

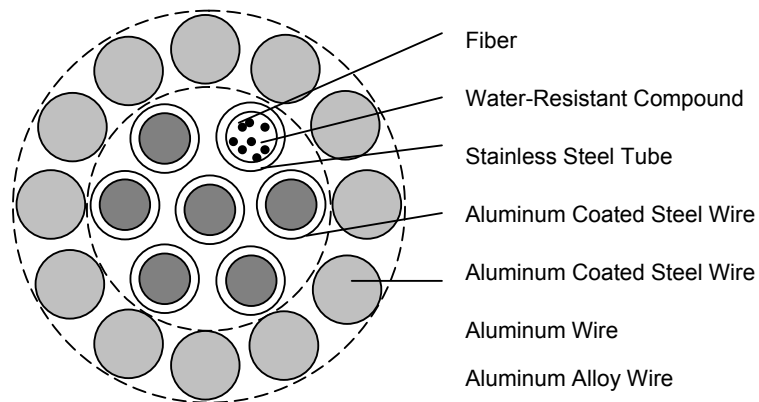
Part No. U-OPGW-XX-XX(XX-X)



Cable Description

Uninet OPGW cable is a kind of steel tube standard cable. Fibers are placed into stainless steel tube that is filled with a water-resistant filling compound. The steel tube and aluminum coated steel wires are stranded into a cable core, over which one or two layers of aluminum coated steel wires, aluminum wires or aluminum alloy wires are stranded.

Cable Cross Section



Application

Aerial, To function as Overhead ground wire or Telecommunication cable simultaneously.

Cable Information

U-OPGW-XX-XX(XX-X)

- OPGW** = Composite Fiber Optic Overhead Ground Wire
- XX/XX** = Ground wire structure/cable core structure
- XX** = Fiber count
- XX** = Fiber type
- XX** = CSA of Aluminum part (mm²)
- XX** = CSA of Steel part (mm²)
- XX** = Short circuit current (kA)

U-OPGW-XX-XX(XX-X)

Cable Characteristics

- Advanced technology is applied to produce stainless steel tube. The tube is filled with a water resistant filling compound. The fibers are well protected
- The optimized design of fiber excess length and cable core stranding lay length enable fibers to gain the second excess length so that the fibers are free from tension in the circumstances that the OPGW cable is subject to the maximum operation tension.
- OPGW cable is of compact structure, which reduces both the ice load and wind load, and ensures the quick dissipation of heat generated by the short circuit.
- OPGW cable and normal ground wire are more or less equal in the outer diameter and pulling fore, the cable can replace the existing ground wire with no need to change the rout or towers. The installation of OPGW cable is very convenient.
- OPGW cable is produced strictly according to IEEE1138, IEC1396 and relevant international standard, and the cable and relevant hardware set have passed the tests requested.
- **Bending Radius:**
 Static: 10D (Diameter of cable)
 Dynamic: 20D (Diameter of cable)

Cable Structure and Parameters

Type	Outer Diameter (mm)	Weight (kg/km)	Breaking Strength (kN)	20°C DC Resistance (Ω/km)	Short-Circuit Current (kA, 1s, 20-200°C)
U-OPGW-ACS-12X(55-4.2)	10	390	67	1.598	4.2
U-OPGW-ACS-16X(70-5.1)	11	472	81	1.321	5.1
U-OPGW-ACS-20X(80-6.1)	12	561	96	1.110	6.1
U-OPGW-ACSR/ACS-24X(70/4011.2)	14	480	56	0.341	11.2
U-OPGW-ACSR/ACS-36X(85/40-12.8)	15	553	64	0.297	12.8
U-OPGW-ACSR/ACS-40X(95/50-14.6)	16	628	73	0.261	14.6
U-OPGW-AAAC/ACS-48X(110/55-16.5)	17	709	82	0.231	16.5
U-OPGW-AAAC/ACS-24X(70/40-10.5)	14	480	64	0.387	10.5
U-OPGW-AAAC/ACS-36X(85/40-12.1)	15	553	74	0.337	12.1
U-OPGW-AAAC/ACS-40X95/50-13.7)	16	628	84	0.296	13.7
U-OPGW-AAAC/ACS-48X(110/55-15.5)	17	709	95	0.262	15.5

Note:

- Other type of Uninet OPGW cables is available.
- Various types of fibers in accordance with ITU-T Recommendations are available on request.
- Specially designed cable structure is available on request.
- More details can be found in relevant product brochures or inquired from Uninet directly.

U-OPGW-XX-XX(XX-X)

Mechanical and Environmental Performance

Uninet OPGW cable complies with IEEE1138, IEC1396 and relevant international Standards. The fiber in cable complies with ITUT Recommendations.

Test Items	Test Conditions	Test Requirements	Test results
Stress-strain	Effective test length: 57m Load range: 4Kn~70%RTS Duration/loadingPoint: 1min	No visual damage to the cable; Draw stress-strain curve.	No visual damage to the cable; Fiber showed no significant strain and induced attenuation.
Tensile strength	Effective test length: 8m Load: 4Kn~95%RTS	Cable breaking strength is $\geq 95\%$ RTS, and no single wire is broken.	Cable breaking strength is $\geq 95\%$ RTS, and no single wire is broken.
Sheave	Effective test length: 7.5m Deflection angel: 30° Load: 25%RTS Pull through: 70 times	No significant damage to any component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.	No significant damage to any component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.
Aeolian vibration	Effective test length: 57m Vibration angle: 1.5° Frequency: 41.4Hz Load: 25%RTS Vibration cycles: 10 σ	No significant damage to nay component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.	No significant damage to any component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.
Galloping	Effective test length: 57m Frequency: Single loop resonant Frequency Load: 25%RTS Galloping: 10 cycles	No significant damage to nay component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.	No significant damage to nay component of the cable; Fiber attention is ≤ 0.12 dB/km at 1550nm.
Galloping	Effective test length: 57m Frequency: Single loop resonant Frequency Load: 25%RTS Galloping: 10 cycles	No significant damage to nay component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.	No significant damage to nay component of the cable; Fiber attention is ≤ 0.12 dB/km at 1550nm.
Creep	Effective test length: 10m Load: 25%RTS Duration: 1000 hours	Elongation of the cable versus time.	Fiber attention is ≤ 0.02 dB/km at 1550nm. Cable elongation ratio: 0.02%.
Temperature cycle	Temperature: -40°C~+80°C Duration: 24 h Cycling: 2 times	Fiber attention is ≤ 0.5 dB/km at 1550nm.	Fiber attention is ≤ 0.03 dB/km at 1550nm.
Seepage of flooding compound	Effective test length: 3m Duration: 72 h Temperature: 65°C	The component shall not flow or drip.	The component did not flow or drip.
Short circuit	Load: 25%RTS Short circuit current: fault current pulse Repeated: 10 times Temperature: 20~200°C	No significant damage to nay component of the cable; Fiber attention is ≤ 1.0 dB/km at 1550nm.	No significant damage to nay component of the cable; Fiber attention is ≤ 0.5 dB/km at 1550nm.