Specification DNA-33385
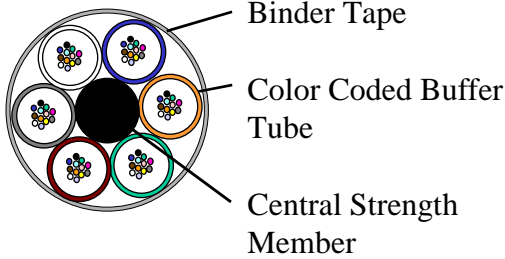# Flex-Span® ADSS Fiber Optic Cable
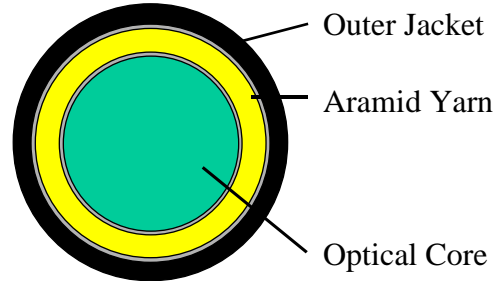
Additional Resources

Representative 6 unit Fiber Optic Core

- Binder Tape
- Color Coded Buffer Tube
- Central Strength Member

Representative AFL Flex-Span® Fiber Optic Cable

- Outer Jacket
- Aramid Yarn
- Optical Core

AE0489C620EA1
48 Single-mode

Sag / Tension Performance										
Span Length (ft) 700										
			Add'l	Input Data			Resultant Data			
	Wind	Radial Ice	Load	Vert.	Horiz.	Vector	Vert.	Horiz	Vector	Tension
Condition	(mi/hr)	(inches)	(lbs/ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(lbs)
Installation	---	---	---	10.5	---	---	10.50	---	10.5	468
Ice Alone	---	---	---	---	---	---	---	---	---	---
Wind Alone	---	---	---	---	---	---	---	---	---	---
Ice and Wind	---	---	---	---	---	---	---	---	---	---
NESC Medium	40.0	0.25	0.2	---	---	---	23.30	25.4	34.4	1,170
Other	---	---	---	---	---	---	---	---	---	---

Standard NESC / CSA condition based on Ice Density of 57 lbs/ft³

Standards	
Designed and Manufactured in accordance with the following:	
Fiber	*Single-mode Fiber: ITU-T G.652D/G.657.A1*
Cable	*IEEE 1222*
Color Code	*ANSI/EIA 359-A, TIA 598-D, IEC 60304*

Specification DNA-33385

Mechanical / Physical Details

Approximate Cable Diameter		12.4 mm	0.488 in	
Approximate Cable Weight		119 kg/km	0.080 lbs/ft	
Maximum Rated Cable Load (MRCL)		596 kg	1,314 lbs	
Approximate Cable Breaking Strength		776 kg	1,711 lbs	
Minimum Bending Radius	Static	19 cm	8 in	
	Dynamic	25 cm	10 in	
Coefficient of Linear Expansion		1.92E-05 1/°C	1.07E-05 1/°F	
Cable Modulus	Initial	4.40 kN/mm²	638.0 kpsi	
	Final	4.74 kN/mm²	688.0 kpsi	
	10 Year	3.67 kN/mm²	531.6 kpsi	
Environmental Temperature Recommendations				
	Storage	-50 to +70 °C	-58 to +158 °F	
	Operation	-40 to +70 °C	-40 to +158 °F	
	Installation	-30 to +70 °C	-22 to +158 °F	

Optical Details

Attenuation Characteristics for Single-mode fibers

<u>Max Individual</u>   0.35 dB/km 1310 nm   0.25 dB/km 1550 nm

72 Fiber ADSS Core (6 - 12 fiber buffer tubes)

Unit	Fiber Type	Fiber Count
Blue	Single-mode fibers	12
Orange	Single-mode fibers	12
Green	Single-mode fibers	12
Brown	Single-mode fibers	12
	Filler	N/A
	Filler	N/A
	Total Fiber Count	48

Standard Fiber Color Code

Fiber No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Rose	Aqua

1) Designs with more than 12 fibers per tube will use the standard color code and binders for identification of the fibers.

2) Designs with mixed fiber types will have multimode or NZDS fibers in the first tube(s) followed by single-mode fibers in the last tube(s).

