

OPtical Ground Wire Central Steel Tube Design

SAMSUNG OPGW (SC-OP310/320) provides ground wire protection for overhead power lines as well as fiber optic cable for optical communication systems with high performance characteristics. With an innovative engineering design and using the highest grade of materials, SAMSUNG OPGW meets aerial fiber

requirements. This design includes optical fibers within a gel-filled stainless steel tube, the tube is located in the central position of the cable and surrounded by aluminum clad steel and aluminum alloy wire to make a single or dual layer design suitable for a variety of applications.



Optical Ground Wire
(Central Steel Tube Design)

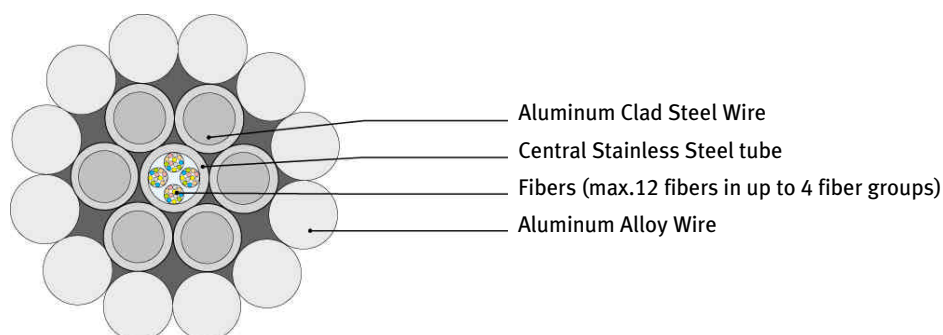
SC-OP310/320

FEATURES / BENEFITS

- 1 Stranded layer design(SC-OP310)
- 2 Stranded layer design(SC-OP320)
- Fiber counts up to 48
- Small diameter, low weight
- Laser welded, hermetically sealed stainless steel tubes provide mechanical and thermal protection for optical fibers
- For high tensile load, long span and high crush resistance
- Optical fibers are isolated from stress and strain
- Good resistance to moisture and hydrogen ingress
- Color coded and ring marked fibers for quick and easy identification
- Meets the requirements of IEEE 1138 and other industry standards
- Uses Samsung SMF, MMF or a hybrid of both
- Custom designs are available on request; i.e. alternate diameter, fault current and max tensile load

APPLICATIONS

- Long Haul Optical Network upon transmission power line
- Monitoring system



- Aluminum Clad Steel Wire
- Central Stainless Steel tube
- Fibers (max.12 fibers in up to 4 fiber groups)
- Aluminum Alloy Wire

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MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

Item Number	Metallic Section (mm ²)	Tensile Modulus (KN/mm ²)	Thermal coefficient of expansion (10 ⁻⁶ /K)	D.C. Resistance@20°C (ohm/km)	Short-circuit current (KA ² -s)	Min. bending radius (mm)	
						Installing	Operationg
OPC-DS-036-T1	9.95	131.70	13.82	1.66	10.80	20 x OD	15 x OD
OPC-DS-048-T1	10.7	131.70	13.82	1.43	14.45	20 x OD	15 x OD
OPC-DS-036-T2	15.59	87.65	17.90	0.31	131.23	20 x OD	15 x OD
OPC-DS-048-T2	16.2	89.76	17.61	0.30	147.05	20 x OD	15 x OD

CABLE WEIGHT & DIAMETER

Item Number	Fibers	Fibers per Tube	Layer Number	Tube Dia		Nom. Outer Dia.		Nom. Weight		First Layer ¹⁾	Second Layer
				mm	inch	mm	inch	kg/km	lbs/1000 ft		
OPC-DS-036-T1	36	36	1	3.3	0.13	9.95	0.40	358.10	240.63	ASx6x3.3	-
OPC-DS-048-T1	48	48	1	3.55	0.14	10.7	0.42	413.60	277.92	ASx6x3.55	-
OPC-DS-036-T2	36	36	2	3.3	0.13	15.59	0.61	594.46	399.45	ASx6x3.3	AWx14x2.82
OPC-DS-048-T2	48	48	2	3.55	0.14	16.2	0.64	654.41	439.74	ASx6x3.55	AWx15x2.75

* Diameter and weight subject to change without notice

¹⁾ Material x Number x Diameter

AS : Aluminm Clad Steel Wire AW : Aluminum Alloy Wire

ORDERING INFORMATION

OPC - 1 2 - Fiber Counts **XXX** - 4 5

1 Fibers in Tube/bundle

4 : 4 fibers **6** : 6 fibers **8** : 8 fibers **B** : 12 fibers
C : 18 fibers **D** : 24 fibers **E** : 36 fibers **F** : 48 fibers

2 Fiber Type

S : SMF **M** : MM50/125 **L** : MM62.5/125 **N** : NZDSF
H : Hybrid

4 Max. Attenuation

T : 0.35/0.25 dB/km (1310/1550 nm, SMF)
A : 0.40/0.30 dB/km (1310/1550 nm, SMF)
M : 2.5/0.7 dB/km & 500/500 MHz-km (850/1300 nm, MMF50/125)
H : 2.7/0.8 dB/km & 500/500 MHz-km (850/1300 nm, MMF50/125)
L : 3.0/0.8 dB/km & 160/500 MHz-km (850/1300 nm, MM62.5/125)
C : 3.2/1.0 dB/km & 160/500 MHz-km (850/1300 nm, MM62.5/125)
N : 0.25 dB/km (1550 nm, NZDSF)

5 Layer Numbers

1 : 1 layer **2** : 2 layers

SAMSUNG STANDARD : OPC - DS - XXX - T1

- Central Steel Tube Design Optical wire with Single Mode Fibers

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