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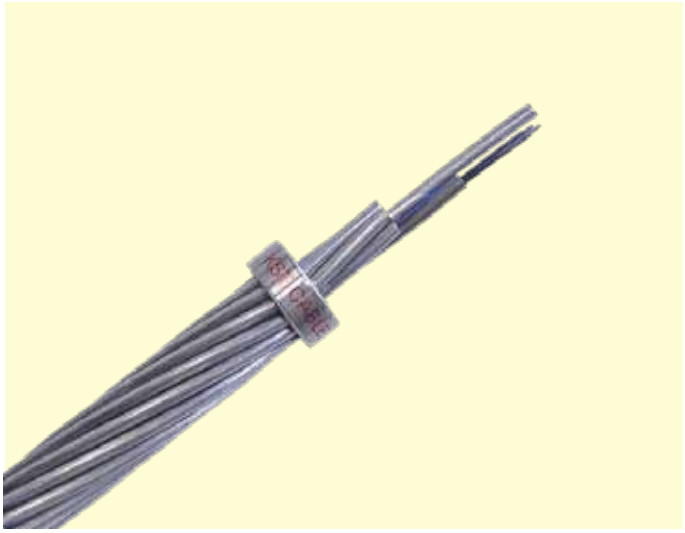
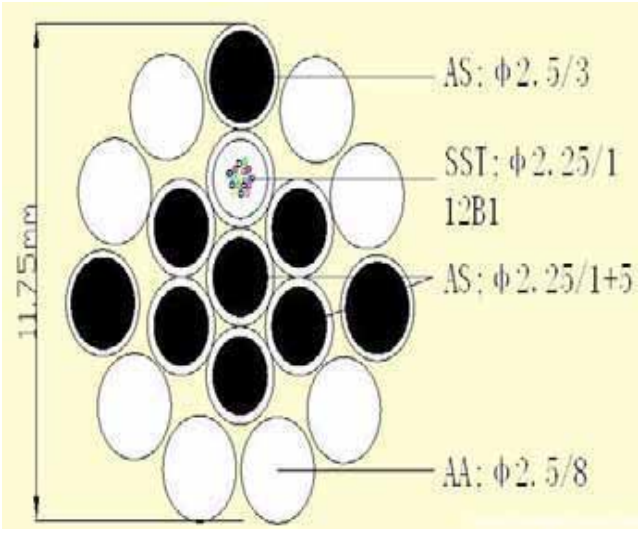
Fibre Optic Cables





Application:

OPGW cable is mainly used in 500KV, 220KV and 110KV lines, limited by power cut, security and other elements, mostly used in new lines. Its applications are:high pressure over 110kv, with a longer span (usually over 250M);
easy to maintain, easy for line span, its mechanical property can meet a big line span;
outer OPGW is metal armoring, with no influence for high pressure electro-corrosion and degradation;
to construct OPGW must cut power, resulting in greater loss, thus OPGW must be used in constructing high pressure line over 110kv;
For OPGW performance index, the more short circuit current, the more need a good conductor to be metal armor, and reduce tension strength, while, if the tension strength is certain, to increase short circuit current capacity, the only way is to enlarge metal section area, resulting in an increased cable Dia and weight, so that security is a question for line pole strength.

Characteristics:

bio-function of ground wire and communication cable, avoid a huge expenditure to re-erect and re-maintain;
erect on top of power overhead line pole, need not to consider its best hanging point, electro-corrosion, and others.
in the process of old line transformation, cable's outer diameter and tension may be matched better than another ground wire;
big transmission capacity, good and reliable communication;
excellent mechanical and electrical property;
Good security, long lifetime, and invulnerable to gun fire.

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Central Optical Fiber SUS Tube Structure (Parts)			
Structure Drawing	Structure: central optical fiber SUS tube structure with single stranded layer		
	Order Type Model	**OPGW-1C1/36 (M48/R60-12)**	**OPGW-1C1/40 (M58/R72-16)**
	Max. fiber count	36	40
	Tube size	φ3.2 mm	φ3.5mm
	Cable diameter	φ9.6 mm	φ10.5 mm
	Cross-section carry area	48 mm2	58 mm2
	Cable weight	338 kg/km	400 kg/km
	Rated Tensile Strength(RTS)	59 kN	71 kN
	DC resistance at 20℃	1.782 Ω/km	1.490 Ω/km
	Short current capacity (40~200℃)	11 kA2·s	16 kA2·s
	Linear expansion coefficient	13.0×10-6/℃	13.0×10-6/℃
	Young's modulus	162.0 kN/mm2	162.0 kN/mm2

Structure Drawing	Structure: central optical fiber SUS tube structure with double stranded layers		
	Order Type Model	**OPGW-2C1/30 (M127/R78-137)**	**OPGW-2C1/40 (M163/R100-226)**
	Max. fiber count	30	40
	Tube size	φ3.0 mm	φ3.4 mm
	Cable diameter	φ15.0 mm	φ17.0 mm
	Cross-section carry area	127 mm2	163 mm2
	Cable weight	529 kg/km	673 kg/km
	Rated Tensile Strength(RTS)	77 kN	99 kN
	DC resistance at 20℃	0.329 Ω/km	0.255 Ω/km
	Short current capacity (40~200℃)	137 kA2·s	226 kA2·s
	Linear expansion coefficient	17.5×10-6/℃	17.5×10-6/℃
	Young's modulus	97.3 kN/mm2	97.3 kN/mm2

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Typical Structure and Parameter of OPGW(L)

Some structures and characteristics of typical representative OPGW are shown in the below list, however, they do not represent the whole products of the company. If you have any requests, please contact local representative of ice or directly contact the company.

