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## OPGW-Ts-A – Optical Ground Wearer Aluminum Plated Single Tube



- 1. Aluminum plated steel wire
- 2. Aluminum sheath
- 3. Steel optical loose tube
- 4. Hydrophobic gel
- 5. Optical fiber

### Application

The corrosion-resistant optical power ground wearer is designed to perform fiber optic lines for overhead power lines of 35 kV and above.

### Technical characteristics

Parameter	Value		
Number of optical fibers	Up to 48		
Typical designs	OPGW-C-A-48 -10,9mm - 28 kA2·s – 67kN	OPGW-C-A-48 -12,1mm - 46 kA2·s – 87kN	OPGW-C-A-48 -14,0mm – 96 kA2·s – 109kN
Cable diameter, mm	10,9	12,1	14,0
Cable weight, kg/km	404	516	668
Rated breaking strength (RBS), kN	67,9	87	109,5
Maximum rated design tension (MRDT), kN	32,8	43,7	52,8
SEN, kN	20,4	26	32,9
Sectional area of steel elements, mm <sup>2</sup>	53,6	70,5	85,0
Whole steel section, mm <sup>2</sup>	67,7	84,6	119,6
Elasticity modulus (final), kN/mm <sup>2</sup>	92,5	98,6	84,4
Elasticity modulus (initial, mounting), kN/mm <sup>2</sup>	105,0	112,0	95,8
Elasticity modulus (exhaust), kN / mm <sup>2</sup>	132,9	137,9	126,5
Coefficient of linear thermal expansion, 10 <sup>-6</sup> 1/K	13,6	13,4	14,0
DC resistance at 20°C, Ohm/km	0,967	0,813	0,498
Thermal withstand (beginning t=25°C, final t=200°C), kA2·s	28,5	45,6	96,3
S/c current for 1 sec, kA	5,3	6,8	9,8
Crushing force, kN/sm	1,0		
Operating temperature	-60°C...+85°C		
Installation temperature	-30°C...+50°C		
Transportation and storage temperature	-60°C...+70°C		
Minimum bending radius	Not less than 20 cable diameters		
Factory length, km	4		

### Technical characteristics of optical fiber

Type of optical fiber	Corning SMF 28 Ultra	Corning SMF28e+BB
ITU-T recommendations	G.657A1 G.652D	G.657A1 G.652D
Deviation from the concentricity of the core, microns, not more	0,5	
Diameter of fiber sheath, microns	125±0,7	
Deviation from the roundness of the sheath,%, not more	0,7	
The diameter of the protective covering, microns	242±5	
Maximum attenuation at wavelength 1310 nm	0,32	0,34
Maximum attenuation at wavelength 1550 nm	0,18	0,20

### Full name example

#### OPGW-Ts-A-48-10,9mm 28 kA2·s-67kN

Cable consist of the aluminum plated central steel loose tube with freely laid fibers. The optical fibers in the loose tube are bundled. Each bundle of fibers has a winding colored synthetic thread. The free space is filled with a hydrophobic gel in the optical loose tube. One lay of reinforcing wires is spirally laid on top.