

FIBER OPTIC CABLE

ARSS FIBER OPTIC DOUBLE JACKET



PRODUCT DESCRIPTION

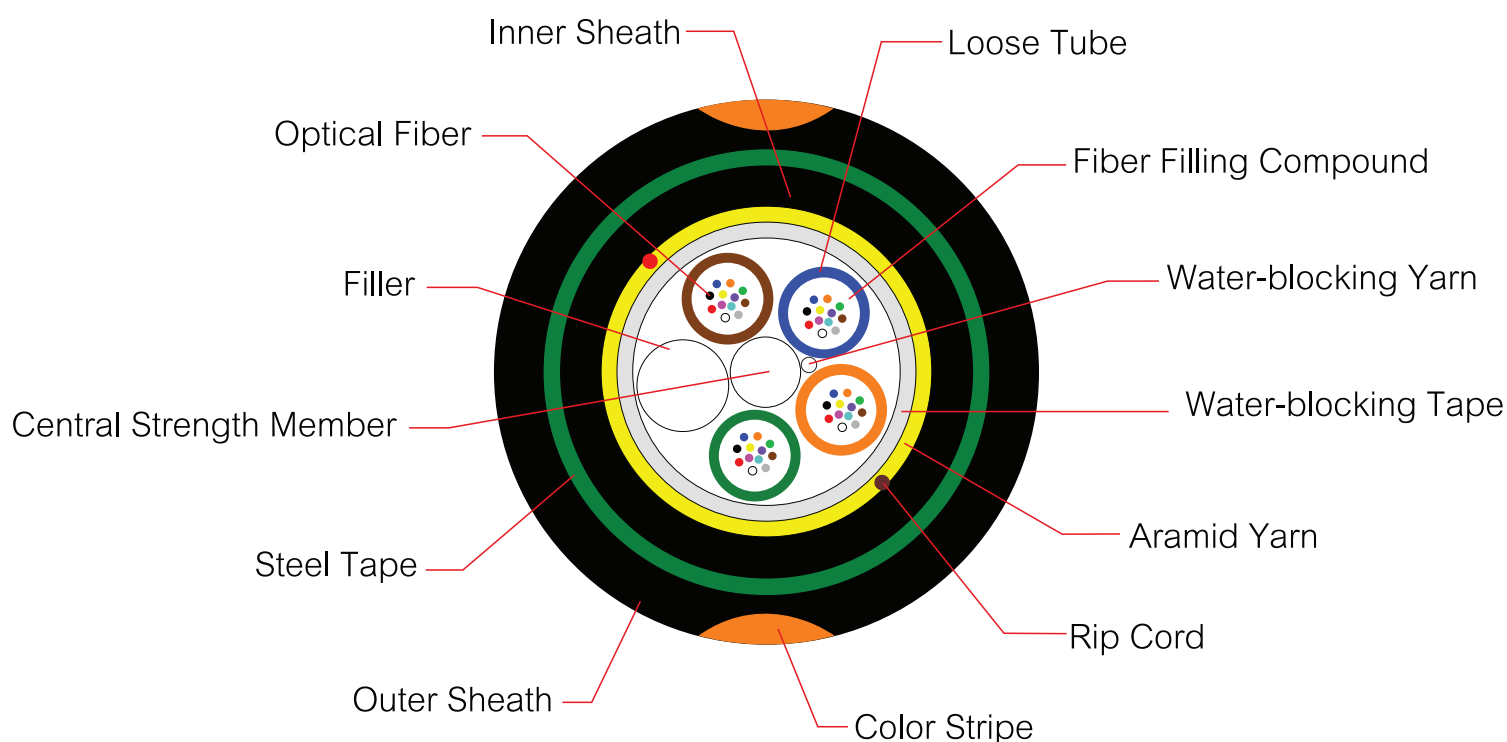
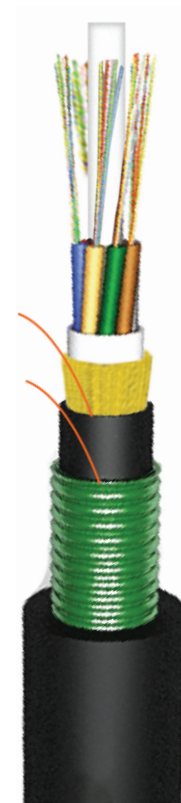
- Provide additional mechanical protection
- Low-friction sheath for easy installation
- Excellent protection from environmental hazards
- Standardized color-coded fibers and loose-tube configuration
- Suitable for duct or aerial installation

