

Optical cable model and specifications opgw



Overview

Two or three stainless steel optical tubes are helically stranded in the inner layer of a multiple-layer cable.

Key Takeaways

OPGW (Optical Fiber Composite Overhead Ground Wire) models are defined by their structure, fiber count, and mechanical properties, with codes indicating specific design and application features. Overview of OPGW

An OPGW cable serves a dual purpose: it functions as a ground wire for high-voltage transmission lines and as a communication medium via embedded optical fibers . The cable typically contains a tubular structure with one or more optical fibers, surrounded by layers of steel and aluminum wires. The optical fibers are insulated and immune to electrical interference, allowing high-speed data transmission for utility communication or third-party use . OPGW is commonly used in transmission lines above 35 kV, with higher reliability and lightning protection compared to conventional ground wires .

OPGW Cable Structures

OPGW cables come in several structural types to meet different mechanical and environmental requirements :

- **Central Loose Tube Type:** Optical fibers are placed loosely in a sealed, water-resistant stainless steel tube filled with water-blocking gel. This tube is protected by layers of aluminum-clad steel wires, providing tensile strength and resistance to twisting and lateral pressure .
- **Aluminum or Steel Armor Combinations:** Different combinations of aluminum and steel layers are used to optimize electrical conductivity, mechanical strength, and corrosion resistance .

OPGW Model Naming Convention

OPGW models are typically coded in a structured format: OPGW-XX-YY(ZZ;AA) . Key elements include:

- **XX:** Fiber count (number of optical fibers in the cable)
- **S:** Optional suffix indicating special structural features
- **YY:** Cable structure type (e.g., B1, B2, D), which defines the arrangement of steel and aluminum layers
- **ZZ;AA:** Optional extensions for additional features such as corrosion resistance, high tensile strength, or environmental suitability For example, a model code like OPGW-24B1-50(D;A) indicates a cable with 24 fibers, B1 structure type, and additional design features specified by the suffixes.

Applications and Advantages

- **High-voltage transmission lines:** Provides grounding and lightning protection while carrying communication signals .
- **Communication networks:** Supports WDM, OTN, SDH, MSTP devices, or routers for high-speed data transmission .
- **Mechanical reliability:** Resistant to theft, twisting, and lateral pressure, with strong tensile strength due to stainless steel tubes .
- **Environmental adaptability:** Suitable for various weather conditions and long spans between towers . Understanding the OPGW model code allows engineers and procurement teams to select the appropriate cable based on fiber count, mechanical performance, and environmental requirements, ensuring optimal performance for both power transmission and communication needs .

Article Content

OPGW Fiber Optic Cable | Optical Ground Wire for Aerial Networks

Optical Ground Wire (OPGW) is a dual functioning cable, meaning it serves two purposes. It is designed to replace traditional static /

Optical Fiber Composite Overhead Ground Wire (OPGW)

Two or three stainless steel optical tubes are helically stranded in the inner layer of a multiple-layer cable. The multi loose tube type

Product Catalog

This is designed for splicing ADSS, OPGW cables and the normal cables to house the fiber core splices to outdoor intermediate

Optical ground wire

An OPGW cable contains a tubular structure with one or more optical fibers in it, surrounded by layers of steel and aluminum wire.

Corporate Office:

OPGW cable with central core aluminum sheathed tube is made of polymer loose tubes and the outer layer can be a suitable

01_OPGW.cdr

catalog | Optical Cables Optical Ground Wire| OPGW Application Suitable for installation as ground wire in powerlines. The cable

OPGW Cable Technical Specifications | PDF | Optical Fiber | Attenuation

The document provides the technical specifications for optical fibre groundwire (OPGW) and fibre optic aerial cable (OFAC). It

What is OPGW?

What is OPGW ? OPGW fiber optic cable, or Optical Ground Wire, is a type of cable designed to serve dual functions: it acts as a

Fibre optic systems for OHTL

Introducing fibre optic systems for OHTL Overhead optical fibre cable systems have become a key factor in telecommunications

Optical Fiber Composite Overhead Ground Wire (OPGW)

OPGW is mainly applied in communication line of newly constructed high voltage transmit electricity system with 35 KV or above, or

OPGW Fibre Optical Ground Wire

The following outline describes the OPGW cable information required to select proper cable attachment hardware and accessories.

Optical ground wire

An optical ground wire (also known as an OPGW or, in the IEEE standard, an optical fiber composite overhead ground wire) is a type

OPGW cables and variants

Product Description Optical Ground Wire (OPGW) cables are advanced composite overhead conductors that combine the functions

OPGW Cable Specifications and Installation | PDF | Optical Fiber | Wire

OPGW Cable Specifications and Installation The document outlines specifications for Optical Ground Wire (OPGW) cable that will be

OPTICAL FIBER OPGW

The specification describes the basic design of COMCAST® OPGW with its main components: the fibers, the optical fiber unit and

OPGW Cable Technical Specifications | PDF | Optical Fiber

It also covers specifications for optic fiber equipment and network configuration, including SDH equipment, optical link performance,

OPGW Cable Specifications and Standards | PDF | Optical Fiber

It includes specifications for the optical fibers, cable structures, materials used, and performance characteristics for each OPGW

TECHNICAL SPECIFICATION Optical Ground Wire

1.1 SCOPE This specification covers Optical Ground Wire Cables (OPGW) for the installation on high voltage overhead power lines.

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Contact Us

Continue your research online:

Website: <https://coetzerinvestments.co.za>

Technical inquiry: <https://coetzerinvestments.co.za/contact.html>

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

