



OPGW

Optical Fiber Ground Wire



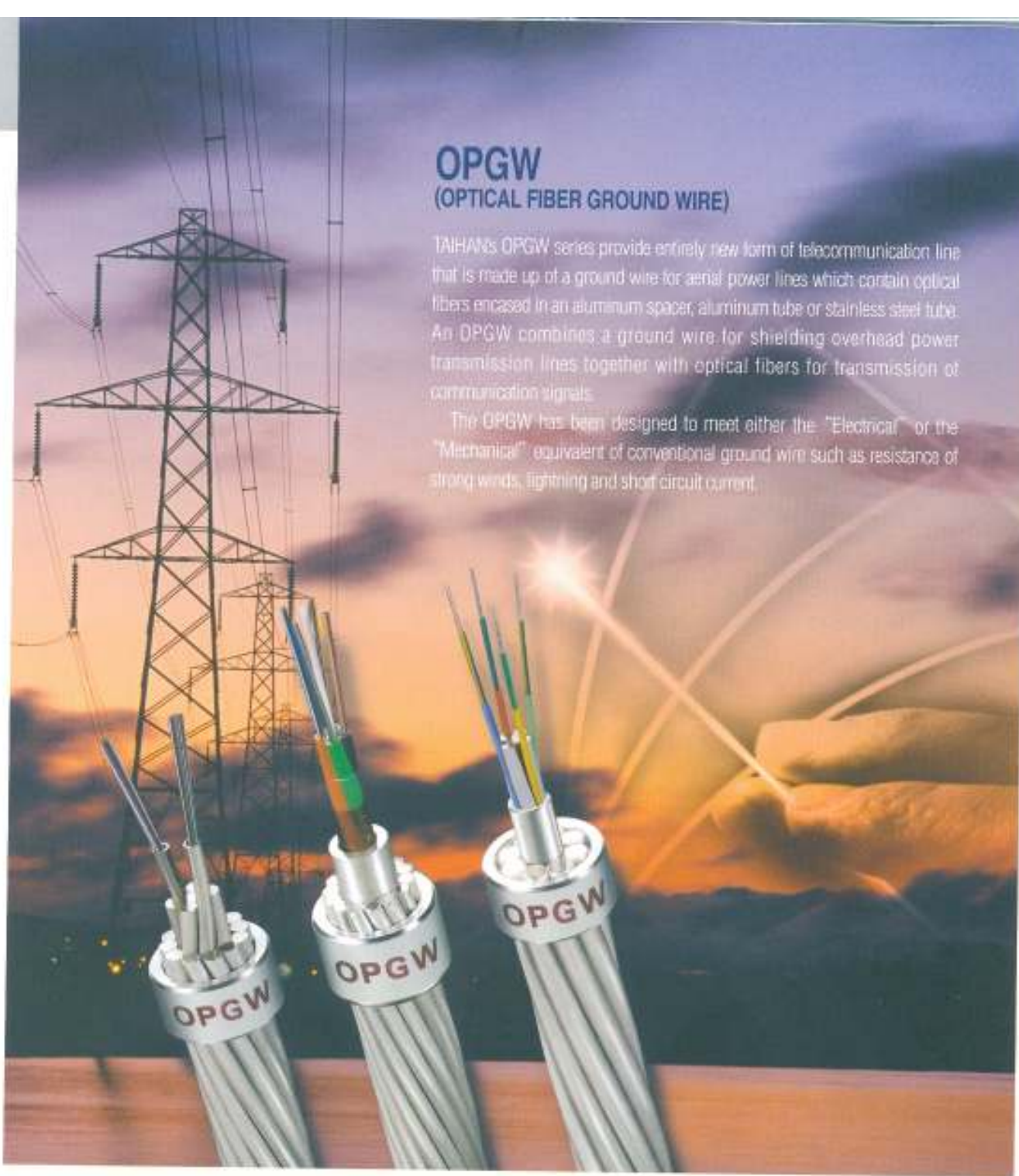
Stainless Steel Loose Tube Type
Non-metallic Loose Tube Type
Aluminum Spacer Type






OPGW (OPTICAL FIBER GROUND WIRE)

TAIHAN's OPGW series provide entirely new form of telecommunication line that is made up of a ground wire for aerial power lines which contain optical fibers encased in an aluminum spacer, aluminum tube or stainless steel tube. An OPGW combines a ground wire for shielding overhead power transmission lines together with optical fibers for transmission of communication signals.

The OPGW has been designed to meet either the "Electrical" or the "Mechanical" equivalent of conventional ground wire such as resistance of strong winds, lightning and short circuit current.



