



● Application

The OPGW Fiber Optic Cable plays a crucial role in the power sector, serving as a protective shield for crucial conductors on transmission lines while providing a telecommunications pathway for internal and external communications. As a dual-function cable, it contains optical fibers that support telecommunications needs and replaces traditional static, shielding, or ground wires on overhead transmission lines. Designed to withstand mechanical strain from weather conditions like wind and ice, the OPGW ensures the safe transmission of electrical power while offering reliable telecommunications capabilities.

● Construction

Central Loose Tube Type:

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

The stainless steel tube, or alternatively steel with an aluminum coating, shields the optical tube at the core of the cable. This core is surrounded by one or more layers of aluminum-clad steel, aluminum alloy wires, or steel wires, providing both conductivity and mechanical strength.

Each optical fiber is identifiable through a fiber identification system, ensuring high mechanical strength and fault current rating within a compact diameter.

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. Two or three stainless steel optical tubes are helically stranded in the inner layer of a multiple-layer cable, catering to high fiber count requirements.

The optical fiber is composed of high-purity silica and germanium-doped silica, with UV-curable acrylate material applied over the fiber cladding as the primary protective coating.

● 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
8	43	0.1195	79.88	0.496	12.6	0.3	0.447	16197	7347
8	63	0.1195	79.88	0.516	13.1	0.272	0.404	11338	5143
8	88	0.1694	113.19	0.571	14.5	0.421	0.626	22902	10388
8	101	0.1694	113.19	0.571	14.5	0.369	0.549	15410	6990
12	43	0.1195	79.88	0.496	12.6	0.301	0.448	16219	7357
12	63	0.1195	79.88	0.516	13.1	0.272	0.404	11338	5143
12	67	0.1494	99.86	0.544	13.8	0.376	0.56	20426	9265
12	78	0.1461	97.62	0.544	13.8	0.329	0.49	13790	6255
24	69	0.1481	98.96	0.54	13.7	0.362	0.538	19257	8735
24	83	0.1481	98.96	0.54	13.7	0.298	0.443	12350	5602
24	83	0.1622	108.39	0.559	14.2	0.393	0.585	21147	9592
24	101	0.1622	108.39	0.559	14.2	0.323	0.481	13565	6153
36	98	0.1741	116.36	0.595	15.1	0.417	0.621	21619	9806
36	111	0.1741	116.36	0.595	15.1	0.368	0.548	14758	6694
36	124	0.1978	132.14	0.626	15.9	0.478	0.712	25150	11408
36	141	0.1978	132.14	0.626	15.9	0.422	0.628	17119	7765
48	153	0.2148	143.52	0.646	16.4	0.499	0.742	25510	11571
48	179	0.2196	146.73	0.65	16.5	0.454	0.676	18087	8204
48	253	0.2814	188	0.725	18.4	0.673	1.001	35139	15939
48	305	0.2814	188	0.725	18.4	0.555	0.826	22699	10296
72	159	0.2178	145.55	0.677	17.2	0.504	0.75	25556	11592
72	184	0.2206	147.41	0.677	17.2	0.435	0.648	17727	8041
72	188	0.2394	160	0.701	17.8	0.569	0.846	29672	13459
72	213	0.2394	160	0.701	17.8	0.503	0.749	20585	9337