



● Application

The Overhead OPGW Cable is specifically designed for installation on transmission lines, offering a dual functionality as both a ground wire and a communication wire. It replaces traditional static or shielding wires while providing a telecommunications pathway for internal and third-party communications. With the capability to conduct short-circuit currents and offer protection against lightning strikes, OPGW safeguards conductors while ensuring reliable communication channels.

● Construction

Central Loose Tube Type:

The central aluminum tube, sealed and water-resistant, houses the fibers loosely within a water-blocking gel, providing robust protection during installation and operation under harsh environmental conditions.

Depending on engineering requirements, the stainless steel tube may also be aluminum-clad steel, ensuring mechanical strength and conductivity to control temperature rise during short-circuit conditions.

Each optical fiber is identifiable through a fiber identification system, ensuring high mechanical strength and fault current rating within a compact diameter, resulting in excellent sag tension performance.

Multi Loose Tube Type:

In this design, the fibers are placed loosely within a sealed and water-resistant stainless steel tube filled with water-blocking gel. Helically stranded stainless steel optical tubes provide additional protection and capacity for high fiber count requirements.

The optical fiber, composed of high-purity silica and germanium-doped silica, is coated with UV-curable acrylate material for enhanced protection. Special spinning devices control the value of polarization mode dispersion (PMD), ensuring stability in cabling.

● Feature

Mechanical Resilience: OPGW cables are engineered to withstand mechanical and environmental stresses typical of overhead cables, such as those caused by wind or ice, ensuring reliable performance under challenging conditions.

Electrical Fault Handling: By providing a path to ground, OPGW cables can effectively handle electrical faults on transmission lines, preventing damage to delicate optical fibers while ensuring uninterrupted power transmission.

Dual Functionality: OPGW cables offer the dual benefits of serving as both ground wires and communication wires, reducing the need for separate infrastructure and optimizing transmission line efficiency.

● Specification

- IEC 60793-1: Optical fiber Part 1: Generic specifications
- IEC 60793-2: Optical fiber Part 2: Product specifications
- ITU-T G.652: Characteristics of a single-mode optical fiber cable
- ITU-T G.655: Characteristics of a non-zero dispersion-shifted single-mode optical fiber and cable
- EIA/TIA 598: Color code of fiber optic cables
- IEC 60794-4-10: Aerial optical cables along electrical power lines – Family specification for OPGW
- IEC 60794-1-2: Optical fiber cables-Part 1-2: Generic specification-Basic optical cable test procedures
- IEEE1138-2009: IEEE Standard for testing and performance for optical ground wire (OPGW) for use on electric utility power lines
- IEC 61232: Aluminum-clad steel wire for electrical purposes
- IEC 60104: Aluminum magnesium-silicon alloy wire for overhead line conductors
- IEC 61089: Round wire concentric lay overhead electrical stranded conductors

● Eastful Cable Lab



We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.

CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

● Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rheinland and CCS.



● National Green Factory



Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China. We are committed to the development of high-end, intelligent and green manufacturing industry.

*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

● Technical Parameters

Fibers	Fault Current	Total Nominal Cross Section Area	Total Nominal Cross Section Area	Overall Dia.	Overall Dia.	Weight	Weight	RBS	RBS
No.	KA ² sec	in ²	mm ²	inch	mm	lb/ft	kg/km	lbs	kb
48	44	0.1218	81.39	0.469	11.9	0.316	0.47	17075	7745
48	55	0.1218	81.39	0.469	11.9	0.259	0.385	10820	4908
48	55	0.133	88.87	0.488	12.4	0.327	0.487	16850	7643
48	66	0.133	88.87	0.488	12.4	0.28	0.416	11541	5235
48	64	0.143	95.56	0.504	12.8	0.351	0.522	18470	8378
48	76	0.143	95.56	0.504	12.8	0.299	0.445	12644	5735
48	66	0.1481	98.99	0.512	13	0.378	0.562	20831	9449
48	76	0.1481	98.99	0.512	13	0.331	0.493	14174	6429
48	76	0.1586	106.01	0.528	13.4	0.403	0.599	22024	9990
48	94	0.1586	106.01	0.528	13.4	0.33	0.491	14105	6398