

CTSF – DOUBLE JACKET NO ARMOR (DRY)

Overview

Connect Fiber's Double Jacket (DJNA) Technology features a double sheath making the cable suitable for installation in duct, buried and aerial applications. The cable is constructed with a unique second coating and stranding technology provide the fibres with enough space and bending endurance which improves cable handling and reduces the installation time while lowering risk of cable and fiber damage. The manufacturing processes utilized high quality raw materials that guarantee the cable to be able to withstand the typical service condition for a period of twenty-five (25) years without detriment to the operation characteristics of the cable.

Features

- ITU-T G.652.D rated fiber with improved attenuation and bend performance as well as compatibility with standard single-mode.
- The unique second coating and stranding technology provide the fibres with enough space and bending endurance.
- Gel-Free water blocking design simplifies access, saves time and avoids environmental pollution, small diameter and light weight extend installation length.
- High quality raw material guarantees long service life of cable.

Ordering Information

Fiber Count	Part Number	Description
12	CTSF-012-SLT-DJNA-DRY	12 Fiber Stranded Loose Tube, 13.6mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D
24	CTSF-024-SLT-DJNA-DRY	24 Fiber Stranded Loose Tube, 13.6mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D
48	CTSF-048-SLT-DJNA-DRY	48 Fiber Stranded Loose Tube, 13.6mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D
72	CTSF-072-SLT-DJNA-DRY	72 Fiber Stranded Loose Tube, 13.6mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D
96	CTSF-096-SLT-DJNA-DRY	96 Fiber Stranded Loose Tube, 15.2mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D
144	CTSF-144-SLT-DJNA-DRY	144 Fiber Stranded Loose Tube, 18.3mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D
288	CTSF-288-SLT-DJNA-DRY	288 Fiber Stranded Loose Tube, 20.6mm, Black PE UV Resistant Jacket, 250um Single Mode, G.652D

Standards

CABLE DESCRIPTION

- G.652D SM-fibers: 12/24/48/72/96/144/288
- Loose tubes SZ-stranded.
- Suitable for direct buried, duct or aerial installation.

DESIGN AND TEST CRITERIA

Optical fibers are housed in loose tubes that are made of high-modulus plastic (PP) and filled without any waterproof compounds except water block yarns, there is no jelly in the cable core. FRP is applied as central strength member. PP loose tubes are SZ stranded around the central strength member. Dry water blocking material is used in and over the cable core to prevent it from water ingress. Polyethylene (PE) sheath is applied as outer sheath.

- ITU-T G.652D Characteristics of a single-mode optical fiber
- IEC 60794-1-1 Optical fiber cables- part1-1-Generic specification-General
- IEC 60794-1-2 Optical fiber cables- part1-2-Generic specification-Basic optical cable test procedure
- IEC 60794-3 Optical fiber cables- part3-Sectional specification- Outdoor cables
- IEC 60794-3-10 Optical fibre cables-part 3-10: Outdoor cables-Family specification for duct and
- IEC 60794-3-11 Optical fibre cables-part 3-11: Outdoor cables-Detailed specification for duct and

WORKING CONDITIONS

- Operation temperature: -40 °C to 70 °C

MINIMUM ALLOWABLE BENDING RADIUS

- Static: 10D (D: is the out diameter of the cable)
- Dynamic: 20D (D: is the out diameter of the cable)



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Specifications

Optical properties of the SM fiber are achieved through a germanium doped silica based core with a pure silica cladding which meets ITU-T G652D, UV curable acrylate protective coating is applied over the glass cladding to provide the necessary maximum fiber lifetime. Geometrical, optical, and mechanical characteristics of fiber in cable as the following table:

