

# ADSS all dielectric self-supporting optical cable

## Description

ADSS(All Dielectric Self-Supporting)optical cable was mainly applied in electric power system to provide a convenient way to establish communication networks. It is suitable for aerial installation when a communication line has to span a river, a valley, a thunder area and other fields with special requirements. With the opening of telecommunication services, ADSS optical cable not only satisfies the demands of communication of power system but also leave more capability to offer telecommunication service for other industries.

ADSS optical cable has excellent optical transmission properties, mechanical properties and environmental properties. Being one of the most perfect transmission media, it is extensively used in electric power communication networks. In the fields of intense electricity, signals transmitted in ADSS cable are not subjected to any disturbance. Good communication quality will be kept all the time and no injures occur against the cable body. So the transmission with ADSS cable is the most convenient way for telecommunication in the electric power system.

## Features

The primary characteristics of ADSS cable is summarized as follows:

**Anti-Electromagnetism, Strong Endurability of Electricity.** Elements consisting of ADSS cable are required to be non-metal. The outer jacket material is AT type polyethylene when the space potential intensity at a point along the cable exceeds 12 kV.

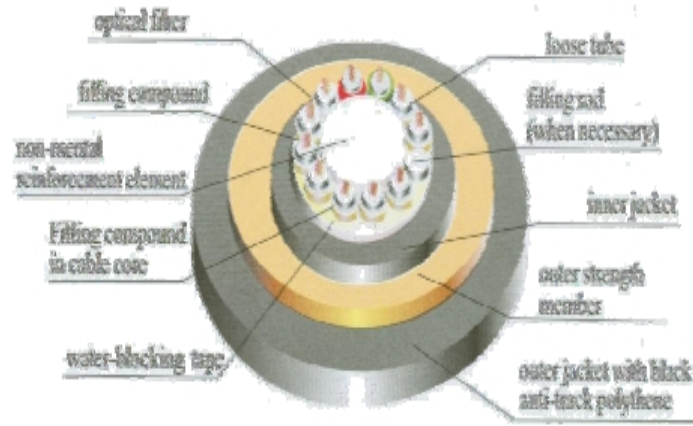
**Good Temperature and Environment Properties, Suitable for Aerial Operation.** In the design of ADSS cable, environmental conditions such as wind, ice, temperature change, creep and so on should be taken into consideration. Then a cable can possess good behaviors such as anti-impact, anti-vibration, anti-bending, prevention of thermal aging, flame retardant et cetera.

**Low Cost, Convenient to Installation.** It is possible to set up optical cables on the original pylon towers without any change.

**Light Weight, Less Load to Tower.** The primary tensile strength member in ADSS cable is aramid yarn with high modulus and high strength, which makes the cable lighter in weight when comparing to a cable with steel wires as the primary tensile strength members.

## Basic Structure





Sectional View of Cable ADSS

## Product Type

Category		Structure Feature		Outer Jacket	
Code	Meaning	Code	Meaning	Code	Meaning
ADSS	all dielectric self-supporting	D	Fiber ribbon type	PE	Normal polyethylene
		(default)	Layer stranded loose tube type		Anti-track polyethylene
		X	Central tube type	AT	

Cable specification is composed of optical fiber count code, type code and maximum allowable tension. Optical fiber count code is represented by a figure equal to effective quantities of fibers in a cable. Maximum allowable tension is defined as the theoretical calculation maximum force which cable can bear under the worst environmental conditions.

## Temperature and Mechanical Characteristics

Testing Item	Testing Requirement	Technical Specification
Tensile	60% RTS of Load, 1min	Fiber strain $\leq 0.1\%$ , the fiber additional attenuation $\leq 0.1\text{dB}$
Crash	Load 2200N/100mm, 1min	The fiber additional attenuation $\leq 0.2\text{dB}$ The sheath shall not show any damages.
Impact	450g $\times$ 1m	The fiber additional attenuation $\leq 0.2\text{dB}$ The sheath shall not show any damages.
Repeating bend	Load 150N, 20D, 30min	The fiber additional attenuation $\leq 0.1\text{dB}$ The sheath shall not show any damages.
Torsion	Axial strain: 150 N/m, 10 times Torsion angle: $\pm 180^\circ$	The fiber additional attenuation $\leq 0.03\text{dB}$ The sheath shall not show any damages.
Stress and Strain	Load $\leq 40\%$ RTS	Fiber strain $\leq 0.1\%$ , the fiber additional attenuation $\leq 0.1\text{dB}$
	Load $\leq 20\%$ RTS	Fiber strain $\leq 0.05\%$ , no obvious attenuation change
Allowable bending radius	12.5 D @static bending, 20 D @ dynamic bending	
Temperature cycle	-40°C — +60°C	The fibre attenuation shows no changes.
Thermal aging	85°C, 120 hours	The fibre attenuation shows no changes.
Notes: RTS——Rated tensile strength, D——Outer diameter of cable.		

## Cable Delivery Length

The standard delivery length of cable is 1000m, 2000m, 3000m, 4000m and 6000m with the tolerance from 0 ~ +20m. If special requests are made in the contract, the supplied cable length should conform to it.

## Contact Us At:

**Borneo TechnoFields Sdn. Bhd,**  
**2nd Floor, Lot 12-2, Bunga Raja Shoplots,**  
**Off Jalan Lintas, Kolombong,**  
**88808 Kota Kinabalu, Sabah.**

**Tel : +6088-389571**  
**Fax : +6088-389671**  
**E-mail : enquiry@btfsb.com**  
**Website: www.btfsb.com**