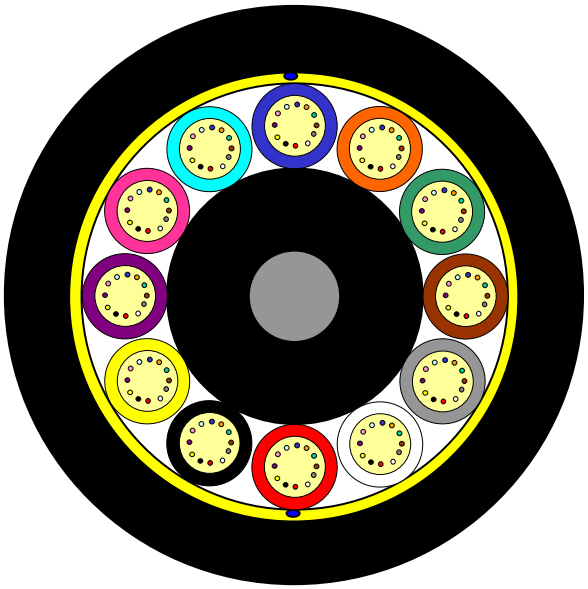
All-Dielectric, Self Supporting (ADSS) Aerial Loose Tube Fiber Optic Cable

Dry core design

PowerGuide® SkyLight

Issue August 2021
according to **OFS Generic Specification**



Application

Optimized for Aerial- and Duct Installation with fiber counts up to 144 fibers

Design

- Optical fibers
- Gel-filled buffer tubes
- Non-metallic central member
- Water blocking threads
- Non-metallic aramid strength elements
- Ripcords
- Outer HDPE-jacket

Benefits

- Excellent, cost- effective option for short aerial cable spans
- Outstanding optical performance, durability and field reliability
- Fast, one-step installation for valuable time and cost savings
- Small cable diameter and bend radius for easy deployment in aerial- to- underground installation
- Easily strippable sheath for quick, convenient cable preparation

Version illustrated is the 144 Fiber 12 Element Cable

Fiber Count	Tubes	Core Design	Outer Diameter [mm]	Cable Weight [kg/km]	AT-Code**
132	11 (12F)	1+12 (1 Filler*)	15.0	180	AT-[ ][ ][ ]17UT-132-CNGA
144	12 (12F)	1+12	15.0	180	AT-[ ][ ][ ]17UT-144-CNGA

This table shows nominal diameter and weight values which may differ in shipments.
*Fillers are natural colored. **Please refer to the OFS AT- Code. The blanks specify the fiber type.

Identification

Tube and Fiber Color Code :

1	Blue	**2**	Orange	**3**	Green	**4**	Brown	**5**	Grey	**6**	White
7	Red	**8**	Black	**9**	Yellow	**10**	Violet	**11**	Pink	**12**	Aqua

Alternative tube and fiber color code available on request.

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Sheath Marking:

OFS OPTICAL ADSS CABLE [ID] [MM/YYYY] [Handset Sign] xxxF [Meter Marking]
Alternative sheath printing available on request.
In case of order the exact sheath printing text will be clarified with the customer.

Shipping Information

Cable Length	Drum Dimensions (approx.)		Shipping Weight (calc.)	
	Diameter(battened)	Width	Without lagging	With lagging
2 Km	1450 mm	790 mm	470 kg	510 kg
4 Km	1600 mm	1055 mm	850 kg	910 kg
6 Km	1750 mm	1055 mm	1230 kg	1290 kg
8 Km	2050 mm	1100 mm	1620 kg	1700 kg

The shipping information are given for one-way reels. Reusable reels are available on request.

Temperatures

IEC 60794-1-22-F1	Operation	-40°C to +70°C
	Installation	-15°C to +60°C
	Storage/Shipping	-40°C to +70°C

Sag and Tension Calculation AT-[ ][ ][ ]17UT-xxx-CNGA

Conditions	NESC Light Loading	NESC Medium Loading	NESC Heavy Loading
Ice Thickness	0 mm	6.4 mm	12.7 mm
Wind Pressure	431 N/m^2 (95.5 km/h)	192 N/m^2 (63.6 km/h)	192 N/m2 (63.6 km/h)
Low Temperature	- 1 °C	- 9.4 °C	- 17.8 °C
Safety Factor	0.73 N/m	2.92 N/m	4.38 N/m
Tension @ Maximum Span for 1,0 % Installation Sag			
Maximum Span	150 m	100 m	60 m
MRCL (Maximum Rated Cable Load)	5600 N	5600 N	5600 N
MIT (Maximum Installation Tension)	3200 N	2250 N	1400 N
Installation Temperature	23 °C	23 °C	23 °C
Cable Modulus	659.4 kg/mm^2	659.4 kg/mm^2	659.4 kg/mm^2
CTE (C-1)	2.00E- 05	2.00E- 05	2.00E- 05

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Recommended hardware for spans up to 150m

PLP:

