



- UFC9706MA
- UFC9712MA
- UFC9724MA
- UFC9736MA
- UFC9748MA
- UFC9760MA
- UFC9772MA
- UFC9796MA
- UFC97120MA
- UFC97144MA

LINK AMERICAN STANDARD



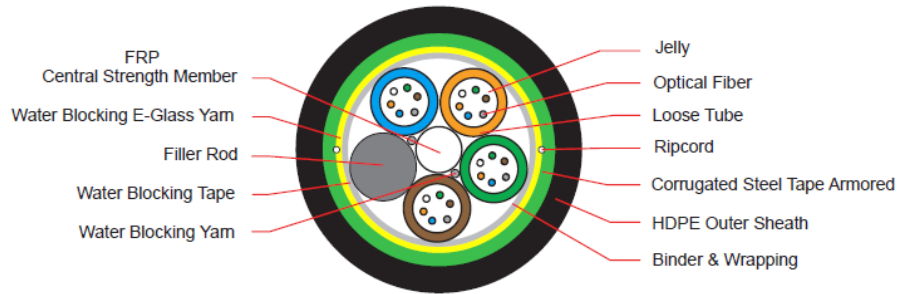
## F.O. ARSS, MULTI-TUBE, ARMORED, SINGLE JACKET

### Scope of 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. LINK 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.

LINK ARSS, Outdoor/Multi-tube, Single Jacket, fiber optic cable. Single mode color coded fibers are housed in multiple color coded plastic buffer tubes which are stranded around a dielectric central strength member. Dry water blocking tapes or yarns, wrapped around the core, provide protection against water ingress. These user friendly elements replace the sticky cable filling gel used in traditional loose tube cable designs. Water blocking E-glass yarn, which provide additional tensile strength, are applied over the cable core. Corrugated steel tape provide for anti-rodent. The cable sheath is high density polyethylene jacket. Contain 6 to 312 cores.

### Drawing



### Technical Standard

- ANSI/TIA-568.3-D
- ANSI/TIA-568-C.3
- ANSI/ICEA 640
- Telcordia (Bellcore) GR-20-CORE
- ITU-T G.652D (Singlemode)
- RoHS Compliant
- ISO/IEC 11801:2011
- ISO/IEC 11801:2017
- IEC 60793, IEC 60794-1-2
- EN 50173-1
- TIS 2166





## OPTICAL FIBER

Items		Specifications
Fiber Type		9/125 $\mu\text{m}$ (OS2)
Max. / Typ. Attenuation	1310 nm	$\leq 0.35/0.33$ dB/km
	1383 nm	$\leq 0.35/0.31$ dB/km
	1550 nm	$\leq 0.21/0.19$ dB/km
	1625 nm	$\leq 0.23/0.20$ dB/km
Core	Mode Field Diameter	9.2 $\pm$ 0.4 $\mu\text{m}$ @ 1310 nm 10.4 $\pm$ 0.5 $\mu\text{m}$ @ 1550 nm
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
Zero Dispersion Wavelength		1300 ~ 1324 nm
Zero Dispersion Slope		$\leq 0.092$ ps/(nm <sup>2</sup> .km)
Cut-off Wavelength	$\lambda_0$ (Fiber)	1150 ~ 1330 nm
	$\lambda_\infty$ (Cable)	$\leq 1260$ nm
Proof Test Stress		100 Kpsi
Chromatic Dispersion	$\lambda$ ; 1285~1340 nm	$\leq 3.5$ ps/nm.km
	$\lambda = 1550$ nm	$\leq 18$ ps/nm.km
	$\lambda = 1625$ nm	$\leq 22$ ps/nm.km
Polarization mode dispersion (PMD)		$\leq 0.20$ ps/ $\sqrt{\text{km}}$
Fiber Curl		$\geq 4\text{M}$
Numerical Aperture		0.130 $\pm$ 0.010
Group refractive index	1310 nm	1.4676
	1550 nm	1.4682

**Table 1** The Optical, Geometrical Performance of the Singlemode Fiber (The specification conforms to the requirement of ISO/IEC11801, ANSI/TIA-568.3-D, IEC 60793-2B1.3, ITU-T G.652D)



## CABLE CONSTRUCTION

The construction of the cable shall be in accordance with Table 2 below.

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			
Filler Rod	Number	1-4	3-5	6	8	10
	Material	Plastic rod, natural color				
Stranding	Method	Reverse oscillating lay (ROL) technique (SZ Direction)				
	Material	FRP (Fiberglass Reinforce with Plastic)				
Central Strength Member	Color	Natural				
	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.				
Cable Diameter (Approx.)	10.3 ± 1 mm.	10.7 ± 1 mm.	11.2 ± 1 mm.	12.4 ± 1 mm.	14.4 ± 1 mm.	
Cable Weight (Approx.)	100 ± 10kg./km.	115 ± 10kg./km.	125 ± 15kg./km.	150 ± 15kg./km.	180 ± 15kg./km.	

**Table 2** Construction of ARSS, Outdoor/Multi-tube, Armored, Single Jacket, Fiber optic cable.

## 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

**Table 3** Mechanical Specification of the cable.

## FIBER AND LOOSE TUBE IDENTIFICATION

The color code of the loose tubes and the individual fibers within each loose tube shall be in accordance with Table 4 TIA/EIA-598-C (Rev. TIA/EIA-598-A) and EIA-359-A Color Code for Fiber and Loose tube Identification.

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

**Table 4** TIA/EIA-598-C Color Code for Fiber and Loose tube Identification.

## 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



**ORDER INFORMATION**

ARSS, OUTDOOR/MULTI-TUBE, ARMORED, SINGLE JACKET, FIBER OPTIC CABLE

Descriptions	OS2, SM 9/125 μm
6 Core	UFC9706MA
12 Core	UFC9712MA
24 Core	UFC9724MA
36 Core	UFC9736MA
48 Core	UFC9748MA
60 Core	UFC9760MA
72 Core	UFC9772MA
96 Core	UFC9796MA
120 Core	UFC97120MA
144 Core	UFC97144MA

Specifications subject to change without notice.

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