



## UNIVERSAL CABLES LIMITED

### TECHNICAL DETAILS OF 12 to 72 FIBRE (G652D/G657A1), MULTI LOOSE TUBE UNARMoured, MICRO OPTICAL FIBRE CABLE-HDPE

#### **INTRODUCTION**

Multi Loose tube, unarmoured, micro fibre optic cable containing LWP-SMF, in full compliance with ITU-T G652D & ITU-T G657A1. The offered cables are fully compliant to the relevant IEC specifications.

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

- \* Fibers in full compliance with ITU-T-G652D & ITU-T-G 657A1.
- \* Non metallic and anti-buckling element used as Central Strength Member for Tensile Strength
- \* Loose buffer tubes fully filled (12F/Tube)
- \* Loose buffer tubes S-Z Stranded
- \* UV Protected HDPE Black Outer Sheath

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

- \* Suitable for Installation inside Micro Ducts

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

- \* Completely dielectric cable/ non metallic cable immune to electromagnetic interferences
- \* Suitable for Micro Duct Installation

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

Temperature Range (IEC 60794-1-2-F1)

Laying and Installation -30° to +70°C

Operation -30° to +70°C

Transport and Storage -30° to +70°C

Cable Bending Radius (IEC 60794-1-2-E11A)

During Installation 20 x D, D = Cable Diameter

Installed 15 x D, D = Cable Diameter

Repeated Bending (IEC 60794-1-2-E6)

20 Cycle, r= 20 X D, 1 Kg Load, D = Cable Diameter

Tensile Force (IEC 60794-1-2-E1)

**72F**

During Installation 500N

Installed 350N

Torsion Resistance (IEC 60794-1-2-E7)

2 Cycle ( $\pm 180^\circ$ ) 5 Kg Weight, L= 2 Mtr

Crush Resistance (IEC 60794-1-2-E3)

300 N (100 X 100 mm) for 60 sec

Kink Resistance (IEC 60794-1-2-E10)

15 x D, D = Cable Diameter

Water Penetration (IEC 60794-1-2-F2)

3 Mts Cable Sample, 24 Hrs, 1 Mtr Water Head

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

Fibre used in the cable manufacturing fully comply to ITU-T-Rec G 652D & ITU-T-Rec G 657A1 as per attached data sheet

at 1310 nm

$\leq 0.35$  dB/Km

at 1550 nm

$\leq 0.25$  dB/Km

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

Colour of Fibres in a Tube :

Blue, Orange, Green, Brown, Slate, White, Red, Black  
Yellow, Violet, Pink, Aqua

Colour of Loose Tubes:

Blue, Orange, Green, Brown, Slate & White

\* **for 12 fibre cable** : 1 Loose tubes having 12 Fibres & 5 Dummy's

\* **for 24 fibre cable** : 2 Loose tubes having 12 Fibres & 4 Dummy's

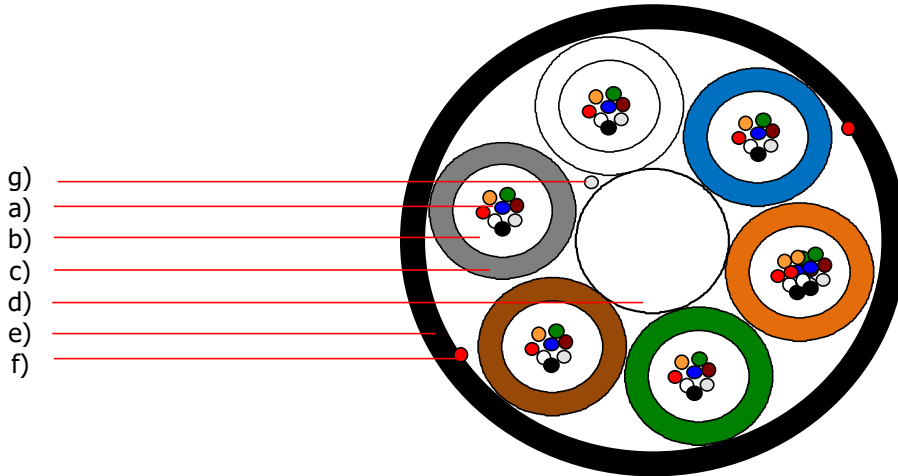
\* **for 48 fibre cable** : 4 Loose tubes having 12 Fibres & 2 Dummy's

\* **for 72 fibre cable** : 6 Loose tubes having 12 Fibres

**(7) CABLE CONSTRUCTIONAL DETAILS:**

- |                            |                               |
|----------------------------|-------------------------------|
| a) Primary Coated Fibre    | Single Mode - G 652D/ G 657A1 |
| b) Tube Filling Compound   | Thixotropic Jelly             |
| c) Loose Tube(s)           | PBTP                          |
| d) Central Strength Member | FRP Rod                       |
| e) Outer Sheath            | HDPE Black                    |
| f) Ripcord                 | 2 Nos. Under Outer Sheath     |
| g) Water Blocking Agent    | Water Swellable Yarn          |

**Typical Cross-section for 72F OFC**



**(8) DELIVERY INFORMATION:**

Nominal Cable Weight (Kg/Km)	<b>12F-72F</b> 23
Nominal Cable Diameter (mm)	5.3 ± 0.3
Standard Length per Drum (Mtr)	4000 ± 5%

**(9) CABLE SHEATH MARKING:**

Cable sheath shall be marked with Ink Jet Printing method in contrast colour. Marking details can be customized as per customer requirements.

<b>DOCUMENT No</b>	<b>UCL/RMC/0350 MICRO DUCT : MLT- HDPE</b>
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