                  |
| 3 x 95 + 1 x 50                                                      | 37.5                                  | 3875                             |                                                                         | 298                  |
| 3 x 120 + 1 x 70                                                     | 42.5                                  | 4965                             |                                                                         | 346                  |
| 5 x 1.5                                                              | 13.5                                  | 225                              |                                                                         | 23                   |
| 5 x 2.5                                                              | 14.5                                  | 295                              |                                                                         | 32                   |
| 5 x 4                                                                | 16.5                                  | 390                              |                                                                         | 42                   |
| 5 x 6                                                                | 17.5                                  | 500                              |                                                                         | 54                   |
| 5 x 10                                                               | 19.5                                  | 730                              |                                                                         | 75                   |
| 5 x 16                                                               | 23.0                                  | 1055                             |                                                                         | 100                  |
| 3 x 25 + 2G16                                                        | 25.5                                  | 1390                             |                                                                         | 127                  |
| 3 x 35 + 2G16                                                        | 31.0                                  | 2320                             |                                                                         | 158                  |
| 3 x 50 + 2G25                                                        | 27.0                                  | 3160                             |                                                                         | 192                  |
| 3 x 70 + 2G35                                                        | 35.5                                  | 4485                             |                                                                         | 246                  |
| 3 x 95 + 2G50                                                        | 40.5                                  | 5875                             |                                                                         | 298                  |

Other compositions are available, contact [info@fast-cables.com](mailto:info@fast-cables.com) for information.

(1) Installation in free air or on perforated cable tray, horizontal or vertical.

Single core cable – Flat touching installation.

Cables with 2 and 3 conductors: 2 charged conductors.

Cables with 4 and 5 conductors: 3 charged conductors.

For compositions of 4 conductors, the same characteristics apply if the fourth conductor is the earth conductor or neutral conductor.