Opgw48 core optical cable



Overview

The optical fiber shall be made of high pure silica and germanium doped silica. UV curable acrylate material is applied over fiber cladding as optical fiber primary protective coating.

Key Takeaways

The OPGW 48-core optical cable is a dual-function overhead cable combining lightning protection and high-speed optical communication, typically constructed with a central stainless steel tube housing the fibers, surrounded by aluminum-clad steel and aluminum alloy wires. OverviewOPGW (Optical Ground Wire) is designed for installation on high-voltage transmission lines, providing both grounding for lightning protection and a fiber-optic communication pathway. The 48-core configuration is widely used for smart grid applications, long-distance data transfer, and high-capacity communication systems.

It is suitable for new high-voltage lines (35 kV and above) or for replacing existing ground wires.

Construction

Central Tube: Fibers are housed in a stainless steel tube, often gel-filled to protect against moisture and environmental stress. Fiber Protection: Fibers are coated with UV-curable acrylate over high-purity silica and germanium-doped silica for durability. Armor Layers: The central tube is surrounded by aluminum-clad steel (ACS) wires and optionally aluminum alloy wires, arranged in single or multiple layers for mechanical strength and electrical conductivity.

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Outer Sheath: Some designs include an aluminum pipe for additional crush resistance and thermal protection.

Fiber and Performance Specifications

Fiber Count: 48 fibers, typically grouped in bundles of 12 with standard color coding. Fiber Types: Customizable, commonly G. 652D and G.

655 fibers. Mechanical Properties: High tensile strength, resistance to lateral pressure, twist, and environmental stress such as wind, ice, and lightning. Electrical Properties: Provides a path for short-circuit currents and lightning strikes without damaging the fibers.

Applications

Transmission and distribution lines for voice, data, and video communications. Smart grid monitoring, including lightning waveform monitoring, unmanned substation monitoring, and power line protection systems. Suitable for high-voltage lines over 110 kV and retrofitting older lines.

Standards and Customization

Compliant with IEC 60794 and IEEE 1138 standards. Customizable in terms of fiber mix, sheath, armor layers, and accessories to meet specific environmental and mechanical requirements. Cable diameter and weight are optimized for minimal additional load on transmission towers while maintaining high fiber density.

Example Models (AFL CentraCore)CC-57/465: 48 fibers, 11. 8 mm diameter, 0. 467 kg/m weight, fault current 16.

25 kA^2sec. CC-29/29/465: 48 fibers, 11. 8 mm diameter, 0.

354 kg/m weight, fault current 10. 5 kA^2sec. CC-54/472: 48 fibers, 12 mm diameter, 0.

470 kg/m weight, fault current 15. 75 kA^2sec. These models illustrate variations in diameter, weight, and fault current capacity, allowing selection based on mechanical and electrical requirements.

In summary, the OPGW 48-core cable is a robust, dual-function solution for modern high-voltage transmission systems, offering mechanical durability, environmental protection, and high-capacity optical communication in a single cable unit.

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Article Content

OPGW 48 Core Optical Fiber Cable

What is OPGW 48 Core Cable? OPGW, or Optical Ground Wire, is a self

OPTICAL GROUND WIRE (OPGW)

The optical fiber shall be made of high pure silica and germanium doped silica. UV curable acrylate material is applied over fiber cladding as optical fiber primary protective coating.

48 Core OPGW Cable_HuaDong Cable & Wire

What is 48 Core OPGW Cable ? The Central Tube Optical Ground Wire (OPGW) is surrounded by single or double layers of aluminum clad steel wires (ACS) or mix

48 Core/24Cores OPGW Fiber Optic Cable

OPGW fiber cable is the short form of Optical Fiber Composite Overhead Ground Wire. OPGW cable is suitable for installation on new power lines with double

Cable OPGW de 48 cores-Dosense Cable Manufacturer

OPGW optical cable (optical ground cable) of 48 cores has 48 optical fibers integrated into the OPGW structure. This type of cable is used in power transmission networks and combines shock resistance

OPGW 24 & 48 Core Specifications | PDF | Fibers | Optical Fiber

This document provides specifications for two types of OPGW fiber optic cables: a 24 core cable and a 48 core cable. Both cables use single mode fibers housed within loose buffer tubes made of stainless

OPGW Cable Price

Discover OPGW price deals on 12-288 core fiber optic cables for 110KV-500KV power lines. CE/ISO certified, single mode G652D, aluminum-steel construction.

24 Core and 48 Core Fiber Optic Cable

24 Core and 48 Core Fiber Optic Cable Fiber optic cable is a cable containing one or multiple optical fibers that are used to transmit the signal. The optical fiber

FIBRE OPTIC SYSTEMS FOR OHTL

Introducing fibre optic systems for OHTL Overhead optical fibre cable systems have become a key factor in telecommunications networks used by operators and power utilities.

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ADSS/OPGW Metal Junction Box

FOSC Metal Joint Junction Box For Pole and Tower ADSS/OPGW 12, 24, 48, up to 144 Cores Aerial Fiber Optic Cable Splice Closure, Contact Us for Details Now!

OPGW Cable Price Guide: How to Estimate Real Costs

A practical OPGW cable price guide covering fiber count, material types, MOQs, and regional cost drivers—so you can budget accurately and avoid overpaying.

A comprehensive examination on Layer Stranding OPGW Market, on

These core counts determine the fiber optic capabilities of the cable, catering to differing telecommunication requirements.

Best Optical Cable Manufacturing Suppliers

Best Optical Cable Manufacturing Suppliers Discover a curated list of global optical cable manufacturers specializing in fiber optics, high-speed data transmission, and custom cabling solutions to meet

AlumaCore Optical Ground Wire (OPGW)

AFL''s AlumaCore OPGW (Optical Ground Wire) combines lightweight aluminum construction with integrated fiber optics for overhead transmission lines.

Global Optical Fiber Composite Overhead Ground Wire (OPGW)

The Global Optical Cable Filler (OPGW) Market was valued at USD 78.5 Million in 2025 and is projected to reach USD 112.7 Million by 2032, growing at a CAGR of 5.3%.

ADSS Fiber Optic Cables Types Prices & Technical Specifications

Related keywords: ADSS cable 48 core datasheet, all-dielectric aerial fiber optic cable, self-supporting optical cable, power line OPGW alternative, AT sheath ADSS cable, long span fiber cable, buy

Alcatel Cable Guide for Submarine & Power Applications

Explore Alcatel Submarine Networks'' cable portfolio: submarine comms, offshore wind power cables, OPGW/ADSS utility solutions, and fiber sensing tech—plus 2026 market trends and sourcing options.

Optical Power Ground Wire OPGW Cable Single Mode Fiber Optic Cable ...

Optical Power Ground Wire OPGW Cable Single Mode Fiber Optic Cable G652d Product description OPGW is primarily used by the electric utility industry, placed in the secure topmost position of the

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