Dead End Assembly:
FIBERLIGN® Dielectric Dead-end for ADSS,
2872007C1E1, Max. Tension: 2500 lbs. (1135 kg)
Fixed Tangent Support:
FIBERLIGN® Aluminum Support for ADSS, 4450102
Suspended Support:
FIBERLIGN® Aluminum Suspension for ADSS, 4450202

Slack Storage Devices:
FIBERLIGN® In-Span Storage System, FIS12A
Down Lead Cushion:
FIBERLIGN® Downlead Cushion for ADSS,
8003043
Vibration Dampers:
FIBERLIGN® Dielectric Damper for ADSS Cable,
50509862

Telenco:

Dead End Assembly:
TELENCO® GSDE AR Helical dead-ends with armor rods
Model GSDE AR 1420 (PN 7645)
Suspension Support:
TELENCO® DSAL Mobile suspension clamp
Model DSAL1450 (PN 09570)

Vibration Dampers:
TELENCO® Vibration damper VIB
Model VIB143 (PN 09138)

Pertinent installation information

Maximum rated cable load (MRCL)	**5.6 kN**	
Bending Performance: (IEC 60794-1-21-E11)		
Handling fixed installed	**- No attenuation increase***	**Bend radius: 140 mm**
During installation (under Load)	**- No changes in attenuation before versus after load**	**Bend radius: 280 mm**

*No changes in attenuation means that any changes in measurement value, either positive or negative within the uncertainty of measurement shall be ignored. The total uncertainty of measurement shall be less than of equal to 0.05 dB.

When to use hardware

Dead End Assembly

- **Used whenever a cable should not slip**
  - **Cable start and end points**
  - **Where line angles exceed 20°**
  - **Road, river, railroad crossings**
  - **Closure locations**
- **Different types available dependent upon cable design and application**
- **Most attachment hardware is used with 5/8" pole line hardware**

Tangent and Suspension Supports

- **Typically used in small line angle (<20°, depending on type) situations**
- **Provides vertical support, not designed to support cable tension**
- **Multiple types depending span length and application**
- **Allows cable slippage during imbalanced load situations**

Vibration Dampers

- **ADSS cables can experience Aeolian vibration under certain circumstances**
- **Circumstances conducive to Aeolian vibration**
- **Laminar wind flow, Wide open spaces, Light winds, High tensions**
- **Vibration dampers minimize the effects of this vibration**

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Installation document references

IP 014 PowerGuide® Installation
IP 014A PowerGuide® ADSS CABLE Installation Guideline Distribution Line Applications
IP 006 PowerGuide® Sheath Removal
IP 017 PowerGuide® Hardware Installation

AN-101 Maximum Rated Cable Loads & Minimum Bending Diameter
AN-203 Space Potential Calculation for PowerGuide® ADSS Cable

Installation documents available upon request.

PowerGuide SkyLight Cable Ordering Information

Example: **AT-3BE17UT-***NNN*[1]**-***CNGA*

Fiber[2] Sheath Core Fiber Count Custom[3]

Part Number: AT-*S1 S2 SF S3 S4 S5 S6 - NNN - CNGA*

S1= **Fiber Selection** **3**= 1310/1550 nm (AllWave® ZWP Fiber) 1310/1550 nm (AllWave® + ZWP Fiber) **5**= 1310/1550 nm (AllWave®FLEX ZWP Fiber) **7**= 1310/1550 nm (AllWave®FLEX + ZWP Fiber)	*S2*= **Fiber Transmission Performance** **B**= 0.35/0.31/0.27/0.25/0.27 dB/km @ 1310/1385/1490/1550/1625 nm (AllWave® ZWP Fiber) **E**= 0.36/0.31/0.27/0.25/0.27 dB/km @ 1310/1385/1490/1550/1625 nm (AllWave®FLEX ZWP Fiber) (AllWave®FLEX + ZWP Fiber) **C**= 0.35/0.31/0.27/0.25/0.27 dB/km @ 1310/1385/1490/1550/1625 nm (AllWave® + ZWP Fiber)	*SF*= **Fiber Type** **E**= AllWave® ZWP Single Mode *S3*= **Sheath Construction** **1**= All-Dielectric single jacket *S4*= **Tensile Load** **7**= ADSS
S5= **Core Type** **U**= Dry Core Loose Tube	*S6*= **Fibers per Tube** **6**= 6 Fibers **8**= 8 Fibers **N**= 10 Fibers **T**= 12 Fibers	*NNN*= **Fiber Count**

[1] Part Number shown is for PowerGuide ADSS Cable with 250 µm Single Mode AllWave ZWP Fibers with maximum attenuation: 0.35/0.31/0.27/0.25/0.27 dB/km @ 1310/1385/1490/1550/1625 nm .

[2] Contact OFS sales representative for information on other cable variations, including additional fiber types, composite cables and attenuation.

[3] Consult with us regarding your application, span lengths and loading conditions to complete the custom design and part number of your complete sheath strenghts system.

The information is believed to be accurate at time of issue.
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