



FORTEX® DT CABLE - LIGHT ARMOR

Construction	Corrugated steel tape armored	
	Totally-Dry core	
	Loose tube	
	SM or NZD	
Description	Optical cables, with singlemode optical fibers coated with acrylate, protected by totally dry loose tubes, protected by waterblocking yarns. Tubes gathered around the central member. The cable core is dry protected by hydroexpansive materials. Around the core it is applied a corrugated steel tape (anti-rodent protection). This agregation is covered by an outer jacket of black thermoplastic or LSZH material.	
Application	Installation Environment	Outdoor
	Operation Environment	Aerial lashed
		Underground installations against rodents attacks.
		In ducts
Standard	Directly buried	
	Supports IEEE 802.3ae - 10 Gbs Ethernet ,ANSI T11.2 - Fibre Channel e IEE 802.3-2015 Seção 6 40/100 Gbs Ethernet	
	Applicable requirements of the standards:	
	• ITU-T G.652 "Standard for non-dispersion shifted single-mode fiber"; • ITU-T G.655 "Standard for non-zero dispersion-shifted single-mode optical fiber"; • ANSI/ICEA S-87-640 "Standard for Optical Fiber Outside Plant Communications Cable"; • Telcordia GR-20 CORE Issue 2 "Generic Requirements for Optical Fiber and Optical Fiber Cable". • ANSI/TIA/EIA 598-D "Optical Fiber Cable Color Coding"; • IEC-60794-1 "Standard fibre optics Optical fibre cables". • IEC-60793-1 "Standard Optical fibres - Measurement methods and test procedures" • ANSI/TIA-568.3-D "Optical Fiber Cabling and Components Standard" • IEC 60332-3 "Tests on electric and optical fibre cables under fire conditions" (Low Smoke Zero Halogen) • IEC 61034-2 "Measurement of smoke density of cables burning under defined conditions" (Smoke density) • IEC 60754-2 "Test on gases evolved during combustion of materials from cables" (Acidity of smoke)	
Optical Fiber	Singlemode optical fibers ITU-T G652D or NZD ITU-T G655 covered by UV cured acrylate	

Optical Characteristics	Singlemode Fiber Transmission Characteristics - G-652D																														
	Wavelength (nm)	Maximum Optical Characteristics (dB/km)																													
		Low Water Peak (3WM)	Zero Water Peak (3BE)	Zero Water Peak (3CE)	Zero Water Peak (3FE)	Zero Water Peak (3LE)																									
	1310	0.35	0.35	0.35	0.34	0.35																									
	1490	0.27	0.27	0.27	0.27	0.27																									
	1550	0.22	0.25	0.25	0.22 (0.19 Typically)	0.22																									
	1625	0.25	0.25	0.25	0.25	0.25																									
	NZD Transmission Characteristics - G-655																														
	Wavelength (nm)	Maximum Optical Characteristics(dB/km)																													
		NZD TrueWave RS (626)																													
	1550	0.23																													
	Other characteristics:																														
	Fiber	Characteristics																													
	Singlemode	According to technical specification 2000 (Annex A)																													
	NZD	According to technical specification 1902 (Annex C)																													
Fiber Coating	Optical fiber with an acrylate coating.																														
Fiber and Loose Tube Identification	<table><tr><th>Fiber /Buffer Tube</th><th>Color</th></tr><tr><td>01</td><td>Blue</td></tr><tr><td>02</td><td>Orange</td></tr><tr><td>03</td><td>Green</td></tr><tr><td>04</td><td>Brown</td></tr><tr><td>05</td><td>Slate</td></tr><tr><td>06</td><td>White</td></tr><tr><td>07</td><td>Red</td></tr><tr><td>08</td><td>Black</td></tr><tr><td>09</td><td>Yellow</td></tr><tr><td>10</td><td>Violet</td></tr><tr><td>11</td><td>Pink</td></tr><tr><td>12</td><td>Aqua</td></tr></table>					Fiber /Buffer Tube	Color	01	Blue	02	Orange	03	Green	04	Brown	05	Slate	06	White	07	Red	08	Black	09	Yellow	10	Violet	11	Pink	12	Aqua
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Buffer Tube	Gel-free loose tubes of thermoplastic material protected with waterblocking yarns in order to prevent water penetration. Loose tubes shall protect the optical fibers from mechanical tensions																														
Central Member	Dielectric-material element located in the center of the core cable to prevent the efforts of the cable tension. As central member, it is applied a bar of plastic material reinforced by FRP (Fiber Reinforced Plastic) fiberglass.																														
Core	The tubes are gathered together to form the cable core. The core shall be protected with water blocking material to prevent water intrusion. If necessary, filler rods may be applied to maintain a cylindrical core.																														

