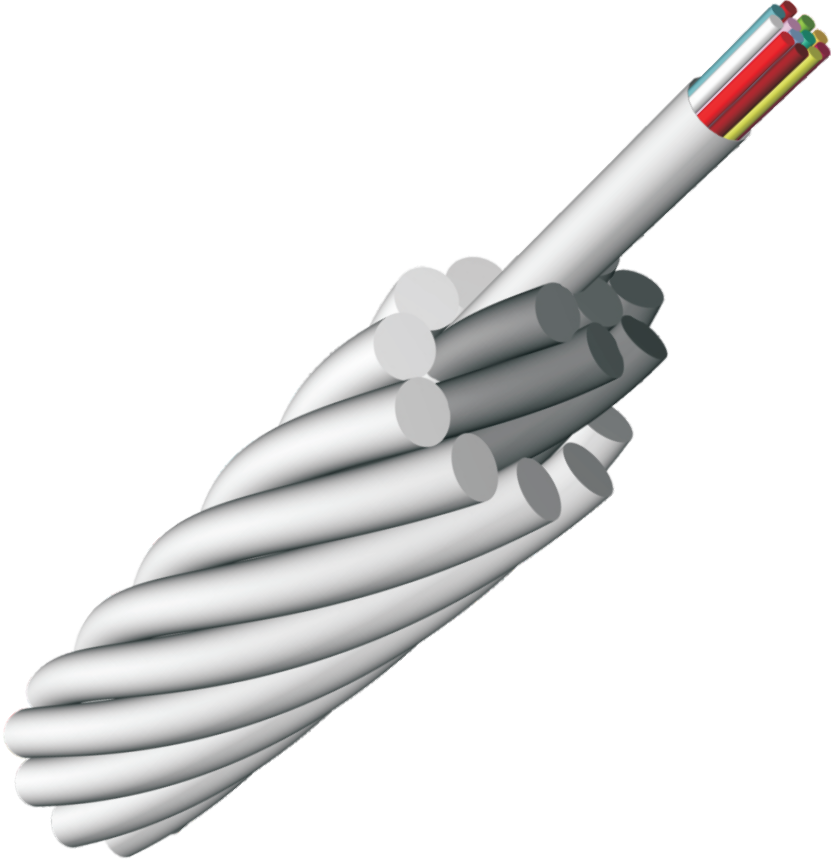


catalog | **Optical Cables**
Optical Ground Wire | OPGW



Technical Data Sheet

Double Stranding Layers | Central SST **OPGW**

Standard buffer tube with 2-48f

Tension / Tensile Strength:

Max. - 10580 daN
Medium - 3650 daN
TS - 6258 daN

Application

Suitable for installation as ground wire in powerlines. The cable acts as a normal ground wire protecting phase wires from lightning and carries earth fault currents in addition to providing an optical path for telecommunication need.

Benefits

- Installs as a normal ground wire with conventional machinery.
- Reliable optical solution for fiber optic utilities.
- Best solution in old ground wire replacement and in new line constructions.
- Low cost.

Fiber types

- G.652D single-mode fiber
- G.655 NZDS fiber for DWDM applications

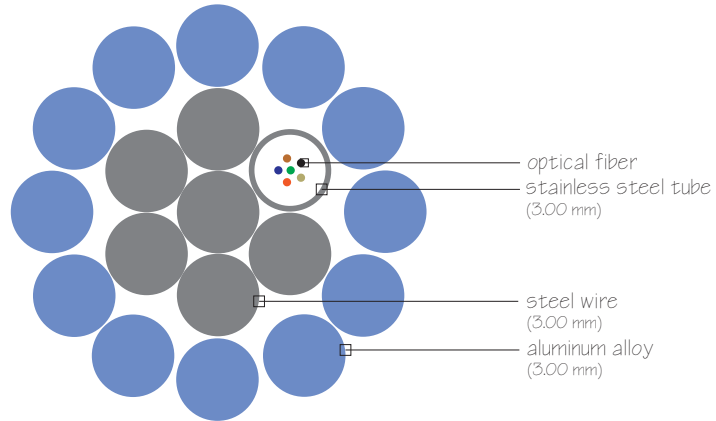
Full range of protections

- Gelly filled

Full range of applications

- Aerial

Cable cut-away



Typical parameters

Number of fibers	Up to 48
Nominal outer diameter	15.0 mm (0.59 in)
OPGW Cable weight	595 kg/km (399 lbs/kft)
OPGW failing load	595 daN (13376 lbf)
Permissible max. tension	10580 daN (23785 lbf)
Medium high tension	3650 daN (8206 lbf)
Endurance tensile strength (ETS)	6258 daN (14069 lbf)
Operating temperature range	0 °C / 80 °C (32 °F / 176 °F)



Qualifications & approvals

REA PE-90
Bellcore Standards
ITU Standards
TIA/EIA Standards

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1st ISSUE

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**Technical
Data Sheet**

Double Stranding Layers | Central SST **OPGW**

Standard buffer tube with 2-48f

Tension / Tensile Strength:

Max. - 10580 daN
Medium - 3650 daN
TS - 6258 daN

Mechanical and Constructive Characteristics

Lay Ratios		
- Outer Layer		10-14
- Inner Layer		10-16
Aluminum Alloy Wire Diameter	mm	3.00 ± 1%
Steel Wire Diameter	mm	3.00 ± 0.05
O/F Stainless Steel Tube	mm	3.00
OPGW Diameter	mm	15.00 ± 0.30
Aluminum Alloy Wire Tensile Strength (min.)	Mpa	325
Aluminum Alloy Wire Elongation (min.)	%	4
Aluminum Alloy Wire Conductivity (min.)	IACS	52.90
Steel Wire Tensile Strength (min.)	Mpa	1410
Steel Wire Stress at 1% Extension (min.)	Mpa	1280
Steel Wire Elongation	%	3
Steel Wire Weight of Zinc Coating (min.)	kg/m ²	245
Total Aluminum Alloy Cross-Section	mm ²	84.8
Total Steel Cross Section	mm ²	42.9
O/F Tube Cross-Section	mm ²	7.07
OPGW Cross-Section	mm ²	134.77
Aluminum Alloy Unit Weight	kg/km	235
Steel Unit Weight	kg/km	344
O/F Tube and Jelly Unit Weight	kg/km	16
OPGW Unit Weight	kg/km	595
OPGW Failing Load	daN	8950
Weight of Zinc Coating (deep galvanizing)	gr/m ²	245
Modulus of Elasticity of OPGW	hbar	6200
Final Modulus of Elasticity of Steel	hbar	11000
Final Modulus of Elasticity of Aluminum Alloy	hbar	6000
Final Modulus Elasticity of OPGW	hbar	7470
Thermal Expansion Coefficient of Steel		11.5 x 10 ⁻⁶ K ⁻¹
Thermal Expansion Coefficient of Aluminum Alloy		23 x 10 ⁻⁶ K ⁻¹
Thermal Expansion Coefficient of OPGW		17.4 x 10 ⁻⁶ K ⁻¹
Permissible Maximum Tension	daN	10580
Medium High Tension	daN	3650
Endurance Tensile Strength (ETS)	daN	6258
Short Time Overcurrent (0.5 second) (40-180°C)	A	14800
Temperature after Short Time Overcurrent	°C	180
Working Temperature	°C	80
Resistance at 20°C	ohm/km	0.400



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.
Performance specifications are measured per EIA Fiber Optic Test Procedures.

