

Data Sheet

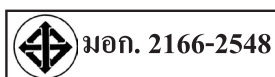
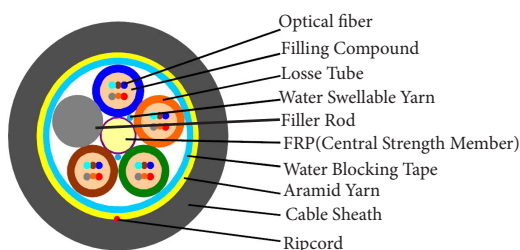
(ADSS) All-Dielectric Self Supporting cables

Loose Tube ADSS Cable Aerial

BISMON's ADSS are All-Dielectric self supporting cable and single jacket designed for aerial installation. The optical fiber cable(ADSS) design provides no supporting part or messenger wire required. BISMON provides for hardware part for installation with ADSS cable supporting on the pole. The cable inside multi-loose tube filled with a water resistant filling compound or design for waterblocked with water blocking material in side cable. The cable high tensile by aramid yarns and FRP strength member rod inside. Outer sheath made from HDPE. The cable approved by TISI 2166-2548 in Thailand standard Standard packing(wooden) 4,000M/Reel.



Cross Section



Product Construction :

Fiber :

- ◆ 4-120 Core fibers
- ◆ Loose tube gel-filled
- ◆ Color-coding per TIA/EIA 598-A

Central Strength Member :

- ◆ FRP rod (Fibre Reinforcement Plastic)
- ◆ Aramid Yarn

Ripcords :

- ◆ 1 ripcords made from Polyester cords

Water blocking elements :

- ◆ Water swellable yarn&Water blocking tape

Outer Jacket :

- ◆ Black UV-and HDPE
- ◆ Made to order cable marking (Thai word)

Max Tensile :

- ◆ Max.tensile load: (short term) 4000N

Installation conditions :

- ◆ Max. pole span length: 80 m
- ◆ Wind velocity : 150 km/hr

Applications :

- ◆ Adopted to outdoor areial self-supporting installation
- ◆ Long-distance communication, local trunk line, CATV & computer networks system, Telecom or outside plant campus backbone applications
- ◆ Ethernet LAN Network, CCTV, Network Camera, PLC
- ◆ Mechanically, rugged, cable design for : Aerial, duct

Standards Compliances :

- ◆ IEC 60794, IEC 60793-2, ITU-T Rec.G650, ITU-T Rec.G652D, ITU-T Rec.G655, ITU-T Rec.656, ITU-T Rec.G657, ISO/IEC11801,TIA/EIA-568.C.3, Telcordia GR-409-Core & GR-20, EN50173, ICEA S-104-696&ANSI/ICEA S-87-640, ETL, UL, OFNR/FT40FNP/FT6, ANSI/TIA/EIA-568B3, EIA/TIA-455, CEA-640

Identification Color Code of Fiber (TIA/EIA-598-A)

Fiber No:	1	2	3	4	5	6	7	8	9	10	11	12
Color	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua

Applications Speed:

Fiber optic cable is intended for all high speed data applications, including:

IEEE 802.3 FOIRL	10 Mb/s	FDDI	100Mb/s
IEEE 802.3 10Base-F	10 Mb/s	ATM	155Mb/s, 622Mb/s, 1.2/2.4 Gb/s
IEEE 802.3ab 1000Base-SX/LX	1 Gb/s	Fiber Channel FC-PH	1.062 Gb/s
IEEE 802.3ae 10GBASE-X	10 Gb/s		

