FIBER OPTIC CABLE PRODUCT

ADSS FIBER OPTIC DOUBLE JACKET FRP.

PRODUCT DESCRIPTION

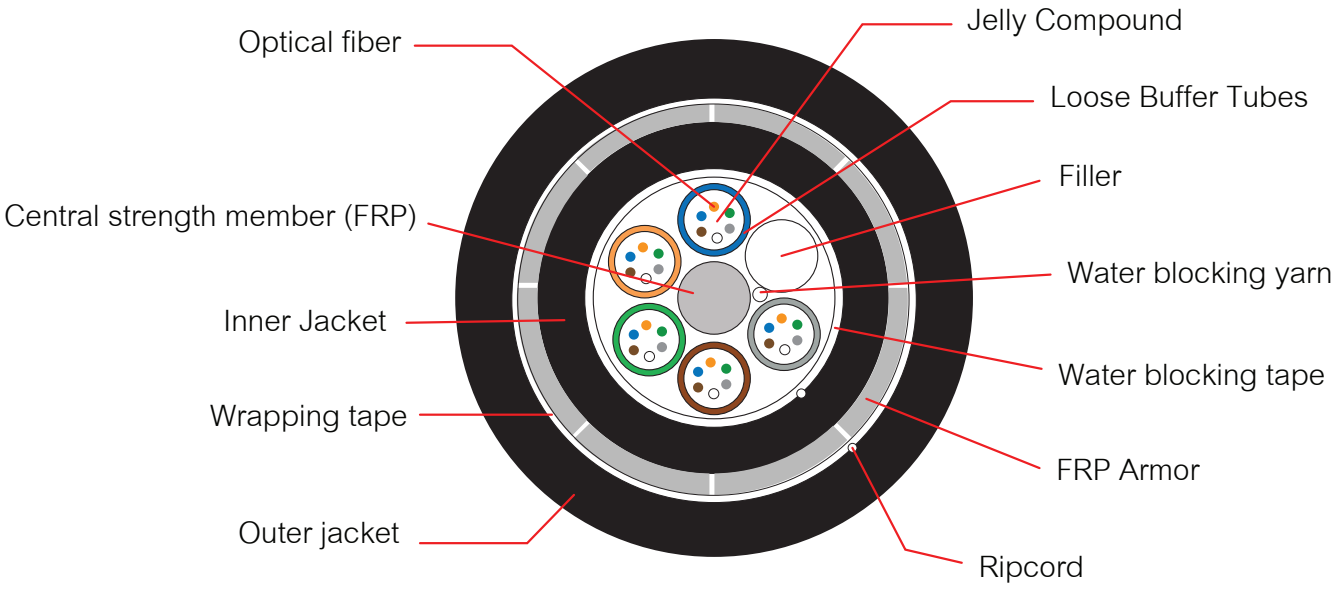
- Provides additional mechanical protection
- Low-friction installation
- Excellent environmental resistance (UV, moisture, mechanical)
- Color-coded fibers and loose tubes for easy identification
- Suitable for duct or aerial installation

APPLICATION

- Designed for use in power transmission systems with high electric field environments and areas prone to lightning strikes
- Ideal for Ethernet LAN, CCTV, network cameras, and PLC systems

STANDARD

- ATM, FDDI, FTTX, Fiber Channel,CATV, Communication
- ISO/IEC 11801:2007, ISO/IEC 11801:2011 (Ed.2.2)
- ANSI/TIA/EIA-568-B.3, ANSI/TIA-568-C.3, ANSI/TIA-568-D.3, ANSI/ICEA 640
- Telcordia (Bellcore) GR-20-CORE, GR-409-CORE
- ANSI/ICEA S-596, ICEA S-696, IEC 60754-2, IEC 60793, IEC 60794-1-2
- ITU-T G.652.D, ITU-T G.657.A2
- TIA/EIA-598-C (Rev. TIA/EIA-598-A), EIA-359-A
- IEEE802.3z, IEEE802.3ae, IEEE802.3 (LAN, Ethernet Fast Ethernet,Gigabit Ethernet and 10 Gigabit Ethernet 40 - 100 Gbps)
- RoHS compliant
- TIS 2166
- Made in Thailand (MiT)



