

# Optical Fiber Composite Overhead Ground Wire (OPGW)

Model: OPGW

## Product Description

Optical Fiber Composite Overhead Ground Wire (OPGW) is an overhead ground wire containing optical fibers, combining dual functions of an overhead ground wire and optical communication transmission. It is primarily used for communication lines in 110kV, 220kV, 500kV, and 750kV high-voltage power transmission systems as well as newly constructed lines. OPGW can also be used to replace existing ground wires on traditional overhead high-voltage transmission networks, adding optical communication channels, conducting short-circuit currents, and providing lightning protection. Special customized structural designs are available upon request to meet specific client requirements.

## Cable Structure Design

### 1. Central Tube Structure (Central Loose Tube):

- Aluminum-Clad Steel Wire
- Stainless Steel Tube
- Optical Fiber Core

### 2. Layer Stranded Structure:

- Aluminum-Clad Steel Wire
- Stainless Steel Tube
- Fiber Core

## Product Features

- Advanced Stainless Steel Tube Technology:** Advanced tube manufacturing filled with water-blocking compound provides optimal protection for optical fibers.
- Fiber Excess Length & Lay Length Control:** Precise fiber excess length and cable core lay pitch ensure fibers remain strain-free under maximum working tension.
- Easy Installation & Direct Replacement:** Matching specifications with common ground wires make installation highly convenient for direct replacement of existing ground wires.
- Low Interference:** Minimal mutual interference between short-circuit current and power grid/communication system.
- Compact & High Tensile Strength:** Compact structural design featuring high tensile strength and mechanical resistance.
- Customizable Structural Options:** Tailored layer-stranded or central-tube designs to adapt to various power line capacities and span lengths.

## Technical Parameters

| Cable Model | Cross-Sectional Area (mm²) | Rated Tensile Strength (kN) | Cable Outer Diameter (mm) | Cable Weight (kg/km) |
|-------------|----------------------------|-----------------------------|---------------------------|----------------------|
| OPGW        | 40                         | 54.0                        | 8.7                       | 313                  |
|             | 50                         | 61.4                        | 9.6                       | 348                  |
|             | 60                         | 62.7                        | 10.8                      | 391                  |
|             | 70                         | 80.8                        | 11.4                      | 478                  |
|             | 80                         | 84.6                        | 12.0                      | 538                  |
|             | 90                         | 57.3                        | 12.6                      | 587                  |

\* Note: The above data is for reference only. Storage & Operating Temperature: -40°C to +70°C.

## Product Standards

OPGW Optical Cable Standards: Complies with JB/T 8999-2014 industry standard.