Installation and Handling Recommendations

Installation and cable preparation procedures are outlined in the AFL documents listed below. Contact AFL to request copies.

Recommended Installation Procedures for All-Dielectric, Self-Supporting (ADSS) Fiber Optic Cable

AFL-ADSS® Fiber Optic Cable Installation Video

Installation Instructions for Installing All-Dielectric, Self-Supporting (ADSS) in an AFL Splice Enclosure

Fiber Optic Cable Receiving, Handling and Storage.

Specification DNA-33385

Quick Reference Installation Notes

Approximate Cable Diameter	12.40	mm	0.488	in
Maximum Stringing Tension (at tensioner)*	228	kg	503	lbs
Minimum Bull Wheel Diameter	87	cm	35	in
Stringing Sheave Diameter**	50	cm	20	in
Minimum Bending Radius				
Cable				
Static (No load)	19	cm	8	in
Dynamic (under tension)	25	cm	10	in
Fiber				
After Installation (Static)	3.8	cm	1.5	in
Plastic Buffer Tube				
After Installation (Static)	8	cm	3	in

* - The stringing tension is always measured at the tensioner side. In general the maximum stringing tension should be a half of the maximum sagging tension and never should exceed 20% RBS of the ADSS Cable.

** - The value indicated is for the first and last structures of the pull and is based on 40 times the diameter of the ADSS cable. Smaller diameters can be used at tangent structures. Reference AFL's installation instructions for more details.

Reference AFL's "Recommended Installation Procedures for All-Dielectric, Self-Supporting (ADSS) Fiber Optic Cable" for detailed installation instructions.

Shipping Reels

Reel Type	FL	TR	DR	OW	Tare	FL	TR	DR	OW	Tare	Capacity	
	(cm)				(kgs)	(in)				(lbs)	(meters)	(feet)
Wood	147	81	71	97	200	58	32	28	38	441	6,210	20,370
Wood	168	91	91	107	260	66	36	36	42	573	7,000	22,960
Wood	183	91	91	107	300	72	36	36	42	662	7,000	22,960
Wood	213	86	89	104	385	84	34	35	41	849	7,000	22,960
Steel	152	81	81	97	156	60	32	32	38	344	6,110	20,040
Steel	183	91	102	107	245	72	36	40	42	540	7,000	22,960
Steel	213	114	107	130	351	84	45	42	51	774	7,000	22,960

FL - Flange Diameter; TR - Inside Traverse Width; DR - Drum Diameter; OW - Outside Overall Width
Minimum Arbor Hole Diameter: Wood: 3-1/8in (7.9cm)
                                Steel: 3-1/4in (8.2cm)
Maximum lengths shown are the longest lengths that AFL offers. Longer lengths may be possible.
Ordered lengths should include a distribution of lengths, i.e., all reels cannot be ordered at the maximum. A typical reel length distribution is as follows:
   6000m – 7000m ~ 15% of reels
   4500m – 6000m ~ 55% of reels
   2500m – 4500m ~ 25% of reels
   <2500m ~ 5% of reels

Wood reels with flex-wrap covering are standard. Non-returnable steel reels and/or wood lagging are available upon request. Additional reel sizes may be available upon request.

Steel reels are recommended for long term storage. Reference AFL's "Fiber Optic Cable Receiving, Handling and Storage" document for additional information.

Reel dimensions are typical and subject to availability at the time of shipment.

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The Screen Inputs for ADSS cables in PLS Cad

Cable Data			
Name:			
Description:	AFL ADSS DNA-33385 AE0489C620EA1		
Cross section area (in^2)	0.1872	Unit weight (lbs/ft)	0.080
Outside diameter (in)	0.488	Ultimate Tension (lbs)	2,516
Temperature at which data below were obtained		(deg F)	70

Outer strands	Final modulus of elasticity (psi/100)	6,880
	Thermal expansion coeff. (/100 deg F)	1.07E-03

Generate Coefficients

Polynomial coefficients (all strain in %)

	A0	A1 (psi/100)	A2	A3	A4
Stress-strain		6,380			
Creep		5,316			

Core strands	Final modulus of elasticity (psi/100)	
(if different from	Thermal expansion coeff. (/100 deg F)	
outer strands)		

Polynomial coefficients (all strain in %)

	A0	A1 (psi/100)	A2	A3	A4
Stress-strain					
Creep					