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CONSTRUCTION CABLE

Cable type		ADSS
Element	-	5
Fiber Optic	Material	High-Purity Silica Glass / Compound Glass
Central strength member	Material	FRP 1.8 ± 0.2 mm
Loose tube	Material	PBT
	Diameter	2.2 mm ± 0.2 mm
	-	6 fibers per tube, filled with thixotropic jelly compound
Protective tape	Material	Water-blocking tape, water-blocking yarn
Strength member	Material	Aramid yarns
Rodent Protection Armor	Material	Flat-type FRP (non-metallic) (FRP: Fiber Reinforced Plastics)
		Nominal thickness: 1.0 ± 0.2 mm
Inner Sheath	Thickness	1.0 ± 0.2 mm
	Material	High Density Polyethylene (HDPE)
Outer Sheath	Material	UV-Proof Black HDPE (non Rodent Repellent/Rodent Repellent)
	Thickness	1.8 ± 0.2 mm
Rip Cord	Material	Polyester (high-tensile)
	No.	2
Filler Rod	Material	Polyethylene, natural Color
	Diameter	2.2mm±0.2mm
Stranding method	-	Reverse oscillating lay (ROL) technique (SZ Direction)
	-	Lay length: 75 mm ± 5 mm
Tensile Load	Short term	7000N
	Long term	3600N
	Pressure	≥ 3400 ± 100 N/10 cm
Overall diameter	Diameter	12.0-13.0 mm
Cable diameter	Diameter (24/48 core)	10.5 ± 1 mm (24F) and 11.5 ± 1 mm (48F)
Weight	(24/48 core)	Approx. 85 / 100±10 kg/km
Span Length		40-100m
Water Blocking Element		Dry-core technology
Width		≥ 126 km/hr
Temperature Range	Operation Temperature	-40°C to +70 °C
	Installation Temperature	-40°C to +70 °C
	Storage/Shipping Temperature	-40°C to +75°C
Color marking stripe		3 mm ± 0.5mm

NO. OF FIBER IN EACH TUBE

No. of fiber	No. of tube		1	2	3	4	5
24	6	Tube color	Blue	Orange	Green	Brown	/
			6	6	6	6	
48	6	Tube color	Blue	Orange	Green	Brown	/
			12	12	12	12	

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OPTICAL FIBER CHARACTERISTICS

CATEGORY	DESCRIPTION	SPECIFICATIONS
Optical Specifications		ITU-T G.652D (Singlemode OS2) 9/125 µm (OS2) ITU-T G651(Multimode) 62.5/125µm , 50/125 µm
Attenuation	@ 1310 nm @ 1383 nm @ 1490 nm @ 1550 nm @ 1625 nm	≤ 0.35 / ≤ 0.33dB/km ≤ 0.35 / ≤ 0.31dB/km ≤ 0.24 dB/km ≤ 0.21 / ≤ 0.19 dB/km ≤ 0.23 / ≤ 0.20 dB/km
Attenuation Discontinuity		≤ 0.05 dB
Attenuation vs. Wavelength	1285–1330 @ 1310 nm 1525–1575 @ 1550 nm	≤ 0.05 dB/km ≤ 0.05 dB/km
Zero Dispersion Wavelength		1300-1324 nm
Zero Dispersion Slope		≤ 0. 092 ps/(nm²·km)
Dispersion	@ 1310 nm @ 1550 nm	≤ 3.5 ps / (nm·km) ≤ 18 ps / (nm·km)
Polarization Mode Dispersion (PMD)		≤ 0.1 ps/√km
Cable Cutoff Wavelength (λcc)		≤ 1260 nm
Effective Group Refractive Index	@ 1310 nm @ 1550 nm	1.4676 1.4681
Geometrical Characteristics		
Mode Field Diameter	@ 1310 nm @ 1550 nm	9.2 ± 0.6 µm 10.4 ± 0.8 µm
Cladding Diameter		125 ± 1 µm
Cladding Non-Circularity		≤ 1.0 %
Coating Material	Material Diameter	UV curable acrylate 250 ± 5µm
Coating/Cladding Concentricity Error		≤ 12 µm
Core–Cladding Concentricity Error		≤ 0.5µm
Colored Fiber Diameter		250 µm ± 15 µm (Colored)
Fiber proof-tested		0.69 GPa (1.0%, 100 kpsi), tested per IEC 60793-1-30

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OPTICAL FIBER CHARACTERISTICS

CATEGORY	DESCRIPTION	SPECIFICATIONS
Mechanical Specifications		
Proof Test Level		≥ 1.0 %
Fiber Curl Radius		≥ 4.0 mm
Peak Coating Strip Force		1.3 - 8.9N
Relative Humidity		≤ 90% RH, non-condensing
Max. Span Length	At sag ratio 0.5%	40 m
	At sag ratio 1.0%	80 m
Max. Wind Velocity		126 km/hr
Max. Tensile Load	Installation	7000 N
	Operation	3600 N
Maximum Crush resistance		3,400 N/10 cm
Min. Bending Radius	Installation	20 x Diameter of Cable
	Operation	10 x Diameter of Cable

Color Code Identification for Optical Fibers and Loose Tubes

The color code of the loose tubes and the individual fibers within each loose tube shall be in accordance with TIA/EIA-598-C (Rev.TIA/EIA-598-A) and EIA-359-A