APPLICATION

- Designed for high-voltage environments and areas prone to lightning surges in power communication systems.
- Ideal for Ethernet LANs, CCTV systems, network cameras, and PLC networks.

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
- ANSI/ICEA 596, ICEA696, IEC61034-2, IEC60754-2, IEC60793, IEC60794-1-2
- ITU G.652D, ITU-TG 657A2, IEC60794-1-2E4, TIA-455-25C
- 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
- TISI-2166
- Made in Thailand (MiT)



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CONSTRUCTION

Cable Type		ARSS-DJ
Fiber		Single-mode (ITU-T G.652.D)
	Material	Ge-doped fused silica (core)
Number of Fibers		4, 24, 48
Central Strength Member	Material	FRP (Fiber Reinforced Plastic)
Water Blocking		Water-blocking tape and water-swellaable yarn
Member	Material	PBT
Tube	Filling Compound	Thixotropic gel
Filler	Material	Polypropylene (PP)
Additional Strength Member	Material	Aramid yarn or equivalent
Rip Cord 1	No.	1
	Material	Polyester
Armor	Material	Corrugated steel tape with polymer coating on both sides
Inner Sheath	Material	PE (Black) / MDPE (Black)
	Thickness	Minimum 1.0 mm
Rip Cord 2	No.	1
	Material	Polyester
Outer Sheath	Material	HDPE (Black) with UV-resistant compound (Non-Rodent or Rodent Repellent options)
	Thickness	Minimum 1.5 mm
Color Stripe	No	2
		orange stripes
Span Length		40 – 100 meters
Wind Resistance		≥ 126 km/h
Temperature Range	Operation	−40°C to +70°C
	Storage	−40°C to +75°C

BUFFER TUBE STRANDING, CABLE SIZE AND WEIGHT

Fiber Count	Fibers per Tube	Tube/Filler Arrangement	Cable Diameter (±0.5 mm)
4	4	1/4	12.3
24	6	4/1	12.3
48	12	4/1	13.0

OPTICAL FIBER CHARACTERISTICS

Category	Description	Specification
Optical Specifications		ITU-T G.652D (Singlemode OS2) 9/125 μm (OS2)
Attenuation	@1310nm	$\leq 0.35 / \leq 0.33$ dB/km
	@1383nm	$\leq 0.35 / \leq 0.31$ dB/km
	@1490nm	≤ 0.24 dB/km
	@1550nm	$\leq 0.21 / \leq 0.19$ dB/km
	@1625nm	$\leq 0.23 / \leq 0.20$ dB/km
(*Post-hydrogen aging performance according to IEC 60793-2-50 for B1.3 category)		
Attenuation Discontinuity		≤ 0.05 dB
Attenuation vs. Wavelength	1285 -1330	@ 1310nm ≤ 0.03 dB/km
	1525 -1575	@ 1550nm ≤ 0.02 dB/km
Zero Dispersion Wavelength		1300–1324 nm
Zero Dispersion Slope		≤ 0.092 ps / (nm ² .km)
Chromatic Dispersion Coefficient	@1310 nm	≤ 3.5 ps / (nm.km)
	@1550 nm	≤ 18 ps / (nm.km)
	@1625 nm	≤ 22 ps / (nm.km)
Polarization mode dispersion (PMD)		≤ 0.2 ps/km ^{1/2}
Cable Cutoff Wavelength (λ_{cc})		≤ 1260 nm (TIA/EIA-455-170)
Effective Group Index of Refraction	@1310 nm	1.4676
	@1550 nm	1.4682
Geometric Specifications		
Mode Field Diameter	@1310 nm	9.2 ± 0.6 μm
	@1550 nm	10.4 ± 0.8 μm
Cladding Diameter		125 ± 1 μm
Cladding Non-Circularity		≤ 1 %
Protective Coating Material	Material	UV curable acrylate
	Diameter	245 ± 5 μm (uncolored) , 250 ± 15 μm (Colored) (Refer to EIA/TIA-455-173)
Coating / Cladding Concentricity Error		≤ 12 μm
Core / Cladding Concentricity Error		≤ 0.5 μm
Color Fiber Diameter		$250 \mu\text{m} \pm 15 \mu\text{m}$ (Colored)
Fiber proof-tested		0.69 GPa (1.0%, 100kpsi) in accordance IEC 60793-1-30
PMD Coefficient	@ 1550 nm	$250 \mu\text{m} \pm 15 \mu\text{m}$ (Colored)
Maximum attenuation with Macrobending loss (100 turns @ 30 mm radius)	@ 1550 nm	≤ 0.10 dB