(ADSS) All-Dielectric Self Supporting cables

Technical data								
Fibers	No. of Fibers	4	6	8	12	24	36	48
Loose tube	Number x Fibers per tube	1x4	1x6	2x4	2x6	4x6	3x12	4x12
	No. of Tubes (+Fillers)	5	5	5	5	5	5	5
	Filling compound	Thyrotrophic jelly compound						
	Material	PBT (Polybutylene terephthalate) (natural or white color)						
	Diameter (nominal)/mm	2.00	2.00	2.00	2.00	2.00	2.30	2.30
Thickness (nominal)/mm	0.30	0.30	0.30	0.30	0.30	0.35	0.35	
Central Strength Member	FRP, Diameter (nominal)/mm	1.6	1.6	1.6	1.6	1.6	1.8	1.8
Water blocking elements	Material (cable core covering/filling)	Water swellable yarn and Water blocking Tape						
Additional Strength member	Material	Aramid yarn						
RipCORDS	Material	Polyester cords or Plastic thread. Color red						
	Number	One						
Outer Sheath(Jacket)	Material	UV-Proof High density black polyethylene (HDPE)						
	Thickness (nominal)/mm	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	Cable diameter (nominal)/mm	9.8	9.8	9.8	9.8	9.8	10.6	10.6
Cable weight	Kg/km (nominal)	80	80	80	80	80	92	92
Packing	Wooden reel, 2.0km/reel±0.5%	940*700	940*700	940*700	940*700	940*700	1040*600	1040*600
Main characteristics								
Max.tensile load	IEC 60794-1-2-E1	Short term : 4000N (Fiber strain ≤ 0.33%, Δα≤0.1 dB)						
Crush resistance	IEC 60794-1-2-E3	Short term : 1500N/10cm (Δα≤0.1 dB, cable integrity)						
Temperature range	IEC 60794-1-2-F1	Operation -40 - >+70 °C Δα≤0.1 dB/km						
Water Penetration	IEC 60794-1-2-F5B	Sample =3m, water=1m, 24h, No water leakage						
Mechanical and Environmental Requirements								
Torsion Test	TIA/EIA-455-58A or IEC-60794-1-E7							
Tensile Performance Test	IEC-60794-1E1A							
Impact Test	TIA/EIA-455-25B or IEC-60794-1-E7							
Repeated Bending Test	TIA/EIA-455-104A or IEC-60794-1-E6							
Compression Test	TIA/EIA-455-41A or IEC-60794-1-E3							
Cable bending Test	IEC-60794-1-E-11B							
Water Penetration Test	TIA/EIA-455-82B							
Temperature Cycling Test	TIA/EIA-455-3A or IEC-60794-1-F1							

ORDER INFORMATION

Description	Part Number			
	Single-mode	Multi-mode		
	9/125um (G.652.D)	62.5/125um(OM1)	50/125um(OM2)	50/125um(OM3)
6 Core ADSS, Loose tube, Single Jacket	BMADSS06SM9	BMADSS06MM6	BMADSS06MM5	BMADSS06MM5OM3
12 Core ADSS, Loose tube, Single Jacket	BMADSS12SM9	BMADSS12MM6	BMADSS12MM5	BMADSS12MM5OM3
24 Core ADSS, Loose tube, Single Jacket	BMADSS24SM9	BMADSS24MM6	BMADSS24MM5	BMADSS24MM5OM3
36 Core ADSS, Loose tube, Single Jacket	BMADSS36SM9	BMADSS36MM6	BMADSS36MM5	BMADSS36MM5OM3
48 Core ADSS, Loose tube, Single Jacket	BMADSS48SM9	BMADSS48MM6	BMADSS48MM5	BMADSS48MM5OM3
60 Core ADSS, Loose tube, Single Jacket	BMADSS60SM9	BMADSS60MM6	BMADSS60MM5	BMADSS60MM5OM3
72 Core ADSS, Loose tube, Single Jacket	BMADSS72SM9	BMADSS72MM6	BMADSS72MM5	BMADSS72MM5OM3
96 Core ADSS, Loose tube, Single Jacket	BMADSS96SM9	BMADSS96MM6	BMADSS96MM5	BMADSS96MM5OM3
120 Core ADSS, Loose tube, Single Jacket	BMADSS120SM9	BMADSS120MM6	BMADSS120MM5	BMADSS120MM5OM3

Description

Fiber optic cable low water peak dispersion unshifted Single-mode fibre is designed specially for optical transmission systems operating over the entire wavelength window from 1260 nm to 1625 nm. By suppressing the water peak that occurs near 1385 nm in conventional single mode fibre due to hydroxyl (OH) ions absorption, FullBand® fibre is able to open E-band (1360-1460 nm) for operation, and consequently provides 100 nm more usable wavelengths. FullBand® fibre is comprehensively optimized for attenuation and dispersion performance across the entire wavelength window from 1260 nm up to 1625 nm and upgraded for macro-bending performance in L-band (1565-1625 nm). The fibre is fully satisfying the demand for transmitting multi-channel high-speed services over one single fibre.

Application

Thanks to its broad usable optical spectrum and outstanding optical performance, FullBand® fibre is the optimum choice that supports various applications such as Ethernet, Internet Protocol (IP), Asynchronous Transfer Mode (ATM), Synchronous Optical Network (SONET) and Wavelength Division Multiplexing (WDM). FullBand® fibre provides more bandwidth for backbone, metropolitan area and access networks. FullBand® fibre enables bandwidth demanding of multi-service like voice, digital and image transmission. FullBand® fibre is applicable in all cable types including ribbon cable, loose tube stranded cable, slotted core cable, unitube cable and tight-buffer cable.

Norms

The fibre complies with or exceeds the ITU-T Recommendation G.652.D and the IEC 60793-2-50 type B1.3 Optical Fibre Specification.

