



## OUTDOOR, MULTI-TUBE, ARMORED, SINGLE JACKET, FIBER OPTIC CABLE 12Core

### APPLICATION

This specification covers the construction and properties of ARSS (Anti-Rodent Self-Support), Outdoor/Multi-tube, Armored, Single Jacket, fiber optic cable for aerial, direct buried and duct installation. Fiber optic cable supports application such as 40/100Gbps Ethernet, IEEE802.3ae, 10G Ethernet, IEEE802.3z, Gigabit Ethernet, Fast Ethernet, Ethernet, 100BASE-F, 52/155/622Mbps and 1.2Gbps ATM, FDDI, Fiber channel and others.



**fiber optic cable in accordance with**

ANSI/TIA-568.3-D  
 ANSI/TIA-568-C.3  
 ANSI/ICEA 640  
 Telcordia (Bell core) GR-20-CORE  
 ITU-T G.652D (Single mode)  
 ITU-T G.651 (Multimode)

ISO/IEC 11801:2011  
 ISO/IEC 11801:2017  
 IEC 60793, IEC 60794-1-2  
 EN 50173-1  
 TIS 2166-2548  
 RoHS Compliant

### OPTICAL FIBER

Items		Specifications
Fiber Type		9/125 $\mu\text{m}$ (OS2)
Max. / Typ. Attenuation	1310 nm	$\leq 0.35$ / $\leq 0.33$ dB/km
	1383 nm	$\leq 0.35$ / $\leq 0.31$ dB/km
	1550 nm	$\leq 0.21$ / $\leq 0.19$ dB/km
	1625 nm	$\leq 0.23$ / $\leq 0.20$ dB/km
Cladding Diameter		$125 \pm 0.7 \mu\text{m}$
Coating Diameter, Primary		$242 \pm 5 \mu\text{m}$
Coating Diameter, Secondary		$250 \pm 5 \mu\text{m}$
Cladding Non-circularity		$\leq 0.7 \%$
Core/Cladding Concentricity error		$\leq 0.5 \mu\text{m}$
Coating/Cladding Concentricity error		$\leq 12 \mu\text{m}$
Attenuation (Homogeneity)		Max 0.1 dB/km
Fiber Curl		$\geq 4\text{M}$
Numerical Aperture		$0.130 \pm 0.010$
Group refractive index	1310 nm	1.4676
	1550 nm	1.4682



## CABLE CONSTRUCTION

Item		Description				
Number of fibers		6-24	36-60	72	96	120
Loose Tube	Material	PBT (Polybutylene Terephthalate) with color coding				
	Filling Compound	Thixotropic Jelly Compound				
	Fiber per Tube	6	12			
	Number	1-4	3-5	6	8	10
Filler Rod	Material	Plastic rod, natural color				
	Number	4-1	2-0	0	0	0
Stranding	Method	Reverse oscillating lay (ROL) technique (SZ Direction)				
Central Strength Member	Material	FRP (Fiberglass Reinforce with Plastic)				
	Color	Natural				
Water Blocking Yarn	Material	Suitable Water Swellable Materials (Dry-Core Technology)				
Binder & Wrapping	Material	Polyester yarns				
Water Blocking Tape	Thickness	0.3 ± 0.05 mm.				
Ripcord	Material	Plastic thread				
	Number	2				
Additional Strength Member	Material	Water blocking E-glass yarn (aramid yarn is available on request)				
Armored	Material	Corrugated chrome steel tape coated with polymer				
	Thickness	Steel & Polymer coating: 0.25 mm.				
Outer Sheath	Material	UV-Proof, Black HDPE (with color strip is available on request)				
	Thickness (Approx.)	1.6 mm.				

## TEMPERATURE RANGE

For the cables covered by this specification, the following temperature ranges apply.

- Operation Temperature : -40°C to +70°C
- Installation Temperature : -40°C to +70°C
- Storage/Shipping Temperature : -40°C to +75°C

## MECHANICAL SPECIFICATION

Item		Specification
Maximum Span Length	Sag 0.5%	40 m.
	Sag 1.0%	80 m.
Maximum Wind Velocity		126 km./hr.
Max. Tensile load	Installation	1,800 N.
	Operation	1,000 N.
Maximum Crush resistance		3,400 N./10 cm.
Minimum bending Radius	Installation	20 x Diameter of Cable
	Operation	10 x Diameter of Cable

Mechanical Specification of the cable.

## MECHANICAL PERFORMANCE TEST

- Tensile loading Test TIA/EIA-455-33A and IEC 60794-1-2-E1A
- Compression Test TIA/EIA-455-41A and IEC 60794-1-2-E3
- Repeated Bending Test TIA/EIA-455-104A and IEC 60794-1-2-E6
- Impact Test TIA/EIA-455-25B and IEC 60794-1-2-E4
- Cable Bending Test IEC 60794-1-2-E11B
- Cable Twist or Torsion Test TIA/EIA-455-85A and IEC 60794-1-2-E7
- Temperature Cycling Test TIA/EIA-455-3A and IEC 60794-1-2-F1
- Water Penetration Test TIA/EIA-455-82B and IEC 60794-1-2-F5