NO.	FIBER COLOR	LOOSE TUBE COLOR
1	Blue	Blue
2	Orange	Orange
3	Green	Green
4	Brown	Brown
5	Slate	Slate
6	White	White
7	Red	Red
8	Black	Black
9	Yellow	Yellow
10	Violet	Violet
11	Rose	Rose
12	Aqua	Aqua

PACKING AND DRUM

The cable is wound on a non-returnable wooden drum with a standard packing length of 4000 meters per reel.
Both ends of the cable are securely fastened and sealed with heat-shrinkable end caps to prevent moisture ingress.
The following information shall be printed on the outer sheath of the cable at intervals of approximately 1 meter:

- Cable type and number of optical fibers
- Manufacturer's name
- Month and year of manufacture
- Cable length
- Company logo and Thai language marking

The sequential length marking shall be printed on the cable sheath at 1-meter intervals ± 1%.

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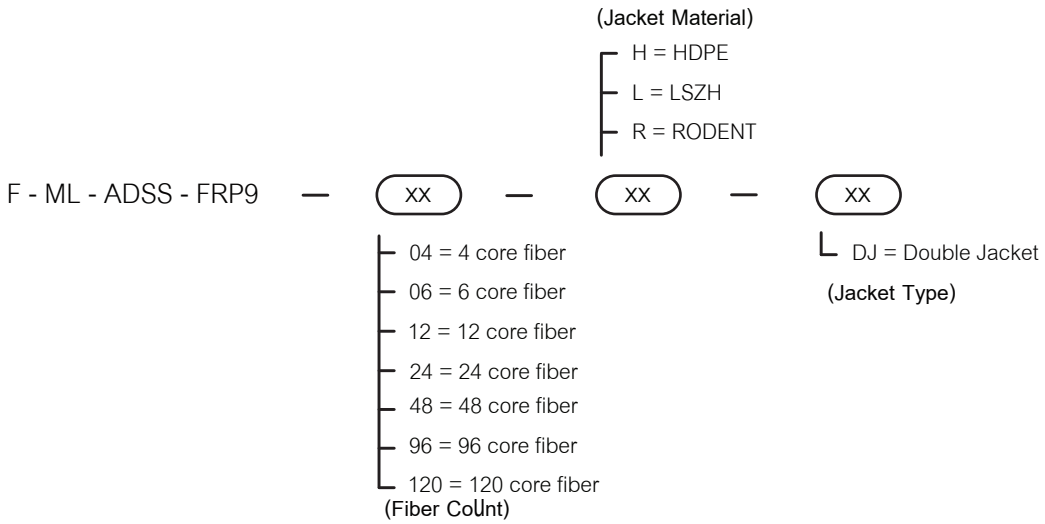
TEST REQUIREMENTS

Item	Method	Acceptance criteria
Tensile test IEC 60794-1-2-E1A TIA/EIA-455-33A	- Max. tensile strength: 3000 N - Cable sample length: 100 m - Times: 1 hour	- Maximum allowable fiber strain - Maximum load: 0.33% - Attenuation increase ≤ 0.1 dB
Crush or Compression test IEC 60794-1-2-E3 TIA/EIA-455-41A	- Load: 2200 N - Time: 10 minutes - Length: 100 mm	- No visible splits or cracks in the outer jacket - Attenuation increase ≤ 0.10 dB
Impact test IEC 60794-1-2-E4 TIA/EIA-455-25C	- Impact energy: 450 g - Height: 1 meter - Minimum impact points: 1 - Number of impacts: 5	- No splits or cracks in the outer jacket - Attenuation increase ≤ 0.10 dB (after the test)
Torsion or Twist test IEC 60794-1-2-E7 TIA/EIA-455-85A	- 1 m cable length with 150 N weight - ±180°, 10 cycles	- No splits or cracks in the outer jacket - Attenuation increase ≤ 0.10 dB (after the test)
Repeated bending Cable Bending Test IEC 60794-1-2-E6, TIA/EIA-455-104A IEC 60794-1-2-E11B	- Radius = 20 × cable outer diameter - 1m cable length with 150 N weight, 30 cycles	- No splits or cracks in the outer jacket - Attenuation increase ≤ 0.10 dB (after the test)
Temperature cycling test IEC 60794-1-2-F1 TIA/EIA-455-3A	- Temperature step: +20 °C →-40 °C →+70 °C →+20 °C - Time per each step: 16 hrs. - Number of cycles: 2 cycles	- Attenuation variation for reference value (the attenuation to be measured before test at +20±3) ≤ 0.10dB/km
Water penetration test IEC 60794-1-2-F5 TIA/EIA-455-82B	- Water height: 1 m - Sample length: 3 m - Duration of test: 24 hrs	- No water leakage at the end of the sample
Drip test IEC 60794-1-2-E14	- Five 0.3m samples suspended vertically in a climate chamber, raised to +70 °C in a climate chamber	- No filling compound shall drip from tubes after 24 hrs.

ORDER INFORMATION



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