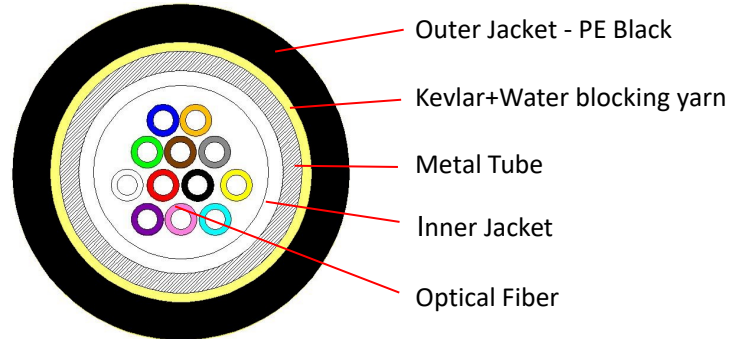


Outdoor PE Armored Optical Cable (12F-A2)

Profile View



Cable Parameters

Items		Specifications
Fiber Count		12F
Fiber Type		SM G657.A2
Optical Fiber	Dimension	250±15µm
	Color	Standards Colors
Inner Jacket	Dimension	1.5±0.1mm
	Material	PBT
Metal Tube	Dimension	2.3±0.2mm
	Material	SUS202 Steel
Strength Member	Material	Kevlar+Water Blocking Yarn
Outer Jacket	Dimension	3.3±0.2mm
	Material	PE Black

Mechanical and Environmental Characteristics

Items	Unit	Specifications
Tension (Long Term)	N	100
Tension (Short Term)	N	200
Crush (Long Term)	N/10cm	200
Crush (Short Term)	N/10cm	500
Min. Bend Radius (Dynamic)	mm	20D
Min. Bend Radius (Static)	mm	10D
Operate Temperature	°C	-20~+70
Storage Temperature	°C	-20~+70

Fiber Parameters

No.	Items	Unit	Specification
			G.657A2
1	Mode Field Diameter	1310nm	8.4~9.2
		1550nm	9.3~10.3
2	Cladding Diameter	µm	125.0±0.7
3	Cladding Non-Circularity	%	≤0.7
4	Core-Cladding Concentricity Error	µm	≤0.5

5	Coating Diameter	μm	240 \pm 5	
6	Coating Non-Circularity	%	\leq 6.0	
7	Cladding-Coating Concentricity Error	μm	\leq 12.0	
8	Cable Cutoff Wavelength	nm	$\lambda_{cc}\leq$ 1260	
9	Attenuation(max.)	1310nm	dB/km	\leq 0.35
		1490nm	dB/km	\leq 0.23
		1550nm	dB/km	\leq 0.21
		1625nm	dB/km	\leq 0.23
10	Macro-Bending Loss	10turn \times 15mm radius @1550nm	dB	\leq 0.25
		10turn \times 15mm radius @1625nm	dB	\leq 0.10
		1turn \times 10mm radius @1550nm	dB	\leq 0.75
		1turn \times 10mm radius @1625nm	dB	\leq 1.5
		1turn*7.5mm radius@1550nm	dB	\leq 0.5
		1turn*7.5mm radius@1625nm	dB	\leq 1.0

Tests of cable (After cabling)			
1	Tensile Test	IEC-60794-1-E1	-Max. allowable pulling force: installation tensile; sample length: no less than 50 meters, time: 10 minutes; -Fiber strain at max. load : max. 0.33 %. -No damage to the outer jacket and inner elements. Reversible.
2	Crush test	IEC-60794-1-E3	-Load:short time crush strength, time: 5 minutes, length: 100 mm, number of tests: 3; -No damage to the outer jacket and inner elements. Reversible.
3	Impact test	IEC-60794-1-E4	-Impact energy: 3J , radius: 10.0 mm, impact points: 3 Number of impacts: 1 -No breakage of the optical fiber, -No splits or cracks in the outer jacket. -Attenuation increase \leq 0.1dB, reversible
4	Repeated bending test	IEC-60794-1-E6	-1m cable length, bending radius: 20 times cable's diameter. 25 cycles, duration of cycle: 2s. -No damage to the outer jacket and inner elements. Reversible
5	Torsion test	IEC-60794-1-E7	-2m cable length, \pm 180 degrees, 5cycles; -no damage to the outer jacket -Attenuation increase \leq 0.1dB, reversible
6	Bending test	IEC-60794-1-E11	- Diameter of mandrel: 20xD ,number of turns/helix: 4 number of cycles: 3 , -No damage to the outer jacket and inner elements (20 °C). reversible
7	Temperature cycling test	IEC-60794-1-F1	-Temperature step: +20°C \rightarrow -40°C \rightarrow +70°C \rightarrow -40°C \rightarrow +70°C \rightarrow +20°C,time per each step: 12 hrs, -number of cycles: 2 cycles -they shall be no change in attenuation variation for reference value (the attenuation to be measured before test at +20 \pm 3 °C) - reversible
8	Water penetration test	IEC-60794-1-F5	-Water height: 1m, sample length: 3m, duration of test: 24 hrs. - No water leakage at the end of the sample
9	Drip test	IEC-60794-1-E14	-Three 0.3m samples suspended vertically in a climate chamber, raised temperature to +70°C. -no filling compound shall drip from tubes after 24 hr