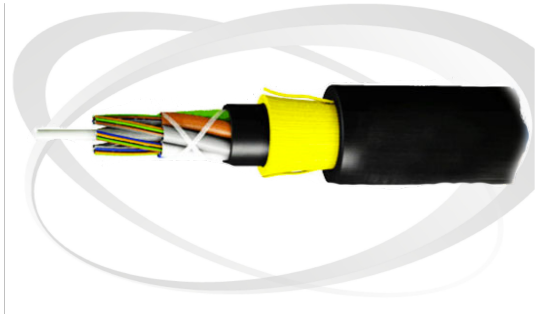




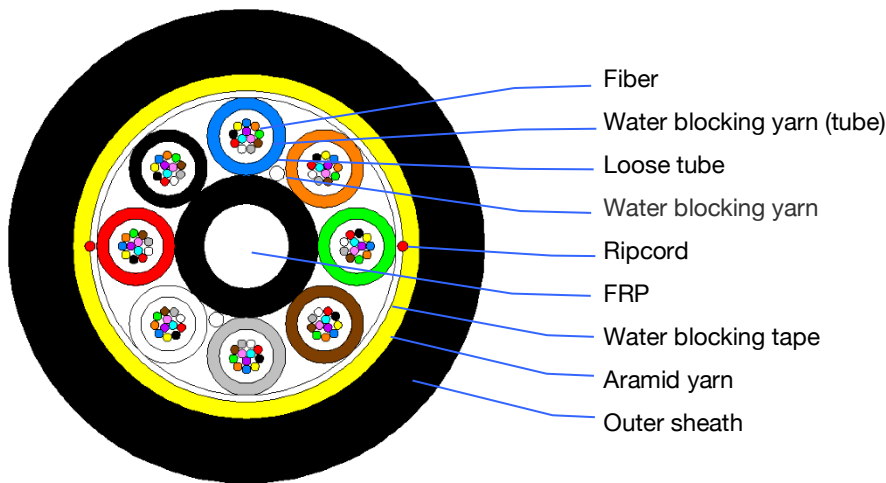
ALL-DIELECTRIC SELF-SUPPORTING (ADSS) Fiber Optic Cable – NESC: HEAVY - 300ft Span

All-Dielectric Self-Supporting cables are designed for installation on aerial distribution and transmission power lines. ADSS cable design and associated sag and tension charts are generated in accordance with the National Electric Safety Code (NESC) requirements for Light, Medium, and Heavy loading conditions. Available in spans lengths to 2,300 feet (700 meters.) Fiber counts to 432.



Features

The ADSS cable consists of loose tubes (buffer tubes and fillers) stranded around the fiber reinforced plastic (FRP) central strength member, with MDPE extruded for the inner sheath. Aramid yarns are applied as a dielectric strength member for the cable and MDPE is extruded for the outer sheath. The loose tube sheath is PBT. The single mode fibers are secondary coated into the loose tube and each loose tube is filled with water-blocking compound. All the interstices of the cable core are filled with water-swallowable yarn with water swellable tape around the outer layer.



Applications

- Electric utility transmission and distribution power lines
- Underground duct
- Enterprise OSP networks
- Fiber-to-the-X networks

Fiber Count	Fibers Per Tube	Tubes/ Fillers	FRP/PE Diameter	Tube Diameter	Nominal Overall Diameter		Nominal Weight	
			mm	mm	Inches	mm	Lbs./1000Ft.	Kg/km
12	6	2/4	2.3	2.2	0.43	10.9	62	93
24	6	4/2	2.3	2.2	0.43	10.9	63	94
48	12	4/2	2.5	2.4	0.45	11.5	70	104
72	12	6/0	2.5	2.4	0.45	11.5	70	104
96	12	8/0	2.8/4.2	2.4	0.52	13.1	89	133
144	12	12/0	3.3/7.2	2.4	0.63	16.1	135	201
216	12	18/0	2.5	2.4	0.67	17.0	139	207
288	12	24/0	3.3/4.8	2.4	0.75	19.1	180	268
432	24	18/0	3.0	2.8	0.75	19.0	178	265

*Nominal thickness of sheath (outer/ inner)
 *Minimum thickness of outer sheath is 1.5mm



AMBIENT CONDITIONS – NESC LOAD RATING: HEAVY

Fiber count	Span	Installation Sag	Wind Pressure	Radical Thickness of ice	Rated Breaking Strength (RBS)		Maximum Rated Cable Loading (MRCL)	
	Ft	%	lb/sq-ft	inches	lbf	N	lbf	N
12	300	1	4	0.5	2203	9800	877	3900
24	300	1	4	0.5	2271	10100	899	4000
48	300	1	4	0.5	2360	10500	944	4200
72	300	1	4	0.5	2405	10700	967	4300
96	300	1	4	0.5	2675	11900	1079	4800
144	300	1	4	0.5	3372	15000	1349	6000
216	300	1	4	0.5	3597	16000	1439	6400
288	300	1	4	0.5	4204	18700	1686	7500
432	300	1	4	0.5	4271	19000	1709	7600

