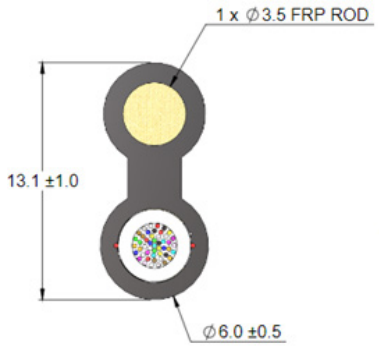
48F Figure 8 ADSS Aerial Cable

Features & Benefits

- Unique second coating and stranding technology
- Accurate process control
- Good mechanical and temperature performance
- Made with high quality raw material



Overview

The 48F Figure 8 ADSS Aerial Cable is designed to ensure the fibers in the cable retain excellent optical performance. This is proven through the cable's unique second coating and stranding technology, which provides the fibers with enough space and bending endurance in the jacket.

The ADSS aerial cable is developed with accurate process control to ensure good mechanical and temperature performance, and is made with high quality raw material to ensure a long service life. We have a stable quality control system for our cable products through several programs including ISO 9001, ISO 14001 and OHS.

Ordering Information

Part Number	Description
10-1618	48F Figure 8 ADSS Aerial Cable (F8AD-486-PE-BLK-A1-250 4KM RL)

Main Mechanical and Environmental Performance

Item	Max Allowable Tension (N)	Crush (N/100mm)	
		Short term	Long term
36/48	2700	1000	500

Mechanical, Physical and Environmental Test Characteristics

Items	Test Method	Requirements
Tension	**IEC 60794-1-21-E1** Load: According to 3.5 Sample length: Not less than 50m. Duration time: 1min.	Additional attenuation: ≤0.1dB after test No damage to outer jacket and inner elements
Crush	**IEC 60794-1-21-E3** Load: According to 3.5 Duration of load: 1min	Additional attenuation: ≤0.1dB after test No damage to outer jacket and inner elements
Impact	**IEC 60794-1-21-E4** Radius: 300 mm Impact energy: 3 J Impact number: 1 Impact points: 3	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements

48F Figure 8 ADSS Aerial Cable

A BELDEN BRAND

Mechanical, Physical and Environmental Test Characteristics

Items	Test Method	Requirements
Repeated bending	**IEC 60794-1-21-E6** Bending radius: 20*D Cycles: 25 Load: 20N	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
Torsion	**IEC 60794-1-21-E7** Cycles:10 Length under test: 1m Turns: ±180°	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
Water Penetration	**IEC 60794-1-22-F5B** Time : 24 hours Sample length : 3m Water height : 1m	No water leakage, except the part of stranded wire
Temperature cycling	**IEC 60794-1-22-F1** Sample length: at least 1000m Temperature range: -40 ºC ~+70 ºC Cycles: 2 Temperature cycling test dwell time: 12 hours	The change in attenuation coefficient shall be less than 0.05 dB/km.
Other parameters	According to **IEC 60794-1**	

Technical Data

Item	Value
Operation temperature	-40 ºC to 70 ºC (-40 ºF to 158 ºF)
Storage temperature	-40 ºC to 70 ºC (-40 ºF to 158 ºF)
Static bending radius	10 times the cable diameter
Dynamic bending radius	20 times the cable diameter

Optical Fiber

Optical Fibers supplied in this specification meet the requirements of ITU-T G.657A1.

Category	Description	Specification
Geometrical Characteristics	Cladding diameter	125.0 ± 0.7 μm
	Cladding non-circularity	≤ 0.7 %
	Core concentricity error	≤ 0.5 μm
	Coating diameter	235~255 μm (Before Colored)
		250+/-15 μm (Colored)
	Coating/cladding concentricity error	≤ 12.0 μm
Optical Characteristics	Mode field diameter at 1310 nm	8.4 ~ 9.2 μm
	Attenuation at 1310 nm	≤ 0.36 dB/km
	Attenuation at 1550 nm	≤ 0.22dB/km
	Point discontinuity at 1310nm and 1550nm	≤ 0.05dB
	Zero dispersion wavelength	1300 ~ 1324 nm
	Zero dispersion slope	≤0.092 ps/(nm2·km)
	Cable cut-off wavelength (λcc)	≤ 1260 nm

