

DATA SHEET FOR FIBER OPTIC CABLE

TRIPLE SHEATHED SINGLE CORRUGATED STEEL TAPE ARMORED FO CABLE FOR DIRECT BURIED OUTDOOR APPLICATION with G.652D SINGLE MODE FIBERS

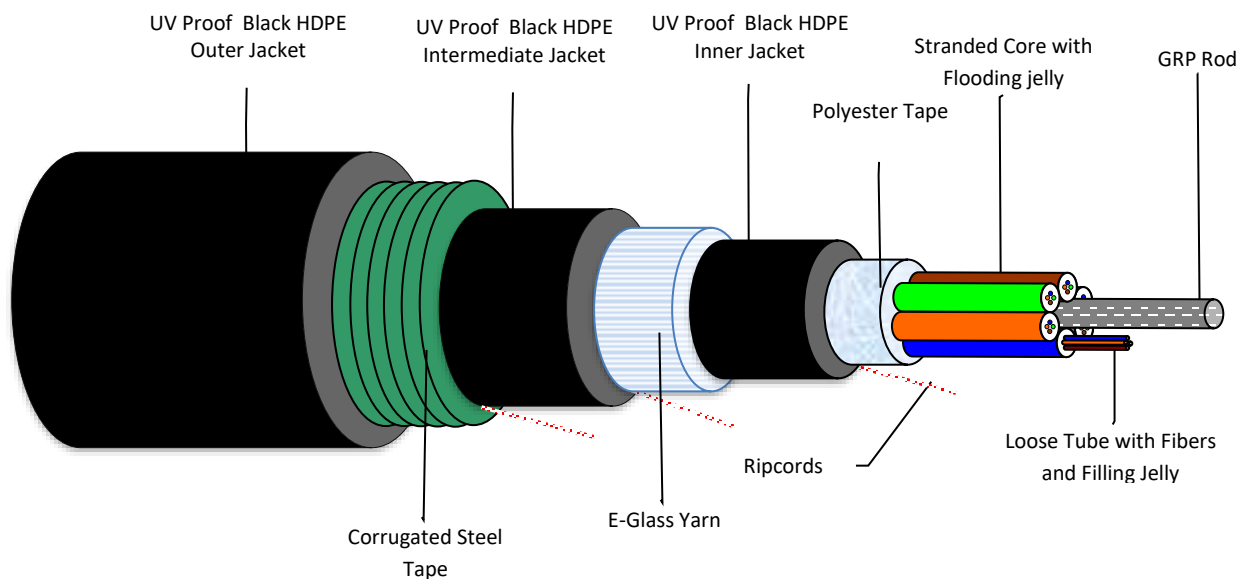
CABLE & FIBER TECHNOLOGY

An advanced loose tube optical cable with SZ stranded core and fiber with outstanding optical and geometrical properties.

CABLE APPLICATION

Cable can be direct buried, pulled or blown through ducts or placed in outdoor cable trays.

WET CORE VERSION (TYPICAL)



Design Construction

Sr. No.	Cable Construction Details	Material Specification
1	Central Strength Element	Fiber Reinforce Plastic (GRP) Rod (2.4 ± 0.1 mm Nominal Diameter)
2	Loose Tube	Poly-butylene Terephthalate (PBTP) with Thixotropic filling jelly (2.1 mm Nominal Diameter)
3	Filler material & Color Number of fillers	Polyethylene Natural As per below cable construction table
4	Stranded Cable Core	Loose Tubes with Fibers & Fillers Stranded Around FRP Rod
5	Water Blocking Element	Non Hygroscopic core flooding gel applied between core interstices
6	Core Wrapping	Polyester Tape with Binder Yarns
7	Core Type	Wet Core
8	Ripcord	Below Inner Sheath
9	Inner Sheath	UV Rated Black High Density Polyethylene (HDPE) (1.5 mm Minimum Thickness)
10	Glass Yarn Layer	Glass Roving Yarns layer with Binders laid above the inner sheath
11	Ripcord	Below Intermediate Sheath
	Intermediate Sheath	UV Rated Black High Density Polyethylene (HDPE) (1.0 mm Minimum Thickness)
12	Ripcord	Below Corrugated Steel Tape
13	Armoring	Corrugated Steel Tape (0.155 mm Thickness)
14	Outer Sheath	UV Rated Black High Density Polyethylene (HDPE) (1.5 mm Minimum Thickness)

PHYSICAL SPECIFICATION

CABLE CONSTRUCTION

Fiber Count	Standard Tube Layup (Others On Request)	No. of Fillers	Cable Weight kg/km (Nominal)	Cable Diameter mm (Nominal)	Standard OFO Cable Code
64F	Sixteen Loose Tube/ 4 - fiber per tubes (Inner Layer - 6 Loose Tubes & Outer Layer - 10 Loose Tubes + 2 Fillers)	2	440.00	22.5	F18J64U2.0P-HEHZH