OPTICAL FIBER CHARACTERISTICS

CATEGORY	DESCRIPTION	SPECIFICATIONS
Mechanical Specifications		
Proof Test Level		≥ 1.0 %
Minimum Fiber Curl Radius		≥ 4.0 m
Peak Coating Strip Force		1.3 - 8.9 N
Relative Humidity		Up to 90%, no frost
Maximum Span Length	0.5% Sag	40 m.
	1.0% Sag	80 m.
Maximum Wind Velocity		80 m and wind force 126 Km/hr
Maximum Tensile Load	Installation	3600 N for 6–96 cores
	Operation	2500 N for 6–96 cores
Maximum Crush Resistance		3400 N / 10 cm
Minimum Bending Radius	Installation	20x Cable Diameter
	Operation	10x Cable Diameter
Thermal Oxidative Stability (OIT Test)		OIT @ 200°C > 40 minutes (IEC 60811-410)
Initial Sag		1% of span length 80 m.

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 (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

- Cable is packed on a non-returnable wooden reel, with a length of 4000 m per reel.
- Both ends shall be sealed with a shrinkable cap to prevent moisture ingress.
- The following information shall be printed on the outer sheath of the cable at approximately 1-meter intervals:
 - Cable type and number of optical fibers
 - Cable length
 - Manufacturer name
 - Logo and Thai language text
 - Month and Year of Manufacture
- The sequential meter marking shall have a tolerance of ±1% per meter.

TEST REQUIREMENTS

Item	Method	Acceptance criteria
Tensile Loading	IEC 60794-1-2-E1 Load :2,500 N Hold time : 1hour	Attenuation change < 0.1 dB Fiber strain ≤0.33% No fiber break and no sheath damage
Impact	IEC 60794-1-2-E4 Impact energy :5N.m Radius of hammer head:12.5±0.1mm Point of impact : 3 No. of impact: 1 time each point	Attenuation change <0.1 dB No fiber break and no cable damage
Crush	IEC 60794-1-2-E3 Load : 2,200N/100mm Loading time: 10 minute	Attenuation change <0.1 dB No fiber break and no cable damage
Repeat Bending	IEC 60794-1-2-E6 Flexing rate: ≤ 2 sec/cycle No. of cycles : 25 Mandrel diameter: 20×Dia. of cable. Load : 50 N	Attenuation change <0.1 dB No fiber break and no cable damage
Water Penetration	IEC 60794-1-2-F5B Head of water : 1 m Test time : 1 hour Sample length: 3 m	No water leakage at end of cable
Twist	IEC 60794-1-2-E7 Length : 1 m Twist angle : ±90° No. of cycles : 5 cycles	Attenuation change <0.1 dB No fiber break and no cable damage
Temperature Cycling	IEC 60794-1-2-F1 No. of cycles : 1 Temperature: -10 to +70°C Soak time (4km/drum): 12 hours	Attenuation change <0.1 dB/km No fiber break and no cable damage

ORDER INFORMATION