BISMON tightens many parameters of fibre products so as to offer more conveniences to customers.

Process

The fibres are manufactured using the advanced Plasma Activated Chemical Vapor Deposition (PCVD) process. Because of the inherent advantages of the process, The fibres show extremely refined refractive index (RI) profile control, excellent geometrical performance, low attenuation, etc.

The optical fibre is coated with a double layer UV curable acrylate, which gives the fibre a good protection. Designed for more stringent tight-buffer cable application, the fibre also performs perfectly in loose buffer constructions and demonstrates a high resistance to micro-bending. The coating offers an excellent stable coating strip force over a wide range of environmental conditions and the coating stripping leaves no residues on the bare glass fibre. The fibres show high and stable values for dynamic stress corrosion susceptibility parameter (n_d), which offers a greatly improved applicability to the fibre when used in harsh environments.

Characteristics

Due to the process innovation and technical breakthrough made on the basis of the conventional Single-mode fibre, FullBand® low water peak Single-mode fibre has the following characteristics:

- Designed for operation over the full optical spectrum from 1260-1625 nm, which provides 50% more usable wavelengths and hence the transmission capacity is increased
- Outstanding optical performance supporting high-speed transmission technologies such as DWDM and CWDM
- Being compatible with existing 1310 nm equipment
- Good protection and excellent strip force stability
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

Characteristics	Conditions	Specified Values	Units
Optical Characteristics			
Attenuation	1310 nm	≤0.34	[dB/km]
	1383 nm	≤0.34	[dB/km]
	1550 nm	≤0.20	[dB/km]
	1625 nm	≤0.23	[dB/km]
Attenuation vs. Wavelength	1285–1330 nm	≤0.03	[dB/km]
Max. α difference	1525–1575 nm	≤0.02	[dB/km]
Dispersion coefficient	1285 - 1340 nm	≥ -3.4 ≤ 3.4	[ps/(nm · km)]
	1550 nm	≤ 18	[ps/(nm · km)]
	1625 nm	≤ 22	[ps/(nm · km)]
Zero dispersion wavelength		1312 ± 12	[nm]
Zero dispersion slope		≤ 0.091	[ps/(nm ² · km)]
Typical value		0.086	[ps/(nm ² · km)]
PMD			
Maximum Individual Fibre		≤ 0.1	[ps √km]
Link Design Value (M=20,Q=0.01%)		≤ 0.06	[ps √km]
Typical value		0.04	[ps √km]
Cable cutoff wavelength λ _{cc}		≤ 1260	[nm]
Mode field diameter (MFD)	1310 nm	8.7 ~ 9.5	[μm]
	1550 nm	9.9 ~ 10.9	[μm]
Effective group index of refraction (N _{eff})	1310 nm	1.466	
	1550 nm	1.467	
Point discontinuities	1310 nm	≤ 0.05	[dB]
	1550 nm	≤ 0.05	[dB]
Geometrical Characteristics			
Cladding diameter		125.0 ± 1.0	[μm]
Cladding non-circularity		≤ 1.0	[%]
Coating diameter		245 ± 7	[μm]
Coating-cladding concentricity error		≤ 12.0	[μm]
Coating non-circularity		≤ 6.0	[%]
Core-cladding concentricity error		≤ 0.6	[μm]
Curl (radius)		≥ 4	[m]
Delivery length		2.1 to 50.4	[km/reel]
Environmental Characteristics (1310 nm, 1550 nm & 1625 nm)			
Temperature dependence			
Induced attenuation at	-60°C to +85°C	≤ 0.05	[dB/km]
Temperature-humidity cycling			
Induced attenuation at	-10°C to +85°C, 98% RH	≤ 0.05	[dB/km]
Watersoak dependence			
Induced attenuation at	23°C, for 30 days	≤ 0.05	[dB/km]
Damp heat dependence			
Induced attenuation at	85°C and 85% RH, for 30 days	≤ 0.05	[dB/km]
Dry heat aging at	85°C	≤ 0.05	[dB/km]
Mechanical Specification			
Proof test	off line	≥ 9.0	[N]
		≥ 1.0	[%]
		≥ 100	[kpsi]
Macro-bend induced attenuation			
1 turn around a mandrel of 32 mm diameter	1550 nm	≤ 0.05	[dB]
100 turns around a mandrel of 50 mm diameter	1310 nm & 1550 nm	≤ 0.05	[dB]
100 turns around a mandrel of 60 mm diameter	1625 nm	≤ 0.05	[dB]
Coating strip force	typical average force	1.7	[N]
	peak force	≥ 1.3 ≤ 8.9	[N]
Dynamic stress corrosion susceptibility parameter n _d		≥ 20	