Parameters of Nigerian ADSS Aerial Optical Cable



Overview

This specification covers the design requirements and performance standard for the supply of optical fibre cable in the industry.

Key Takeaways

Nigerian ADSS aerial optical cables are designed for long-span aerial deployment, featuring single-mode fibers (G. 652D), high tensile strength, and 25-year service life under outdoor conditions. Optical CharacteristicsADSS cables typically use single-mode optical fibers compliant with ITU-T G.

652D, ensuring low attenuation and high transmission quality over long distances. Attenuation measurements are generally performed at 1550 nm, with additional attenuation after mechanical or environmental testing limited to ≤0. 05–0.

1 dB to maintain signal integrity. The fibers are coated and stranded to provide bending endurance and protection against microbending, which preserves optical performance under tension and environmental stress.

Mechanical and Physical Parameters

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Rated Tensile Strength (RTS/UTS): The ultimate tensile strength is calculated based on the load-bearing components of the cable, typically spun fibers, and must meet or exceed 95% of the calculated value to ensure reliability. Maximum Allowable Tension (MAT): Usually around 40% of RTS, this defines the safe operational load during installation and service. Span Length: ADSS cables are designed for long spans between supports, ranging from 60 m to over 1 km, suitable for deployment along power transmission lines.

Load Testing: Cables are tested under specified loads for 1 minute, ensuring no damage to the outer jacket or inner elements and minimal additional attenuation.

Environmental and Durability Features

Service Life: Designed for 25 years under typical outdoor conditions without degradation of optical or mechanical performance.

Temperature and U

V Resistance: High-quality raw materials and accurate process control provide resistance to temperature variations, UV exposure, and environmental stress. Water Resistance: ADSS cables are constructed to prevent water ingress, maintaining performance in wet conditions. Mechanical Protection: The cable structure includes loose tubes, fillers, and protective jackets to withstand wind, ice, and vibration along aerial routes.

Structural Details

Cable Construction: Standard ADSS cables feature multiple fibers in loose tubes, stranded around a central strength member, with fillers and an outer jacket. Fiber counts and color coding can be customized according to project requirements. Outer Sheath Marking: Typically includes manufacturer, year of production, cable type, and length markings at 1 m intervals, with reel lengths of 2–4 km or as specified.

Installation ConsiderationsADSS cables are self-supporting and dielectric, allowing installation along high-voltage power lines without metallic support. Proper attention to tensile strength, sag, and safety factors is critical to ensure long-term reliability. In summary, Nigerian ADSS aerial optical cables combine high mechanical strength, long-term durability, and low optical attenuation, making them suitable for telecommunication and power line aerial deployments with spans up to several hundred meters or more.

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Article Content

Ficha_AR-1NSU-ADSS-PE-50M-xxF-G652D

This specification covers the design requirements and performance standard for the supply of optical fibre cable in the industry. It also includes ARTIC premium designed cable with optical, mechanical

YOFC Technical Specification Aerial Cable ADSS SS 100m, 200m

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

AR-1FADPE-ADSS-100M-xxF-G652D

This Specification covers the design requirements and performance standard for the supply of optical fibre cable in the industry. ARTIC ensures a stable quality control system for our cable products

OPTICAL FIBER CABLE SPECIFICATION (ADSS-Span= 100m)

5. Optical Fiber Cable Characteristics 5.1 The Mechanical and Environmental Performance of the Cable ... 5.2 Installation Conditions

ADSS Aerial Cable Specifications | PDF | Optical Fiber | Fibre ...

This document provides specifications for several models of all dielectric self-supporting aerial cable with varying fiber counts and maximum spans. The cables utilize loose tube construction with optical

Optical Fibre Cable Technical Specification

The mechanical and environmental performance of the cable are in accordance with the following table. Unless otherwise specified, all attenuation measurements required in this section shall be performed

Technical Parameters of ADSS Fiber Optic Cables

Therefore, the main parameters of ADSS cables are in line with the regulations of power overhead lines.

ADSS Fiber Optic Cable Specifications Explained | Structure ...

Explore the complete specifications of ADSS fiber optic cables, including structure details, mechanical performance, optical characteristics, and environmental resistance. Learn how to choose

ADSS Fiber Optic Cables Types Prices & Technical Specifications

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ADSS cable is a type of fiber optic cable that is strong enough to support itself between structures without containing conductive metal elements. Both single mode and multimode fibers can be

IEC 60794-4-20

The cables can also be used in other overhead utility networks, such as for telephony or TV services. Requirements of the sectional specification IEC 60794-4 for aerial optical cables along

ALL-DIELECTRIC SELF-SUPPORTING OPTICAL CABLE (ADSS)

Application ADSS (All-Dielectric Self-Supporting) cables are designed to be laid near medium-voltage lines (12KV-25KV). One of the identification or selection methods is defined by the voltage level to

ADSS Fiber Optic Cable Parameters

El ADSS (All-Dielectric Self-Supporting) It is a type of fiber optic cable used in telecommunications networks, especially in aerial installations. This cable has become a popular

What Is ADSS Cable

Discover everything about ADSS fiber optic cables — from types, technical features, and application scenarios to installation accessories and mechanical performance. Learn how Zion

Optical Fibre Cable Technical Specification

Optical fibre cables supplied in compliance with this specifications is capable to withstand the typical service condition for a period of twenty-five (25) years without detriment to the operation

AR-1FDPE-FGPE-ADSS-200M-96F-G652D

1. General 1.1 Scope This specification covers the design requirements and performance standard for the supply of optical fibre cable in the industry. ARTIC ensures a stable quality control system for our

ADSS Fiber Optic Cables: What They Are, Structures, Applications

Learn about ADSS (All Dielectric Self-Supporting) fiber optic cables—their central tube/layered twist structures, PE/AT sheaths, benefits for power grids, and how they outperform

ADSS Fiber Optic Cable: What You Should Know

ADSS (All-dielectric Self-supporting) optical fibre cable is atype of self-supporting aerial fiber optic cable designed for aerial installation and deployment

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What is Aerial Fiber Optic Cable and Types

What is Aerial Fiber Optic Cable? Aerial fiber optic cable is a type of optical fiber transmission cable used for aerial deployment, suspended on towers, poles, or other supports,

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Technical inquiry: https://fdsoluciones.es/project-enquiry.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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