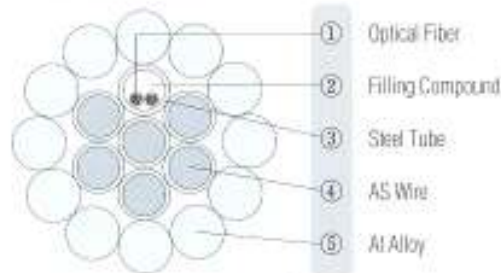
Different Type of Optical Unit for OPGW

Item	Stainless Steel Loose Tube	Non-metallic Loose Tube	Aluminum Spacer
Structure	 <p>Fiber Jelly SUS</p>	 <p>Fiber Jelly PBT</p>	 <p>Fiber FRP P/F tape</p>
Property	<p>Fiber : 0.25mm Acrylate Fiber Tube Material : Stainless Steel Max. Temperature : 180°C</p>	<p>Fiber : 0.25mm Acrylate Fiber Tube Material : PBT Max. Temperature : 180°C</p>	<p>Fiber : 0.4mm Silicon Fiber Taping : Heat Resistance Tape Max. Temperature : 250°C</p>

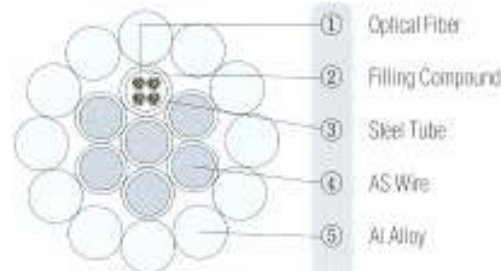
Stainless Steel Loose Tube Type OPGW



24 Core



48 Core



Features / Usage

- Standard 6 to 144 fiber count
- Light weight and small diameter
- Excellent crush resistance performance
- Power line protection
- Maintenance data information system
- Good resistance to strong winds, lightning and short circuit current

Construction

- ① Optical Fiber : SMF, NZDSF, ANYWAVE®, MMF
- ② Filling Compound : A Water Blocking Jelly Compound
- ③ Steel Tube : Hermetically Sealed Stainless Steel Tube
- ④ AS Wire : Aluminum Clad Steel Wire
- ⑤ Al Alloy : Aluminum Alloy

Application Specification

- ITU-T G. 650, 651, 652, 652.C, 655, IEEE 1138, IEC 60793, IEC 60794

Cable Specification

Items		Units	Specifications				
Sectional Area	AS Wire	mm ²	24	44	54	63	52
	Al Alloy		48	88	109	125	125
No. of Fibers		Core	12	24	36	48	96
Construction							
• Central AS Wire	No./mm		1/2.25	1/3.05	1/3.40	1/3.65	1/3.65
• Steel Tube			1/2.20	1/3.00	1/3.35	1/3.60	2/3.60
• 1st Layer AS Wire			5/2.25	5/3.05	5/3.40	5/3.65	4/3.65
• 2nd Layer Al Alloy			12/2.25	12/3.05	12/3.40	12/3.65	12/3.65
Outer Diameter		mm	11.3	15.3	17.0	18.3	18.3
Unit Weight		kg/km	300	550	680	780	740
Min. Tensile Load		kgf	4200	7700	9600	11200	9800
Short Circuit Current Capacity		kA's	29	99	153	208	185
Modulus of Elasticity		kgf/mm ²	9400	9400	9400	9400	9100
Linear Expansion Coefficient		/°C	17.2 x 10 ⁻⁶	17.2 x 10 ⁻⁶	17.2 x 10 ⁻⁶	17.2 x 10 ⁻⁶	17.7 x 10 ⁻⁶
Max. Allowable Temperature		°C	180	180	180	180	180

AS Wire : Aluminum Clad Steel Wire

Identification of Optical Fiber

No. of Fiber	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Aqua

Non-metallic Loose Tube Type OPGW



24 Core



48 Core



Features / Usage

- Standard 6 to 48 fiber count
- Excellent water resistance performance
- Power line protection
- Maintenance data information system
- Good resistance to strong winds, lightning and short circuit current

Application Specification

- ITU-T G: 650, 651, 652, 652.C, 655, IEEE 1138, IEC 60793, IEC 60794

Construction

- ① Optical Fiber : SMF, NZDSF, ANYWAVE®, MMF
- ② Loose Tube : Thermoplastic Material (Polybutylene Terephthalate)
- ③ Central Member : Fiber Reinforced Plastic (FRP)
- ④ Filling Compound : A Water Blocking Jelly Compound
- ⑤ Wrapping Tape : Heat Resistance Tape
- ⑥ Al Tube : Aluminum Tube
- ⑦ AS Wire : Aluminum Clad Steel Wire

