Stranded Optical Ground Wire (OPGW)

Overview

The Stranded Optical Ground Wire (OPGW) is stranded by double or three layers of aluminum clad steel wires (ACS) or mix ACS wires and aluminum alloy wires. Such cable combines the functions of grounding and communications. The OPGW cable is run between the tops of high-voltage electricity pylons.

The conductive part of the cable serves to bond adjacent towers to earth ground, and shields the high-voltage conductors
from lightning strikes.

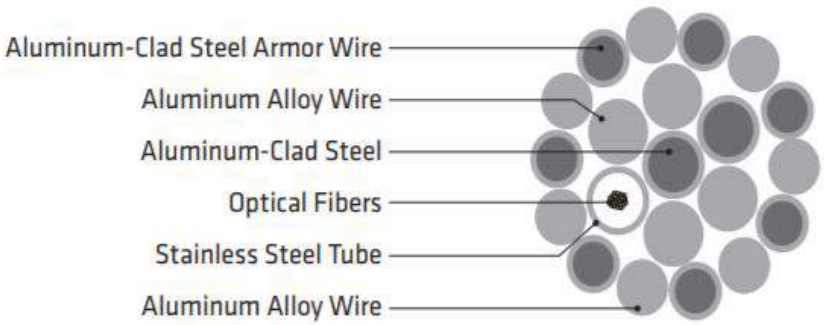
Features

- ✧ Small diameter, low weight reduces retrofit impact
- ✧ Hermetically sealed stainless steel tubes provide mechanical and thermal protection for fibers
- ✧ Thick-walled aluminum pipe provides crush resistance and boosts fault current rating
- ✧ Outer wire strands selected to optimize mechanical and electrical properties
- ✧ Lower wind and ice loads put less load on structures
- ✧ Fiber grouped in bundles of 12 for ease of splicing

Applications

- ✧ For use by electric utilities on transmission lines in lieu of traditional shield wire
- ✧ For retrofit applications where existing shield wire needs to be replaced with OPGW
- ✧ For new transmission lines instead of traditional shield wire
- ✧ Voice, video, data transmission
- ✧ SCADA networks
- ✧ Dark fiber leasing

Structure



Parameter

1) Typical design for Double Layer of OPGW:

Specification	Fiber Count	Diameter (mm)	Weight (kg/km)	RTS (KN)	Short Circuit (KA2s)
OPGW-89[55.4;62.9]	24	12.6	381	55.4	62.9
OPGW-110[90.0;86.9]	24	14	600	90	86.9
OPGW-104[64.6;85.6]	28	13.6	441	64.6	85.6
OPGW-127[79.0;129.5]	36	15	537	79	129.5
OPGW-137[85.0;148.5]	36	15.6	575	85	148.5
OPGW-145[98.6;162.3]	48	16	719	98.6	162.3

2) Typical design for Three Layer of OPGW:

Specification	Fiber Count	Diameter (mm)	Weight (kg/km)	RTS (KN)	Short Circuit (KA2s)
OPGW-232[343.0;191.4]	28	20.15	1696	343	191.4
OPGW-254[116.5;554.6]	36	21	889	116.5	554.6
OPGW-347[366.9;687.7]	48	24.7	2157	366.9	687.7
OPGW-282[358.7;372.1]	96	22.5	1938	358.7	372.1

Related Cable Fittings: