

Weight of 900 OPGW optical cable



Overview

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

Key Takeaways

The weight of a 900-fiber OPGW cable typically ranges from 1.5 to 2.5 kg per meter, depending on construction and materials.

Construction Overview

A 900-fiber OPGW cable generally consists of:

- Optical fibers housed in stainless steel tubes, often filled with water-blocking gel to protect fibers from strain and environmental conditions .
- Aluminum-clad steel or aluminum alloy wires helically stranded around the fiber tubes, providing mechanical strength and electrical conductivity .
- Optional multiple layers of armor or additional stainless steel tubes in high-fiber-count designs, which increase weight and diameter .

The cable may use a central loose tube design or a multi-tube design, with fibers distributed across several stainless steel tubes to reduce strain and improve flexibility

Weight Considerations

The total weight of the cable depends on:



- **Number of fibers:** Higher fiber counts require more stainless steel tubes, increasing weight. A 900-fiber cable is considered high-count, so it is heavier than standard 48-288 fiber OPGW cables .
- **Metallic layers:** The thickness and number of aluminum-clad steel wires or aluminum alloy layers directly affect weight. More layers improve tensile strength but add mass .
- **Diameter and design:** Multi-tube designs with lateral stainless steel tubes are slightly heavier than central tube designs due to additional metal content .

Based on typical high-fiber OPGW designs, a 900-fiber cable weighs approximately 1.5-2.5 kg per meter (1,500-2,500 kg per kilometer). Exact weight should be confirmed with the manufacturer, as variations in tube thickness, metal composition, and fiber arrangement can significantly affect the final mass .

Practical Implications

- **Tower load calculations:** Knowing the cable weight is essential for determining sag, tension, and mechanical support requirements.
- **Installation planning:** Heavier cables require stronger handling equipment and may affect span length limits.
- **Material selection:** Aluminum-clad steel provides a balance of conductivity and weight, while pure stainless steel increases durability but adds mass .

For precise engineering, always refer to the manufacturer's datasheet for the specific 900-fiber OPGW model, as weight can vary depending on design and materials used .

Article Content

OPGW Optical Ground Wire

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

OPGW Fibre Optical Ground Wire

Some structures and characteristics of typical representative OPGW are shown in the below list, however,

Product Catalog

High strength OPGW cable is available up to 96 fibers making it suitable for application is high fiber count and super-high-voltage

AlumaCore Optical Ground Wire (OPGW)

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

CentraCore OPGW Cable | Central Tube Optical Ground Wire | AFL

AFL's CentraCore OPGW (Optical Ground Wire) features a central tube design that protects fibers while offering high tensile strength

OPGW Cable Specifications and Data | PDF | Optical Fiber | Materials

The document provides specifications for an optical ground wire (OPGW) cable including its cross section, structure, standards,

Product Catalog

Optical Ground Wire (OPGW) Cable Fiberon OPGW is one of the most reliable fiber optic mediums for the telecom service providers,

opgw(0908)

LS Cable is the world's leading supplier of Optical Ground Wire (OPGW) including all the components that the system requires end

OPGW Cable Specification | OPGW Cable size | OPGW

OPGW Cable Application The Optical fiber composite ground wire is suitable for installation on

OPTICAL FIBER OPGW

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

OPGW Optical Ground Wire

IEC 60794-1-2 Optical fiber cables-Part 1-2: Generic specification - Basic optical cable test procedures IEEE1138-2009 IEEE

LS OPGW System Overview and Specifications | PDF | Optical Fiber ...

This document appears to be describing LS Cable & System's Optical Ground Wire (OPGW) system. It discusses their aluminum

NT-OPGW-12S.cdr

Only increase the cross-sectional area of the metal, which leads to the increase of cable diameter and cable weight, which raises

HexaCore OPGW Cable | High-Fiber Count Optical Ground Wire

AFL's HexaCore OPGW (Optical Ground Wire) delivers up to 144 fibers in a compact, high-strength design for overhead power lines.

OPGW Optical Ground Wire Single Central Stainless Steel Tube

Application The OPGW (Optical Ground Wire) with a central stainless steel tube is an ideal solution for transmission

OPGW Cable

OPGW for Power Transmission & Grid Communication OPGW integrates the functions of an overhead

Optical Fiber Composite Overhead Ground Wire opgw

OPGW cables are typically custom designed to best match the optical, electrical, mechanical, quality and

Afl AlumaCore Opgw | PDF | Optical Fiber | Aluminium

Fiber Optic Cable AlumaCore OPGW AlumaCore Optical Ground Wire is preferred for its performance under the most rugged

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

