FIBER OPTIC CABLE PRODUCT

ADSS FIBER OPTIC DOUBLE JACKET FRP.

PRODUCT DESCRIPTION

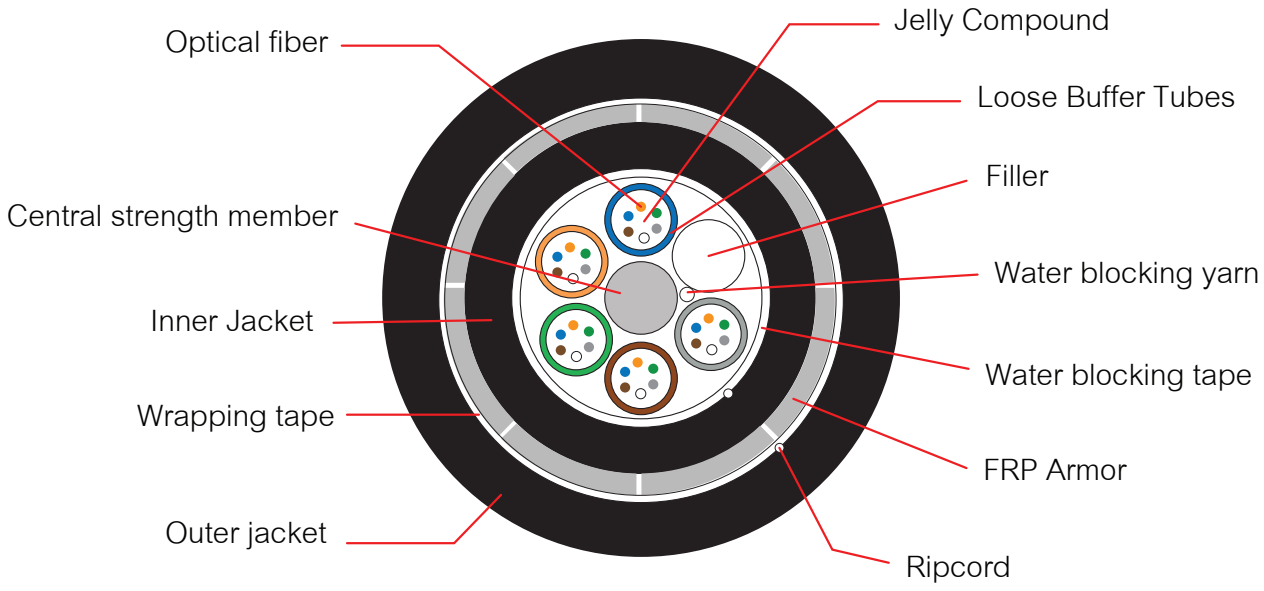
- Provide additional mechanical protection
- low friction installation
- Excellent protection from environmental hazards
- Code colour fiber and loose tube
- The cable shall be used for duct or aerial installed

APPLICATION

- Environment with high electric field strength in the Power communication system and the area where frequent thunder happens.
- Ethernet LAN Network, CCTV, Network Camera, PLC

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-568.3-D, ANSI/ICEA 640
- Telcordia (Bellcore)GR-20CORE, GR-409-CORE
- ANSI/ICEA 596, ICEA696, IEC61034-2, IEC60754-2, IEC60793, IEC60794-1-2
- ITU G.652D, ITU-TG 657A2
- 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 2166-2548
- Made in Thailand : MiT



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CONSTRUCTION CABLE

Cable type		ADSS
Element	-	5
Fiber Optic	Material	Silica High Grade / Compound Glass
Central strength member	Material	FRP 1.8 ± 0.2 mm
Loose tube	Material	PBT
	Diameter	2.0 ± 0.2 mm
	-	6 fiber per tube, Thixotropic Jelly Compound
Protective tape	Material	Water -blocking tape, Water blocking yarn
Strength member	Material	Aramid yarns
Rodent Protection Armor	Material	Flat FRP Non-Metaliic type (FRP: Fiber Reinforced Plastics)
		Nominal thickness 1.0 ± 0.2mm
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
	No.	2
Filler Rod	Material	Polyethylene, natural Color
	Diameter	2.2mm±0.2mm
Stranding method	-	Reverse oscillating lay (ROL) technique (SZ Direction)
	-	Lay-length 75mm±5mm
Tensile Load	Short term	7000N
	Long term	3600N
	Pressure	≥ 3400 N/10cm
Overall diameter	Diameter	12.0-13.0 mm
Cable diameter	Diameter (24/48 core)	10.5 ± 1mm / 11.5 ± 1mm.
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 Stripe		3 mm ± 0.5mm

