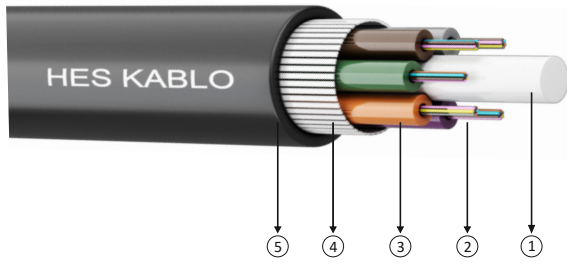


# OUTDOOR CABLES | Multi Loose Tube, Single Sheath, Unarmoured



- ① Central Strength Member
- ② Fiber
- ③ Loose Tube
- ④ Aramid/Glass Yarn
- ⑤ Outer Sheath

### Loose Tube Colors

Blue, Orange, Green, Brown, Gray, White, Red, Black, Yellow, Violet, Pink, Turquoise and Black stripes colors.

### Fiber Colors

Blue, Orange, Green, Brown, Gray, White, Red, Black, Yellow, Violet, Pink, Turquoise and Black ringed colors.

**Inner Sheath :** N/A

**Armour :** N/A

**Outer Sheath :** Black MDPE, Thickness nominal  $1,5 \pm 0,1$  mm.

### Applications

They are used in a pipe made of HDPE etc. materials in long range and local communication networks or directly burying in the ground.

### Construction

Loose tubes are bent around FRP material with SZ twist method (or filler of any).

Then they are covered with MDPE material using adequate aramid / glass yarns. It has a water blocking feature.

| TECHNICAL PROPERTIES |                  |                 |                             |                            |                                   |                                 |                  |                        |
|----------------------|------------------|-----------------|-----------------------------|----------------------------|-----------------------------------|---------------------------------|------------------|------------------------|
| Number Of Fiber      | Loose Tube Count | Number Of Fiber | Number of Fiber in Per Tube | Central Strength Member OD | Central Strength Member Coated OD | Loose Tube Outer/Inner Diameter | Cable Diameter * | Cable Weight (Kg/km) * |
| 8                    | 2                | 4               | 4                           | 2,5                        | N/A                               | 2,4/1,7                         | 10,8             | 103                    |
| 12                   | 3                | 3               | 4                           | 2,5                        | N/A                               | 2,4/1,7                         | 10,8             | 104                    |
| 16                   | 4                | 2               | 4                           | 2,5                        | N/A                               | 2,4/1,7                         | 10,8             | 106                    |
| 24                   | 6                | -               | 4                           | 2,5                        | N/A                               | 2,4/1,7                         | 10,8             | 108                    |
| 36                   | 6                | -               | 6                           | 2,5                        | N/A                               | 2,4/1,7                         | 10,8             | 108                    |
| 48                   | 6                | -               | 8                           | 2,5                        | N/A                               | 2,4/1,7                         | 10,8             | 109                    |
| 72                   | 6                | -               | 12                          | 2,7                        | N/A                               | 2,6/1,8                         | 11,4             | 121                    |
| 96                   | 8                | -               | 12                          | 2,7                        | 4,5                               | 2,6/1,8                         | 13,2             | 149                    |
| 144                  | 12               | -               | 12                          | 2,7                        | 8,0                               | 2,6/1,8                         | 16,7             | 203                    |
| 288                  | 12               | -               | 12                          | 2,7                        | 5,4                               | 2,6/1,8                         | 19,3             | 376                    |
| 432                  | 18               | -               | 24                          | 3,0                        | N/A                               | 2,8/1,8                         | 17,7             | 329                    |

| MECHANICAL AND ENVIRONMENTAL PROPERTIES |   |                    |
|---|---|--------------------|
| Physical Tests                          | Conditions  | Standard           |
| Tensile Strength                        | 2700 N Tensile Strength (Installation)<br>1700 N Tensile Strength (Operation) | IEC 60794-1-21-E1  |
| Impact Resistance                       | 10J, 3 impacts  | IEC 60794-1-21-E4  |
| Crush Resistance                        | 2000 N / 10cm   | IEC 60794-1-21-E3  |
| Bend Radius (During Installation)       | 20x Cable Diameter  | IEC 60794-1-21-E11 |
| Bend Radius (During Service)            | 10x Cable Diameter  | IEC 60794-1-21-E11 |
| Operation Storage and Transportation    | -40 to +70 ° C  | IEC 60794-1-22-F1  |
| Installation Temperature                | -30 to +60 ° C  | N/A                |
| Water Penetration Test                  | 24 hours 3m length  | IEC 60794-1-22 F5  |
| Fire Test**                             | N/A   | N/A                |

\* : Tolerance  $\pm 10\%$ .

\*\* : These test case apply to HFFR sheathed cables.