Fiber Coloring Coding (As per FEWA Specification) -

Fiber No.	Color
1	Blue
2	Orange
3	Green
4	Brown

Loose Tube Color Coding – (16 LT X 12F + 2 Fillers)

1st Layer - (6 LT's)

Loose Tube No.	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White

2nd Layer - (10 LT's + 2 Fillers)

Loose Tube No.	Color	Loose Tube No.	Color
1	Blue	7	Red
2	Orange	8	Black
3	Green	9	Yellow
4	Brown	10	Violet
5	Slate	11	Filler
6	White	12	Filler

Standard Cable Marking at 1 meter Interval -

Marking details	OPTICAL FIBRE CABLE 64F SM G652D OMAN FIBER OPTIC OMAN 2020 PROPERTY OF FEWA 171W2020 Meter Marking (XXXXM)
Marking Color	White

Printing is done with hot stamp/tape transfer method for excellent abrasion resistance.

OPTICAL, MECHANICAL AND QUALITY INFORMATION

CABLE WITH SINGLEMODE G.652D

PARAMETER	Units	G.652D
Fiber Type		ITU-T-G.652 D
Primary coating		UV curable acrylate
Maximum Cabled Fiber Attenuation Coefficient at 1310 nm	dB/Km	0.38
Maximum Cabled Fiber Attenuation Coefficient at 1550 nm	dB/Km	0.25
Mode field diameter at 1310 nm	μm	9.2 ± 0.4
Mode field diameter at 1550 nm	μm	10.4 ± 0.5
Core/cladding concentricity error	μm	≤ 0.5
Cladding Diameter	μm	125.0 ± 1.0
Cladding non-circularity	%	≤ 1.0
Primary Coating diameter	μm	245 ± 10
Cable cut-off wavelength	nm	≤ 1260
Zero dispersion Wavelength	nm	1300 – 1324
Zero dispersion slope	ps/nm ² .km	≤ 0.092
Maximum Chromatic Dispersion at 1285-1330 nm	ps/nm/km	3.5
Maximum Chromatic Dispersion at 1550 nm	ps/nm/km	18.0
Polarization mode dispersion coefficient	ps/√km	≤ 0.2
Fiber Proof Test	Kpsi	100
Bending sensitivity at 1550 nm measured with 100 turns on 37 mm radius	dB	1.0

MECHANICAL INFORMATION (IEC-60794-1)

PARAMETER	SPECIFICATION	UNITS
Tensile Strength (MPT) IEC 60794-1-2-E1	Load : 2000 Newton	Attenuation Change ≤ 0.05 dB @1550nm
	Length of cable : about 150 meter	No fiber break and no sheath damage.
	Load time : 5 minute	
Crush Test IEC 60794-1-2-E3	Load : 5000 Newton/100X100 mm	Attenuation Change ≤ 0.05 dB @1550nm
	Number of cycles : 3	
	Hammer Radius : 0.5	No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	Points of impact : 3	Attenuation Change ≤ 0.05 dB @1550nm
	Times of per point : 1	No fiber break and no sheath damage.
	Impact energy : 10 Newton-meter	
Repeated Bending Test IEC 60794-1-2-E6	Bending radius : 20 x OD	Attenuation Change ≤ 0.05 dB @1550nm
	No. of cycle : 6	No fiber break and no sheath damage.
Torsion Test IEC 60794-1-2-E7	Length : 2 meter	Attenuation Change ≤ 0.05 dB @1550nm
	Twist angle : $\pm 180^\circ$	No fiber break and no sheath damage.
	No. of cycle : 6	
Water Penetration Test IEC 60794-1-2-F5B	Height of water : 1 meter	No water leak from the cable core of the opposite end
	Sample length : 3 meter	
	Time : 8 hours	
Temperature Cycling Test IEC 60794-1-2-F1	Temperature : -40°C to $+70^\circ\text{C}$	Attenuation Change ≤ 0.1 dB @1550nm
	Time of each step : 8 hours	No fiber break and no sheath damage.
	Number of cycle : 2	
Cable Design Lifetime	25	Years
Packing Lengths	$2.0/4.0 \pm 5\%$	Km

GENERAL INFORMATION

FEATURES & ADVANTAGES

- Extraordinarily robust construction
- Outstanding rodent and insect resistance
- Easy cable preparation, even in mid-span
- SZ strand for easy mid span splicing
- Flexible buffer tubes provide easy fiber routing inside closure
- No preferential bend axis for easy cable handling, coil storage, figure-eight, etc.

INSTALLATION

The cable must be installed according to the latest version of the document titled OFO Installation Guidelines for Terrestrial Cables. This document explains safety, minimum bend radius, maximum pulling tension and other critical information about the cable and is available in downloadable form at www.omanfiber.com

[End of specification]