Central Optical Fiber Aluminum Clad SUS Tube Structure (Parts)			
Structure Drawing	Structure: central optical fiber aluminum clad SUS tube structure with single stranded layer		
	Order Type Model	**OPGW(L)-1S 12(M83/R99-38)**	**OPGW(L)-1S 30(M104/R125-60)**
	Max. fiber count	12	30
	Tube size	φ4.0 mm	φ4.5 mm
	Cable diameter	φ12.0 mm	φ13.5 mm
	Cross-section carry area	83 mm2	104 mm2
	Cable weight	539 kg/km	673 kg/km
	Rated Tensile Strength(RTS)	99 kN	125 kN
	DC resistance at 20℃	0.899 Ω/km	0.724 Ω/km
	Short current capacity (40~200℃)	38.4 kA2·s	59.8 kA2·s
	Linear expansion coefficient	13.4×10-6/℃	13.4×10-6/℃
	Young's modulus	153.1 kN/mm2	153.8 kN/mm2

Structure Drawing	Structure: central optical fiber aluminum clad SUS tube structure with double stranded layers		
	Order Type Model	**OPGW(L)-1S 12(M234/R292-282)**	**OPGW(L)-1S 30(M295/R370-448)**
	Max. fiber count	12	30
	Tube size	φ4.0 mm	φ4.5 mm
	Cable diameter	φ20.0 mm	φ22.5 mm
	Cross-section carry area	234 mm2	295 mm2
	Cable weight	1531 kg/km	1930 kg/km
	Rated Tensile Strength(RTS)	292 kN	370 kN
	DC resistance at 20℃	0.350 Ω/km	0.279 Ω/km
	Short current capacity (40~200℃)	282 kA2·s	448 kA2·s
	Linear expansion coefficient	13.1×10-6/℃	13.1×10-6/℃
	Young's modulus	158.8 kN/mm2	159.1 kN/mm2

Stranded Optical Fiber SUS Tube Structure (Parts)			
Structure Drawing	Structure: stranded optical fiber SUS tube structure with double stranded layers		
	Order Type Model	**OPGW-2S1/30(M107 /R66-97)**	**OPGW-2S1/36(M128 /R79-139)**
	Max. fiber count	30	36
	Tube size	φ2.7 mm	φ3.0 mm
	Cable diameter	φ13.85 mm	φ15.2 mm
	Cross-section carry area	107 mm2	128 mm2
	Cable weight	450 kg/km	535 kg/km
	Rated Tensile Strength(RTS)	65.8 kN	78.9 kN
	DC resistance at 20℃	0.389Ω/km	0.327Ω/km
	Short current capacity (40~200℃)	97 kA2·s	138 kA2·s
	Linear expansion coefficient	17.4×10-6/℃	17.4×10-6/℃
	Young's modulus	97.6 kN/mm2	97.8 kN/mm2

Structure Drawing	Structure: stranded optical fiber SUS tube structure with double stranded layers		
	Order Type Model	**OPGW-2S1/30(M107 /R133-57)**	**OPGW-2S1/36(M128 /R159-81)**
	Max. fiber count	30	36
	Tube size	φ2.7 mm	φ3.0 mm
	Cable diameter	φ13.85 mm	φ15.2 mm
	Cross-section carry area	107 mm2	128 mm2
	Cable weight	727 kg/km	865 kg/km
	Rated Tensile Strength(RTS)	133 kN	159 kN
	DC resistance at 20℃	0.803Ω/km	0.673Ω/km
	Short current capacity (40~200℃)	57 kA2·s	81 kA2·s
	Linear expansion coefficient	13.0×10-6/℃	13.0×10-6/℃
	Young's modulus	162.0 kN/mm2	162.0 kN/mm2

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Stranded Optical Fiber SUS Tube Structure (Parts)		
Structure Drawing	Structure: stranded optical fiber SUS tube structure with three stranded layers	
	Order Type Model	**OPGW-3S1/36(M255/R116-590)**
	Max. fiber count	36
	Tube size	φ3.0 mm
	Cable diameter	φ21.2 mm
	Cross-section carry area	255 mm2
	Cable weight	879 kg/km
	Rated Tensile Strength(RTS)	116 kN
	DC resistance at 20℃	0.145 Ω/km
	Short current capacity (40~200℃)	590 kA2·s
	Linear expansion coefficient	19.6×10-6/℃
	Young's modulus	81.5 kN/mm2

Structure Drawing	Structure: stranded optical fiber SUS tube structure with three stranded layers	
	Order Type Model	OPGW-3S1/48(M327/R407-530)
	Max. fiber count	48
	Tube size	φ3.4 mm
	Cable diameter	φ23.9 mm
	Cross-section carry area	327 mm2
	Cable weight	2178 kg/km
	Rated Tensile Strength(RTS)	406 kN
	DC resistance at 20℃	0.264 Ω/km
	Short current capacity (40~200℃)	530 kA2·s
	Linear expansion coefficient	13.0×10-6/℃
	Young's modulus	162.0 kN/mm2