FIBER CHARACTERISTICS- G.652D

The single mode, fiber optic cable complies with the requirements of this specification and meet relevant ITU-T Recommendation G.652. All optical and geometrical parameters are checked to ensure that they meet or exceed industry specifications:

GEOMETRIC CHARACTERISTICS

Geometric Characteristics		Construction
Mode field diameter	1310nm	9.2±0.5µm
Cladding diameter		125±1.0µm
Core concentricity error		≤0.6µm
Cladding non-circularity		≤1.0%
Cut-off wavelength (λ_{cc}) (for cable)		≤1260nm
Cut-off wavelength (λ_{cc}) (for fiber)		1180nm –1330nm
Primary coating diameter	(Color layer not included)	245±10µm
	(Color layer included)	250±15µm
Coating-cladding concentricity error		≤12.0µm
Fiber curl radius		≥4m

TRANSMISSION CHARACTERISTICS

Transmission Characteristics		Performance
Attenuation	1310nm	≤0.36dB/km
	1550nm	≤0.22dB/km
Macro bending loss	Φ=60mm, 100 turns at 1550nm, 1625nm	≤0.05dB
Chromatic dispersion	Within 1288~1339nm	≤3.5ps/nm·km
	1550nm	≤18ps/nm·km
Zero dispersion wavelength		1300~1324nm
Zero dispersion slope		≤0.092ps/nm ² ·km

PERFORMANCE

Performance	Test Method	Specification
Tension Performance IEC749-1-21-E1 (EIA-455-33)	- Load (MRCL): Refer to ambient conditions - Time: 1 minute	- Loss change ≤ 0.10 dB @1550nm (after test) - No sheath damage
Crush Test IEC749-1-21-E3 (EIA-455-41)	- Load: 1000N / 100mm - Time: 1 minute - Length: 100 mm	- Loss change ≤ 0.10 dB @1550nm (after test) - No sheath damage
Impact Test IEC749-1-21-E4	- Impact height: 1m - Impact weight: 300g - Points of impacts: 3 - Impacts per point: 1	- No fiber degradation - No sheath damage
Repeated Bending IEC794-1-21-E6 (EIA/TIA-455-104)	- Bending Radius: 20 X D - Load 150N - Flexing rate: 2 sec/cycle - No. of cycle: 25	- No fiber degradation - No sheath damage
Water Penetration IEC794-1-E5B (EIA-455-82A)	- Height of water: 1m - Sample length: 3 m - Time: 24 hr.	- No water leakage
Twist / Torsion IEC794-1-21-E7 (EIA-455-81)	- Length: 1 m - Load: 150N - Twist rate: ≤ 1 min/cycle - Twist angle: ±180° - No. of cycle: 10	- No fiber degradation - No sheath damage
Temperature Cycling IEC60794-1-22-F1 (EIA/TIA-455-3)	- Temperature step: (+68°F → -40°F → +158°F → +68°F) - Number of cycle: 2 turns - Time per each step: 12 hrs.	- Loss Change ≤ 0.15 dB@1550nm (during test) - Loss Change ≤ 0.05 dB@1550nm (after test) - No sheath damage

COLOR CODE

Loose Tube Color Code

Position	1	2	3	4	5	6	7	8	9	10	11	12
Loose Tube Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua

*Compliant with TIA/EIA-598, "Optical Fiber Cable Color Coding."

Fiber Color Code

Position	1	2	3	4	5	6	7	8	9	10	11	12
Fiber Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
Position	13	14	15	16	17	18	19	20	21	22	23	24
Fiber Color	Blue w/ black ring	Orange w/ black ring	Green w/ black ring	Brown w/ black ring	Slate w/ black ring	White w/ black ring	Red w/ black ring	Natural w/ black ring	Yellow w/ black ring	Violet w/ black ring	Pink w/ black ring	Aqua w/ black ring

SHEATH MARKING



CABLE & LENGTH MARKING

The sheath shall be marked with white characters at intervals of one meter with following information. Other marking is also available if requested by customer.

- 1) Name of the manufacturer: "NWF"
- 2) Year of manufacture: "2022"
- 3) Name of customer and contact detail
- 4) Fiber type and counts: "ADSS-48-H-300"
- 5) Length marking in one meter (or one foot) intervals: "xxxxm or "xxxxf"

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