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OPGW-Ts – Optical Ground Wearer Single Tube



- 1. Plated steel wire
- 2. Steel optical loose tube
- 3. Hydrophobic gel
- 4. 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	24		48
Cable diameter, mm	8,2	11,2	10,1
Cable weight, kg/km	244	477	363
Rated breaking strength (RBS), kN	44	89	65,2
Maximum rated design tension (MRDT), kN	22	44,2	32,9
SEN, kN	13	27	19,5
Sectional area of steel elements, mm ²	34,4	69,3	51,3
Whole steel section, mm ²	36,0	70,9	53,4
Elasticity modulus (final), kN/mm ²	116,8	119,0	117,8
Elasticity modulus (initial, mounting), kN/mm ²	132,6	135,2	133,7
Elasticity modulus (exhaust), kN / mm ²	156,8	156,2	154,8
Coefficient of linear thermal expansion, 10 ⁻⁶ 1/K	12,0	12,3	12,7
DC resistance at 20°C, Om/km	2,449	1,232	1,644
Thermal withstand (beginning t=25°C, final t=200°C), kA ² ·s	6,3	25	13,9
S/c current for 1 sec, kA	2,5	5,0	3,7
Crushing force, kN/sm	1		
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-24-11,2mm-25 kA²·s-1kN

Cable consist of the 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.