Cable Specification

Items	Units	Specifications				
		7D	10D			12D
Sectional Area	mm ²					
No. of Fibers	Core	6 ~ 24	6 ~ 24	48	6 ~ 24	48
Construction	No./mm	1/8.7 OP+ 14/2.43 AS	1/8.7 OP+ 11/3.34 AS	1/9.7 OP+ 12/3.31 AS	1/8.7 OP+ 10/3.8 AS	1/9.7 OP+ 11/3.74 AS
Outer Diameter	mm	13.6	15.4	16.4	16.3	17.2
Unit Weight	kg/km	550	730	800	800	870
Min. Tensile Load	kgf	7880	11200	12000	11200	11900
Short Circuit Current Capacity	kA ² s	50	85	100	110	130
Modulus of Elasticity	kgf/mm ²	12500	12800	12700	12400	12300
Linear Expansion Coefficient	/°C	14.4 x 10 ⁻⁶	14.2 x 10 ⁻⁶	14.3 x 10 ⁻⁶	14.5 x 10 ⁻⁶	14.6 x 10 ⁻⁶
Max. Allowable Temperature	°C	180	180	180	180	180

OP : Optical Fiber Unit + Aluminum Tube
AS : Aluminum Clad Steel Wire

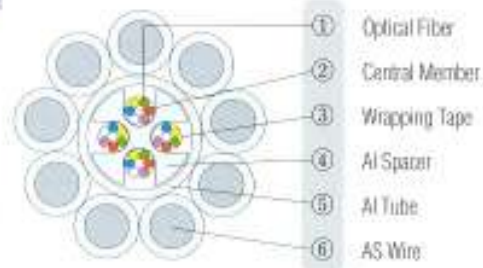
Identification of Optical Fiber

No. of Fiber	Color
1	Blue
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4	Brown
5	Slate
6	White
7	Red
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9	Yellow
10	Violet
11	Pink
12	Aqua

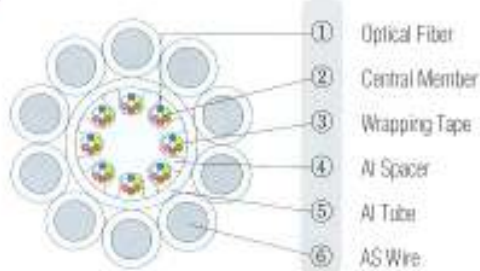
Aluminum Spacer Type OPGW



24 Core



48 Core



Features / Usage

- Standard 6 to 48 fiber count
- Excellent heat resistance performance
- Power line protection
- Maintenance data information system
- Good resistance to strong winds, lightning and short circuit current

Construction

- ① Optical Fiber : SMF, NZDSF, ANYWAVE®, MMF
- ② Central Member : Fiber Reinforced Plastic (FRP)
- ③ Wrapping Tape : Heat Resistance Tape
- ④ Al Spacer : Aluminum Spacer
- ⑤ Al Tube : Aluminum Tube
- ⑥ AS Wire : Aluminum Clad Steel Wire

Application Specification

- ITU-T G. 650, G. 651, G. 652, G. 652.C, G. 655, IEEE 1138, IEC 60793, IEC 60794

Cable Specification

Items	Units	Specifications						
		70		100		120		200
Sectional Area	mm ²	70		100		120		200
No. of Fibers	Cores	6 ~ 24	6 ~ 24	48	6 ~ 24	48	6 ~ 24	6 ~ 24
Construction	No./mm	1/6.0 OP+ 9/3.1 AS	1/6.5 OP+ 8/4.0 AS	1/8.0 OP+ 10/3.5 AS	1/6.0 OP+ 7/4.6 AS	1/8.0 OP+ 9/4.15 AS	1/6.5 OP+ 10/2.9 AS+14/3.5 AS	
Outer Diameter	mm	12.2	14.5	15.0	15.2	16.3	19.3	
Unit Weight	kg/km	495	711	730	760	850	1007	
Min. Tensile Load	kgf	7900	11700	11200	11500	12000	12600	
Short Circuit Current Capacity	kA's	55	100	105	130	160	420	
Modulus of Elasticity	kgf/mm ²	13100	13500	13100	13100	12800	10600	
Linear Expansion Coefficient	/°C	14.0 x 10 ⁻⁶	13.8 x 10 ⁻⁶	14.0 x 10 ⁻⁶	14.1 x 10 ⁻⁶	14.3 x 10 ⁻⁶	16.0 x 10 ⁻⁶	
Max. Allowable Temperature	°C	250	250	250	250	250	250	

OP : Optical Fiber Unit + Aluminum Spacer + Aluminum Tube
AS : Aluminum Clad Steel Wire

Identification of Optical Fiber

No. of Fiber	Color
1	Blue
2	Yellow
3	Green
4	Red
5	Violet
6	White



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** Specifications are subject to improvement or change without notice.
Please contact your local agent or TAIHAN to confirm the latest product information.*

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