NO. OF FIBER IN EACH TUBE

No. of fiber	No. of tube	Tube color	1	2	3	4	5
24	6	Tube color	Blue	Orange	Green	Brown	F
		No. of fiber	6	6	6	6	
48	6	Tube color	Blue	Orange	Green	Brown	F
		No. of fiber	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) 62.5/125 µm , 50/125 µm
Attenuation	@1310nm	≤0.35/≤0.33dB/km
	@1383nm	≤0.35/≤0.31dB/km
	@1490nm	≤0.24db/km
	@1550nm	≤0.21/≤0.19dB/km
	@1625nm	≤0.23/≤0.20dB/km
Attenuation discontinuity		≤0.05 dB
Attenuation vs. Wavelength	1285 -1330 @1310nm	≤0.05 dB/km
	1525 -1575@1550nm	≤0.05 dB/km
Zero dispersion wavelength		1300 -1324 nm
Zero dispersion slope		≤0. 092 ps/(nm².km)
Dispersion	@1310nm	≤3.5 ps/nm.km
	@1550nm	≤18 ps/nm.km
Polarization mode dispersion(PMD)		≤0.1 ps/km ½
Cable cutoff wavelength (λcc)		≤1260 nm
Effective group index of reaction	@1310nm	1.4675
	@1550nm	1.4681
Geometric Specifications		
Mode field diameter	@1310nm	9.2 ± 0.6 µm
	@1550nm	10.4 ± 0.8 µm
Cladding diameter		125 ± 1 µm
Cladding non -circularity		≤1.0 %
Coating Material	Material	UV curable acrylate
	Diameter	250 ± 5µm
Coating/Cladding concentricity error		≤12 µm
Core/Cladding concentricity error		≤0.5µm
Color Fiber Diameter		250 µm ± 15 µm (Colored)
Fiber proof-tested		0.69 GPa (1.0%, 100kpsi) in accordance with the optical fiber proof test by 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 m
Peak coating strip force		1.3 - 8.9N
Relative humidity		Up to 90%, no frost
Maximum Span Length	Sag 0.5%	40 m.
	Sag 1.0%	80 m.
Maximum Wind Velocity		126 km./hr.
Max. Tensile load	Installation	7000 N.
	Operation	3600 N.
Maximum Crush resistance		3,400 N./10 cm.
Minimum bending Radius	Installation	20 x Diameter of Cable
	Operation	10 x Diameter of Cable

IDENTIFICATION COLOR CODE OF FIBER AND LOOSE TUBE

The color code of the loose tubes and the individual fibers within each loose tube shall be in accordance 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 rounded on a non-returnable wooden drum. Cable Packing 4000m/reel. Both ends of cable are securely fastened to drum and sealed with a shrinkable cap to prevent ingress of moisture. The following information shall be marked on the outer sheath of the cable at an interval of about 1 meter.

- Cable type and number of optical fiber
- Manufacturer name
- Month and Year of Manufacture
- Cable length
- Logo and Thai word

The sequential number of the cable length shall be marked on the outer sheath of the cable at an interval of 1meter ± 1%

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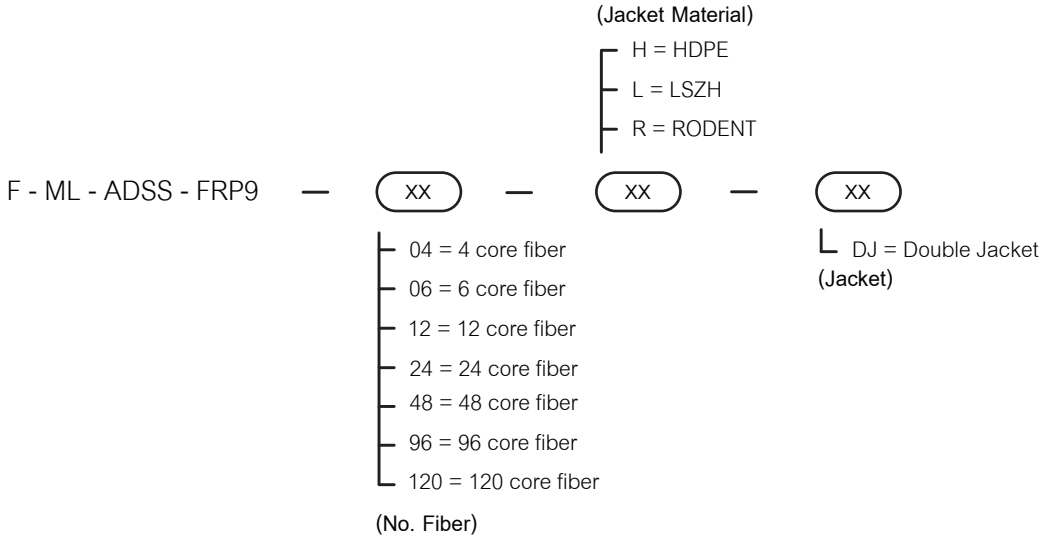
TEST REQUIREMENTS

Item	Method	Acceptance criteria
Tensile test IEC 60794-1-2-E1A TIA/EIA-455-33A	- Max. tensile strength: 3600 N - Sample length: 100 meters - Times: 1 hour	-Fiber strain at maximum -Load max. 0.33 % -Attenuation increase ≤ 0.1dB
Crush or Compression test IEC 60794-1-2-E3 TIA/EIA-455-41A	- Load: 2200 N - Time: 10 minutes - Length: 100 mm	-No 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 - Impact points: min.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-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: 1m - Sample length:3m - Duration of test: 24hrs	-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 temperature to +70°C	-No filling compound shall drip from tubes after 24 hrs.

ORDER INFORMATION



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