



KST Ltd.

Technical Data Sheet

Cable Description	4F / 8F / 12F FLAT DROP (LOOSE TUBE) OFC
Type of Fibre	Single Mode, G.652D

Introduction

Flat Drop fibre optic cable containing LWP-SMF, in full compliance with ITU-T G652D. The offered cables are fully compliant to the relevant IEC specifications.

Cable Design

- * Enhance low water peak single mode fibers in full compliance with ITU-T-G652D
- * Loose buffer tubes filled with Fibers and Thixotropic Jelly
- * FRP ROD (2 Nos) Embedded in Sheath
- * HDPE outer sheath, Black

Special Features

* Completely dielectric cable/ non metallic cable immune to electromagnetic interferences

* Installation Condition	NESC LIGHT - 80 M	NESC MEDIUM - 40 M	NESC HEAVY - 20 M
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Cable Physical Characteristics

Fibre Count	4	8	12
Number of Fibres in Loose Tube	4	8	12
Number of Loose Tube in cable	1		
Cable Dimensions (mm)	4.3 x 7.8		
Tolerance ± (mm)	0.5		
Nominal Cable Weight (kg/km)	40.0		
Standard Length (meters)	2000/4000 ± 10%		

Cable Mechanical & Environmental Characteristics

Test	Standard	Product Performance
Temperature Range (°C)	[IEC 60794-1-22-F1]	-40 °C to +70 °C
Repeated Bending (mm)	[IEC 60794-1-21-E6]	30 Cycles, r = 200 mm, 100 N
Tensile Force (N)	[IEC 60794-1-21-E1]	1335 N
Crush Resistance (N)	[IEC 60794-1-21-E3]	1000 N (100 X 100 mm)
Impact Resistance (N-m)	[IEC 60794-1-21-E4]	300g From 1 Meter

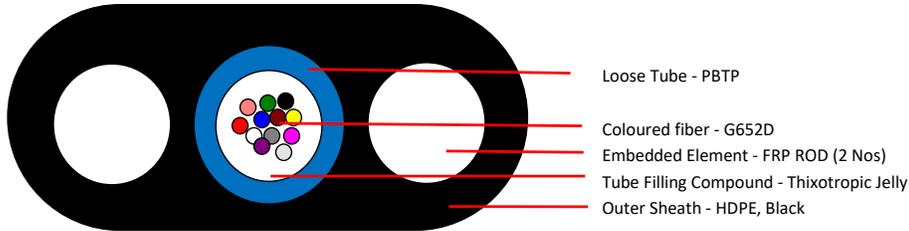
Note: After the Test, Change in Attenuation shall be ≤ 0.05 dB/Km. No Fibre Break & Damage or Crack on the Cable

Cable Transmission Characteristics

Fibre Type	Attenuation Coefficient (dB/Km)	PMD				Cable Cut-Of	MFD	
		850	1300	1310	1550	ps/sqrt.km	nm	µm
Single Mode	G.652D	-	-	≤ 0.36	≤ 0.22	≤ 0.2	≤ 1260	9.2 ± 0.4

Cable Constructional Details

Cable Cross Sectional Diagram of 12F Cable [Drawing not to scale]



Identification Fibre & Loose Tube

Fibre Colour - 4F	Blue	Orange	Green	Brown										
Fibre Colour - 8F	Blue	Orange	Green	Brown	Slate	White	Red	Black						
Fibre Colour - 12F	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua		
Loose Tube Colour	Blue													

Proposed Printing Details & Method at every meters

Printing Method & Colour	Ink Jet & Contrast	CABLE ID Customer/Project Name Telephone Symbol, Laser Symbol, Number of Fibres, Type of Fibre Type of Cable YYYY Manufacturer Name Sequential Meter Marking
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Proposed Stenciling on Drum

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.)	<ul style="list-style-type: none"> * 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/Project name and destination
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Specification of Single Mode Matched Clad Type Optical fibre Conforming to ITU - T Rec. G.652D

Properties	Unit	Values
Transmission		
Attenuation at 1310 nm	dB/km	≤ 0.34
Attenuation at 1550 nm	dB/km	≤ 0.20
Attenuation at 1625 nm	dB/km	≤ 0.23
Point discontinuity at 1310 & 1550 nm	dB	≤ 0.05
Difference in maximum attenuation in the range from		
1285 to 1330 nm w.r.t attenuation at 1310 nm	dB/km	≤ 0.03
1530 to 1570 nm w.r.t attenuation at 1550 nm	dB/km	≤ 0.02
Maximum chromatic dispersion at		
1285 - 1330 nm wavelength range	ps/nm.km	≤ 3.5
1270 - 1340 nm wavelength range	ps/nm.km	≤ 5.3
1550 nm	ps/nm.km	≤ 18.0
1625 nm	ps/nm.km	≤ 22.0
Zero dispersion wavelength	nm	1302 to 1322
Zero dispersion slope	nm ² .km	≤ 0.092
PMD at 1310 & 1550 nm	ps/sqrt.km	≤ 0.15
PMD Link Design Value at 1310 & 1550 nm**	ps/sqrt.km	≤ 0.06
Fibre cut-off wavelength	nm	≤ 1320
Cable cut-off wavelength	nm	≤ 1260
Mode field diameter range at 1310 nm	µm	9.2 ± 0.4
Mode field diameter range at 1550 nm	µm	10.4 ± 0.5
Geometrical		
Cladding Diameter	µm	125 ± 0.7
Cladding noncircularity	%	≤ 0.7
Primary Coating Diameter (uncoloured)	µm	242 ± 5
Coating Diameter (coloured)	µm	252 ± 10
Core/Clad or Mode Field concentricity error	µm	≤ 0.5
Coating / Cladding Concentricity error	µm	≤ 12
Numerical Aperature**		0.14
Refractive Index at 1310 & 1550 nm**		1.467 & 1.468
Mechanical**		
Proof Test for minimum strain level	kpsi, Gpa, %	≥ 100, ≥ 0.69, ≥ 1
Change in Attenuation with Bending		
100 Turns on 60 mm Diameter Mandrel		
at 1310	dB	≤ 0.05
at 1550	dB	≤ 0.05
1 Turn on 32 mm Diameter Mandrel		
at 1310	dB	≤ 0.5
at 1550	dB	≤ 0.5
Strippability force to remove primary coating of fibre	Newton	1.3 ≤ F ≤ 8.9
Fibre Curl	radius of curve.	≥ 4 mtrs
Dynamic tensile strength (unaged)	kpsi	≥ 550
Dynamic tensile strength (Aged)	kpsi	≥ 440
Dynamic Fatigue		≥ 20
Environmental**		
Induced attenuation at 1310 nm, 1550 nm & 1625 nm for		
Temperature & Humidity cycle from -10°C to +85°C at 98 % humidity (min), Reference Temperature 23°C	dB/km	≤ 0.05
Temperature cycle from -60°C to +85°C, Reference Temperature 23°C	dB/km	≤ 0.05
Water Immersion at 23 ± 2°C	dB/km	≤ 0.05
Accelerated Ageing (Temperature) at 85 ± 2°C, Reference Temperature 23°C	dB/km	≤ 0.05



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**** Fibre Manufacturer Certificate will be provided**

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