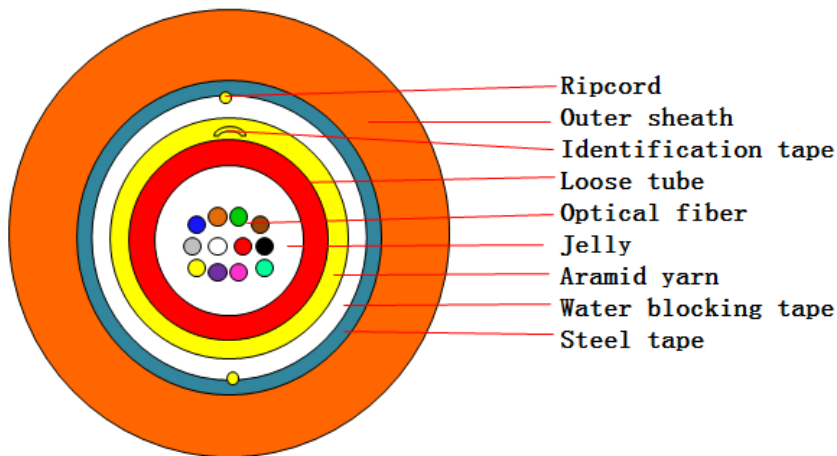


GYFXTS

1. Cable cross-section



BOROPTİK MÜHENDİSLİK
AR-GE İMALAT VE TİCARET A.Ş.
Çayırbaşı Mahallesi Acıgöl OSB
1.Cad. 3.Sok. No: 1 Acıgöl/NEVŞEHİR
Acıgöl Y.O. : 045 3906

2. Cable Specification

2.1 Introduction

Central single loose tube, jelly compound filled, water blocking aramid yarns and water blocking tape, then steel tape and PE outer sheath.

2.2 Fiber color code

Fiber color in each tube starts from No. 1 RED.

1	2	3	4	5	6	7	8	9	10	11	12
RED	YELLOW	GREEN	BLUE	VIOLET	BROWN	BLACK	ORANGE	PINK	GRAY	AQUA	NATURAL

2.3 Color code for loose tube

The tube color is RED.

2.4 Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	12
2	Tube diameter	mm	2.8 ± 0.2
3	Outer sheath thickness	mm	1.2 ± 0.1
4	Cable diameter($\pm 5\%$)	mm	7.6
5	Cable weight($\pm 10\%$)	kg/km	59
6	Short term tension	N	1000
7	Ultimate tensile strength	N	2000
8	Short term crush	N/100mm	1500
9	Aramid Yarn Content	gt/mt	4

3. Characteristic of Optical Cable

3.1 Min. bending radius for installation

Static: 10 x cable diameter



Dynamic: 20 x cable diameter

3.2 Application temperature range

Operation: -40°C ~ +80°C

Installation: -5°C ~ +70°C

Storage/transportation: -40°C ~ +80°C

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3.3 Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-2-E1	- Load: Short term tension - Length of cable: about 50m - Load time: 1min	- Fiber strain $\leq 0.33\%$ - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 10min	- Loss change $\leq 0.05\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
	- Load: 3000N - Load time: 1min	- No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 3J	- Loss change $\leq 0.05\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
Repeated Bending IEC 60794-1-2-E6	- Bending radius: 20 x OD - No. of cycle: 25	- Loss change $\leq 0.05\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
Torsion IEC 60794-1-2-E7	- Length: 1m - Twist angle: $\pm 180^\circ$ - No. of cycle: 3	- Loss change $\leq 0.05\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
Cable bend IEC 60794-1-2-E11	- Diameter of mandrel: 15 x OD - Number of turns: 5 - Number of cycles: 3	- Loss change $\leq 0.05\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
Temperature Cycling IEC 60794-1-2-F1	- Temperature: -40°C~+80°C - Time of each step: 36h - Number of cycle: 1	- Loss change $\leq 10\%$ - No fiber break and no sheath damage.
Water Penetration IEC 60794-1-2-F5B	- Height of water: 1m - Sample length: 1m - Time: 48h	- No water leak from the cable core of the opposite end
Kink Test IEC 60794-1-2-E10	- Bending radius: 20 x OD	- Loss change $\leq 0.05\text{dB}/\text{km}@1550\text{nm}$ - No fiber break and no sheath damage.

4. Characteristic of Optical Fiber

G652D fiber information

Mode field diameter (1310nm):	9.2 μm $\pm$ 0.4 μm
Mode field diameter (1550nm):	10.4 μm $\pm$ 0.5 μm
Cladding diameter:	125 μm $\pm$ 0.7 μm
Coating diameter:	245 μm $\pm$ 10 μm
Core/cladding concentricity error:	$\leq 0.6\mu\text{m}$
Cladding non-circularity:	$\leq 1.0\%$
Cut off wavelength of cabled fiber (λ_{cc}):	$\leq 1260\text{nm}$



Before Cabling (In Bare Fiber)

Attenuation at 1310nm:	$\leq 0.34\text{dB/km}$
Attenuation at 1550nm:	$\leq 0.21\text{dB/km}$
Attenuation at 1625nm:	$\leq 0.22\text{dB/km}$

After Cabling (In Fiber Cable)

Attenuation at 1310nm:	$\leq 0.36\text{dB/km}$
Attenuation at 1550nm:	$\leq 0.22\text{dB/km}$
Attenuation at 1625nm:	$\leq 0.24\text{dB/km}$
Bending loss at 1550nm (100 turns, 30mm radius):	$\leq 0.05\text{dB}$
Dispersion in the range 1288 to 1339nm:	$\leq 3.5\text{ps/ (nm}\cdot\text{km)}$
Dispersion at 1550nm:	$\leq 17\text{ps/ (nm}\cdot\text{km)}$
zero-Dispersion wavelength	1300nm~1322nm
Dispersion slope at zero dispersion wavelength:	$\leq 0.092\text{ps/ (nm}^2\cdot\text{km)}$
Polarization mode dispersion (individual fiber):	$\leq 0.2\text{ps}/\sqrt{\text{km}}$

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