

## BIRLA ERICSSON OPTICAL LIMITED

### TECHNICAL DETAILS OF 6/12/18/24/36 FIBRE (G652D), DRY CORE, DIELECTRIC MULTI LOOSE TUBE DESIGN, SINGLE SHEATH, UNARMoured OPTICAL FIBRE CABLE SUITABLE FOR UNDERGROUND INSTALLATION

#### **INTRODUCTION**

Unarmoured Fibre optic cable containing upto 36 LWP-SMF in full compliance with ITU-T G.652. D. The offered cables are fully compliant to the relevant IEC specifications.

#### **(1) CABLE DESIGN:**

- \* Upto 36 enhance low water peak single mode fibers in full compliance with ITU-T-G.652.D
- \* Non-metallic and anti-buckling element FRP rod used as Central Strength Member.
- \* Water swellable yarn helically wrapped over central strength member
- \* Loose buffer tubes fully filled Thixotropic Jelly
- \* Loose buffer tubes S-Z Stranded
- \* Water Swellable Tape for water blocking
- \* Glass Yarns used as peripheral strength member
- \* Outer sheath of HDPE, Black

#### **(2) APPLICATION:**

- \* Direct burial / Inside Duct
- \* In areas with particularly high mechanical loads

#### **(3) SPECIAL FEATURES:**

- \* Single layer stranded construction
- \* Particularly robust cable
- \* Flexible buffer tubes provide easy fibre routing inside closure
- \* All dielectric armoured

#### **(4) MECHANICAL CHARACTERISTICS:**

Temperature Range (IEC 60794-1-2-F1)	-40° to +70°C
Laying and Installation	-10° to +50°C
Operation	-40° to +70°C
Transport and Storage	-30° to +70°C
Cable Bending Radius (IEC 60794-1-2-E11A)	
During Installation (Full Load)	20 x D, D = Cable Diameter
Installed (No Load)	15 x D, D = Cable Diameter
Repeated Bending (IEC 60794-1-2-E6)	30 Cycle, r= 20 X D, 10 Kg Load, D = Cable Diameter
Tensile Force (IEC 60794-1-2-E1)	
During Installation	2000 N
Installed	1500 N
Torsion Resistance (IEC 60794-1-2-E7)	10 Cycle (± 360°) 10 Kg Weight, L= 2 Mtr
Crush Resistance (IEC 60794-1-2-E3)	1500 N (100 X 100 mm) for 60 sec
Impact Resistance (IEC 60794-1-2-E4)	Height 500 mm, Weight = 5 Kg, 3 Nos
Kink Resistance (IEC 60794-1-2-E10)	10 x D, D = Cable Diameter
Water Penetration (IEC 60794-1-2-F5B)	1 Mtr Water Head, 3 Meter Cable Sample, 24 Hours

#### **(5) OPTICAL CHARACTERISTICS:**

Fibre used in the cable manufacturing fully comply to ITU-T-Rec G 652 D.	
at 1310 nm	≤ 0.35 dB/Km
at 1550 nm	≤ 0.22 dB/Km
at 1625 nm	≤ 0.25 dB/Km

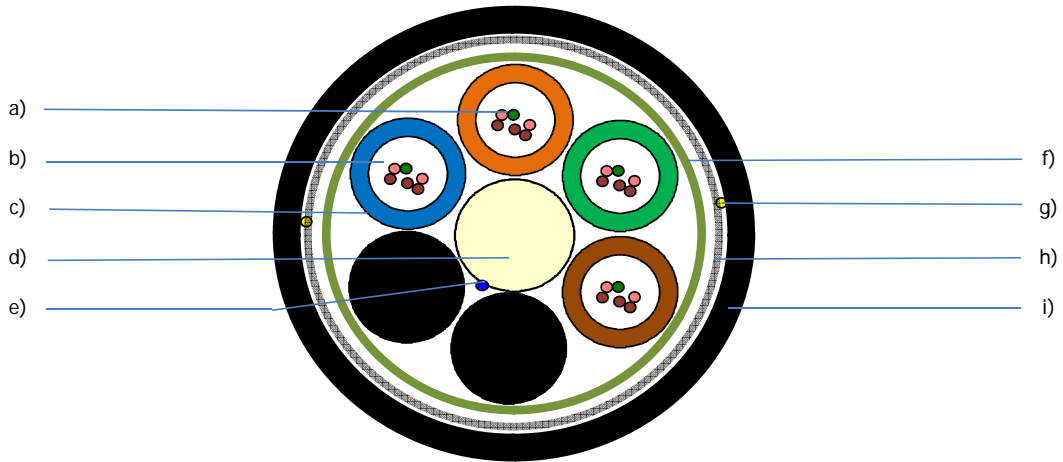
#### **(6) COLOUR CODING:**

Colour of Fibres in a Tube(6F/T ):	Blue, Orange, Green, Brown, Grey, White
Colour of Loose Tubes (for 6F Cable):	Blue & five black fillers
Colour of Loose Tubes (for 12F Cable):	Blue, Orange & four black fillers
Colour of Loose Tubes (for 18F Cable):	Blue, Orange, Green, & three black fillers
Colour of Loose Tubes (for 24F Cable):	Blue, Orange, Green, Brown & two black fillers
Colour of Loose Tubes (for 36F Cable):	Blue, Orange, Green, Brown, Grey & White

**(7) CABLE CONSTRUCTIONAL DETAILS:**

- |                                  |   |
|----------------------------------|---|
| a) Primary Coated Fibre          | Single Mode - G 652 D (6 Fibres Per Tube) |
| b) Tube Filling Compound         | Thixotropic Jelly                         |
| c) Loose Tube(s)                 | PBTP                                      |
| d) Central Strength Member       | FRP Rod                                   |
| e) Water Blocking Yarn           | Helically wrapped over FRP                |
| f) Water Blocking media          | Water Swellable Tape                      |
| g) Rip Cords                     | Suitable to rip open outer sheath         |
| h) Peripheral strength Member    | Glass Yarns                               |
| i) Outer Sheath (T = 1.5 mm Nom) | HDPE , Black                              |

**TYPICAL CROSS-SECTION OF 24 F OFC**



**(8) DELIVERY INFORMATION :**

- |                                |           |
|--------------------------------|-----------|
| Nominal Cable Weight (Kg/Km)   | 75        |
| Nominal Cable Diameter (mm)    | 9.5       |
| Standard Length Per Drum (Mtr) | 4000 ± 5% |

**(9) CABLE SHEATH MARKING:**

Cable sheath shall be marked in white colour with Hot Foil Indentation method. **Marking details can be customized.** Below mentioned details are generally marked on the cable sheath.

Telephone Symbol, Laser Symbol, Number of Fibres, Type of Fibre (G 652 D), Arm, Month & Year of Manufacturer, Manufacturer's Name, India, Customer Name, Sequential Meter Marking & Drum Number

**(10) CABLE DRUM PACKING:**

Every length will be delivered on non-returnable wooden drums. Generally the cable drum flange will be marked with following: **These details can also be customised.**

- \* Arrow showing the direction, the drum can be rolled.
- \* Country of origin.
- \* The manufacturer's name
- \* Number of fibers.
- \* Nominal cable length in meters
- \* Net and gross weight.
- \* Drum number
- \* Customer's name and destination

Both ends of the cable shall be sealed to prevent the ingress of moisture during transportation and storage, physical damage.

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