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Category	Description	Specification
Optical Characteristics	Polarization mode dispersion individual fiber	≤ 0.2 ps/√km
	Polarization mode dispersion design link value (M=20, Q=0.01%)	≤ 0.1 ps/√km
	Macro-bend loss (10 turns, 15mm radius)	1550nm: ≤ 0.25 dB; 1625nm: ≤1.0 dB;
	Macro-bend loss (10 turns, 10mm radius)	1550nm: ≤ 0.75 dB; 1625nm: ≤ 1.5 dB;
Mechanical Specification	Proof stress level	≥100kpsi (0.69 GPa)
	Coating strip force (peak value)	1.3~8.9N
	Dynamic Fatigue Parameter (nd)	≥20
	Fiber curl (Radius)	≥2 m

Dimensions and Descriptions

The standard optical cable structure is shown in the following table. Other structures and fiber counts are also available per customer requirements.

Item	Contents	Value 36/48
Loose tube	Max Fiber counts/tube	48
	Outer diameter (mm)	4.0
	Color	Natural
Cable core part sheath	Material	HDPE
	Color	Black
	Thickness (mm)	Nominal: 1.0
Messenger	Material	FRP rod
	Diameter(mm)	3.5
Messenger part sheath	Material	HDPE
	Color	Black
	Thickness (mm)	Nominal: 0.8
Ripcord	Number	2
Cable diameter (mm)		6.0±0.5*13.1±1
Cable weight (kg/km) Approx.		72
Mechanical Specification	Proof stress level	≥100kpsi (0.69 GPa)
	Coating strip force (peak value)	1.3~8.9N
	Dynamic Fatigue Parameter (nd)	≥20
	Fiber curl (Radius)	≥2 m

48F Figure 8 ADSS Aerial Cable

Fiber and Loose Tube Identification

The color code of fibers and loose tube are identified in accordance with the following color sequence. Other sequences are available by request.

Color code						
	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Violet	Pink	Aqua
	13	14	15	16	17	18
	Blue with 1 black ring	Orange with 1 black ring	Green with 1 black ring	Brown with 1 black ring	Grey with 1 black ring	White with 1 black ring
	19	20	21	22	23	24
	Red with 1 black ring	Natural with 1 black ring	Yellow with 1 black ring	Violet with 1 black ring	Pink with 1 black ring	Aqua with 1 black ring
	25	26	27	28	29	30
	Blue with 2 black rings	Orange with 2 black rings	Green with 2 black rings	Brown with 2 black rings	Grey with 2 black rings	White with 2 black rings
	31	32	33	34	35	36
	Red with 2 black rings	Natural with 2 black rings	Yellow with 2 black rings	Violet with 2 black rings	Pink with 2 black rings	Aqua with 2 black rings
	37	38	39	40	41	42
	Blue with 3 black rings	Orange with 3 black rings	Green with 3 black rings	Brown with 3 black rings	Grey with 3 black rings	White with 3 black rings
	43	44	45	46	47	48
	Red with 3 black rings	Natural with 3 black rings	Yellow with 3 black rings	Violet with 3 black rings	Pink with 3 black rings	Aqua with 3 black rings

Cable Sheath Marking

Unless otherwise specified, the cable sheath marking shall be as follows:
Color: white
Contents: Year of manufacture, the type of cable, cable number, length marking
Interval: 1 m
Outer sheath marking legend can be changed according to user's requests.

Reel Length

Standard reel length: 4 km/reel, other length is also available.

Cable Drum

The cables are packed in fumigated wooden drums.

Cable Packing

Both ends of the cable will be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage. The inner end is available for testing.

Life Time

Optical fiber cables supplied in compliance with this specification sheet are capable to withstand the typical service condition for a period of thirty (30) years without detriment to the operation characteristics of the cable.