

OPGW Design

Ref: SFPOC/SFSJ-J-11070

Cable: 96SMF OPGW

Key Design Data – Complete Cable:

Nominal Cross Sectional area	mm²	116
Center- Aluminum Clad Steel Wires –No./Dia.(20%)	mm	1/3.3
L1- Stainless Steel Tube –No./Dia.	mm	2/3.3
L1- Aluminum Clad Steel Wires –No./Dia.(20%)	mm	4/3.3
L2- Aluminum Alloy Wires –No./Dia.	mm	15/2.5
Lay Direction-Outer Layer		RIGHT HAND

General Design Data (For Information Only)

Overall Diameter	mm	14.9
Ultimate Conductor Tensile Strength	kN	76.2
Max. working tension	%	70
Approximate Total Mass	kg/km	529
Electrical Resistance at 20°C	Ω/km	0.3640
Modulus of Elasticity,initial lower	Mpa	88867
Modulus of Elasticity,final stage	Mpa	98741
Highest stress value at whitch EiL is valid		
Factor for the calculation of Eiv		
Strain elongation due to creep		
Permanent elongation due to creep correspond to a rise temperature		
Greasing		
Lay ratio		
Coefficient of Linear Expansion	x10⁻⁶/°C	17.0
Short Circuit Current Capacity(30-200°C)	kA²S	110.7 10.5kA in 1s
Minimum bending diameter	mm	1000
Operating temperature range	°C	-50~+85

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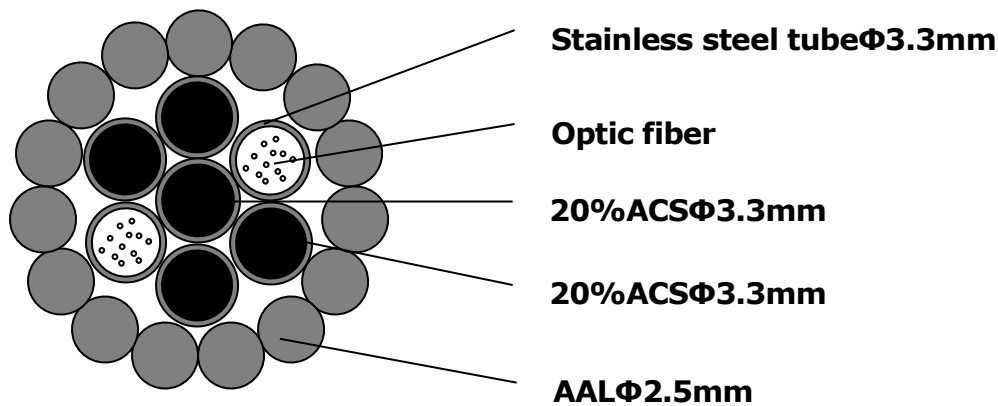
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Optical Data

Optical Fibre Type	-	Single Mode G.652D
Fiber Manufacturer	-	OFS
Mode Field Diameter-1310nm	μm	9.2±0.4
Mode Field Diameter-1550nm	μm	10.4±0.5
Cladding Diameter	μm	125.0±0.7
Core-Clad Concentricity	μm	≤ 0.5
Cladding Non-Circularity	%	≤ 1.0
Coating Diameter	μm	235-245
Coating-Cladding Concentricity	μm	<12
Attenuation Coefficient-1310nm	dB/km	≤0.35
Attenuation Coefficient-1550nm	dB/km	≤0.20
Cable Cut-Off Wavelength	nm	≤1260
Zero Dispersion Wavelength	nm	1302-1322

OPGW Cross section Drawing



Color Coding:

Tube 1(no dot)

Fiber 1 to Fiber 12: Blue, Orange, Green, Brown, Slate, White, Red, Natural, Yellow, Violet, Rose and Aqua.

Fiber 13 to Fiber 24: same base color but with one black ring mark at regular interval.

Fiber 25 to Fiber 36: same base color but with two black ring marks at regular interval.

Fiber 37 to Fiber 48: same base color but with three black ring marks at regular interval.

Tube 2(one dot at regular interval)

Fiber 1 to Fiber 12: Blue, Orange, Green, Brown, Slate, White, Red, Natural, Yellow, Violet, Rose and Aqua.

Fiber 13 to Fiber 24: same base color but with one black ring mark at regular interval.

Fiber 25 to Fiber 36: same base color but with two black ring marks at regular interval.

Fiber 37 to Fiber 48: same base color but with three black ring marks at regular interval.