Core Lay up

Loose tubes quantity	Cable fiber count		
	Construction with 06	Construction with 08	Construction with 12
	Fibers per Tube	Fibers per Tube	Fibers per Tube
<u>01</u>	06F	08F	12F
<u>02</u>	12F	16F	24F
<u>03</u>	18F	24F	36F
<u>04</u>	24F	32F	48F*
<u>05</u>	30F	40F	60F
<u>06</u>	36F	48F	72F
<u>07</u>	42F	56F	84F
<u>08</u>	48F	64F	96F
<u>09</u>	54F	72F	108F
<u>10</u>	60F	80F	120F
<u>11</u>	66F	88F	132F
<u>12</u>	72F	96F	144F
<u>13</u>	78F	104F	156F
<u>14</u>	84F	112F	168F
<u>15</u>	90F	120F	180F
<u>16</u>	96F	128F	192F
<u>17</u>	102F	136F	204F
<u>18</u>	108F	144F	216F
<u>19</u>	114F	152F	228F
<u>20</u>	120F	160F	240F
<u>21</u>	126F	168F	252F
<u>22</u>	132F	176F	264F
<u>23</u>	138F	184F	276F
<u>24</u>	144F	192F	288F

Important: For cables with a number of fibers different from those provided in the previous table, consult the manufacturer.

*44F - Formation: 3 loose tubes of 12 fibers + 1 loose tube of 8 fibers

Minimal Rodent Protection Thickness	Corrugated steel tape, longitudinally applied over the cable core. Two ripcords are applied under the corrugated steel tape.
Outer Jacket	Black Polyethylene resistant to weathering and sunlight. A ripcord is included under the outer jacket. For installation in indoor / outdoor environment the jacket will be made of a flame propagating compound, with low emission of smoke and halogen free (LSZH).

Cross Section



Physical Characteristics	Maxiumum Rated Cable Load (MRCL)	2700 N	
	Everyday Stress (EDS)	800 N	
	Crush Resistance	2200 N/10cm	
	Minimum radius of curvature (mm)	- Under tension: 15 x cable diameter - Without tension: 10 x cable diameter - On the reel: 10 x cable diameter	
	Installation temperature	-30 °C to 60 °C	
	Operation temperature	-60 °C to 70 °C	
	Storage temperature	-40 °C to 75 °C	
Dimension	Loose tubes Qty	Cable outer diameter (mm)	Nominal cable Weight (kg/km)
		Tolerance ±1 (mm)	
	01 to 05	11.5	110
	06	12.1	122
	07 to 08	13.9	160
	09 to 10	15.6	197
	11 to 12	17.4	236
	13 to 18	17.2	217
	19 to 20	18.0	238
	21 to 24	19.7	284

Marking

Cables will be provided with the following marking in bas-relief or in a well readable marking on the cable surface in length intervals of 1 meter:

"FURUKAWA LIGHTERA AT-fffH2Yx-nnn month/year nnnF "Customer name" XXXXXXAA-DD-LL ()"**

Where:

fff = Fiber characteristics

3WM = Singlemode fibers Low Water Peak

3BE = Singlemode fibers Zero Water Peak

3LE = Singlemode fibers Zero Water Peak

626 = Fibras TrueWave NZD

x = fibers per tube

6 = cables with 6 fibers per tube

8 = cables with 8 fibers per tube

T = cables with 12 fibers per tube

nnn = Cable fiber count

month/year = Date of manufacture (MM/YYYY)

"Customer name" = When required on the order (under consult)

XXXXXXXAA-DD-LL =

XXXXXX = Serial number

AA = Year

DD = Check digit

LL = Production Lot

()** = Sequential metric marking xxxxxx m

For mixed fiber cables, the label will be:

"FURUKAWA LIGHTERA AT-fffH2Yx-nnn-y/z month/year nnnF "Customer Name" XXXXXXAA-DD-LL ()"**

Where:

fff = Fiber Characteristics

X27 = TrueWave NZD Fibers + Low/Zero Water Peak Singlemode Fibers

y/z = Number of NZD Fibers / Number of Singlemode Fibers

(Standard Tube Orientation: NZD -> Singlemode)

QB7 = Low/Zero Water Peak Singlemode Fibers + TrueWave NZD Fibers

y/z = Number of Singlemode Fibers / Number of NZD Fibers

(Reverse Tube Orientation: Singlemode -> NZD)

Package Type	Wooden reel
Standard Length	4000 meters $\pm$ 2,0 %

Observations

Optical cables covered by this datasheet are designed and manufactured considering a minimum lifespan of 25 years, when used in normal and appropriate conditions.

This lifespan is applicable to products in good conditions, installed according to the good practices, free of damages caused by bad installation, handling and/or inappropriate storage.

[Part Numbers](#)