Category	Description	Specification
Geometrical Characteristics	Cladding diameter	125.0 ± 1 μm
	Cladding non-circularity	≤ 1.0 %
	Core concentricity error	≤ 0.6μm
	Coating diameter	245± 7 μm(Before Colored) 250 ± 15 μm (Colored)
	Coating/cladding concentricity error	≤ 12μm
Optical Characteristics	Mode field diameter at 1310 nm	9.2 ± 0.4 μm
	Mode field diameter at 1550 nm	10.4 ± 0.5 μm
	Point discontinuity	≤ 0.05dB
	Attenuation at 1310 nm	≤ 0.36 dB/km after cladding
	Attenuation at 1550 nm	≤ 0.22 dB/km after cladding
	Zero dispersion wavelength	1300 - 1324 nm
	Zero dispersion slope	≤ 0.091 ps/(nm ² ·km)
	Cable cut-off wavelength	≤ 1312 ± 12nm
	Polarization mode dispersion design link value (M=20, Q=0.01%)	≤ 0.1 ps/vkm
	Macro-bend loss (100 turns, 50mm radius, 1310/1550nm)	≤ 0.05 dB
Mechanical Specification	Tensile performance(N)	2700 short term 900 long term
	Crush(N/100mm)	2200 short term 1100 long term

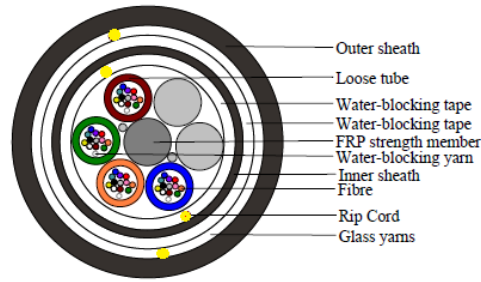
DIMENSIONS AND DESCRIPTIONS OF CABLE CONSTRUCTION

Item	Details	Fiber Count						
		12F	24F	48F	72F	96F	144F	288F
Loose tube	Number	1	2	4	6	8	12	24
	Outer diameter (mm)	2.4						
Fiber counts per tube (G652D)		12 Fibers						
Filler	Number	5	4	2	0			
Cable diameter (approx.)		13.6			15.2	18.2	20.6	
Cable weight(kg/km) Approx.		120			142	232	260	
Central Strength member	Material	FRP						
	Diameter (mm)	2.6			3.5			
	PE layer diameter (mm)	n/a			4.2	7.2	4.8	
Water Blocking Material		Water Blocking Tape(Special) & Yarn						
Inner sheath	Material	MDPE						
	Colour	Black						
	Thickness (mm)	Approx. 0.8						
Outer sheath	Material	MDPE						
	Colour	Black						
	Thickness (mm)	Approx. 1.6						
Ripcord	Number	2+2						

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Cable Construction

CROSS SECTION VIEW



Colour Coding of the Fiber Jackets

INDIVIDUAL FIBER JACKETS

Each individual fiber can be identifiable throughout the length of the cable in accordance with the following colour sequence. Fiber colour in each tube starts from Fiber #1 which is Blue.

Fiber jacket colour coding	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Slate	White
	7	8	9	10	11	12
	Red	Black	Yellow	Purple	Pink	Aqua

FIBER BUFFER TUBE JACKETS

Each fiber buffer bundle can be identifiable throughout the length of the cable in accordance with the following colour sequence. Fiber colour in each tube starts from No. 1 Blue.

Fiber Cables with 24 Buffer	Inner1	Inner 2	Inner 3	Inner 4	Inner 5	Inner 6
	Blue	Orange	Green	Brown	Slate	White
	Inner 7	Inner 8	Inner 9	Outer 1	Outer 2	Outer 3
	Red	Black	Yellow	Purple	Pink	Aqua
	Outer 4	Outer 5	Outer 6	Outer 7	Outer 8	Outer 9
	Blue with yellow Stripe	Orange with black Stripe	Green with black Stripe	Brown with black Stripe	Slate with black Stripe	White with black Stripe
	Outer 10	Outer 11	Outer12	Outer 13	Outer 14	Outer 15
	Red with black Stripe	Black with yellow Stripe	Yellow with black Stripe	Purple with black Stripe	Pink with black Stripe	Aqua with black Stripe