Application

OPGW cable (Optical Fiber Composite Overhead Ground Wire) is suited for installation on transmission lines with the double function of a ground wire (designed to replace traditional static or shield wires) and a communication wire. OPGW conducts short circuit current and provide lightning resistance as it “shields” conductors, while providing a telecommunications path for internal as well as third party communications. OPGW must be capable of withstanding the mechanical and environmental stresses inflicted on overhead cables (such those caused by wind or ice). OPGW must also be capable of handling electrical faults on the transmission line by providing a path to ground yet preventing damage to the delicate optical fibers inside the cable.

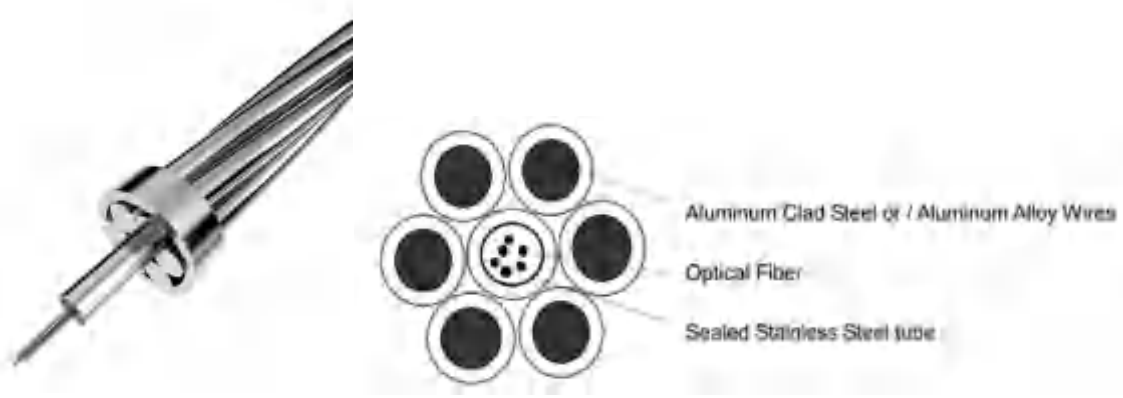
Standards

ITU-TG.652 Characteristics of a single mode optical fiber.
ITU-TG.655 Characteristics of a non-zero dispersion -shifted single mode fibers optical.
EIA/TIA598 B Col code of fiber optic cables.
IEC 60794-4-10 Aerial optical cables along electrical power lines-family specification for OPGW.
IEC 60794-1-2 Optical fiber cables -part test procedures.
IEEE1138-2009
IEEE Standard for testing and performance for optical ground wire for use on electric utility power lines.
IEC 61232 Aluminum -Clad steel wire for electrical purposes.
IEC60104 Aluminum magnesium silicon alloy wire for overhead line conductors.
IEC 6108 Round wire concentric lay overhead electrical stranded conductors.

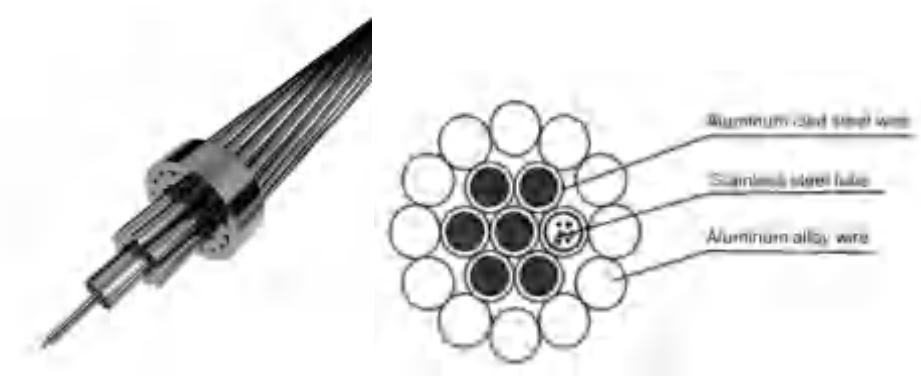
Construction

Conductor

1. Central Stainless Steel Loose Tube OPGW Wire (Center SST OPGW Wire Cable)



2. Stranded Stainless Steel Tube OPGW Wire(Stranding SST OPGW Wire Cable)



3. Central/Center Aluminium-Clad Stainless Steel Tube OPGW Wire(AL Clad SST OPGW Wire Cable)

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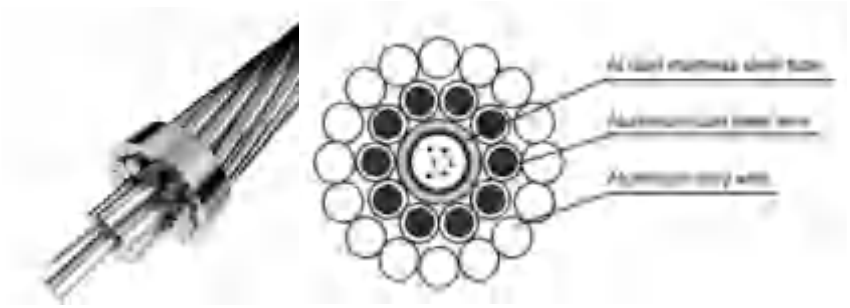

4. Aluminium Covered/Clad PBT Tube OPGW Wire

Fiber Type:

G652D; G655C; 657A1; 50/125; 62.5/125; OM3; OM4 As Options

Construction Parameters

Conductor:

1. Central Stainless Steel Loose Tube OPGW Wire (Center SST OPGW Wire Cable)

Typical design for Single Layer：

Specification	Fiber Count	Diameter (mm)	Weight (kg/km)	RTS(KN)	Short Circuit(KA2s)
OPGW-32(40.6;4.7)	12	7.8	243	40.6	4.7
OPGW-42(54.0;8.4)	24	9	313	54	8.4
OPGW-42(43.5;10.6)	24	9	284	43.5	10.6
OPGW-54(55.9;17.5)	36	10.2	394	67.8	13.9
OPGW-61(73.7;175)	48	10.8	438	73.7	17.5
OPGW-61(55.1;24.5)	48	10.8	358	55.1	24.5
OPGW-68(80.8;21.7)	54	11.4	485	80.8	21.7
OPGW-75(54.5;41.7)	60	12	459	63	36.3
OPGW-76(54.5;41.7)	60	12	385	54.5	41.7

Typical design for Double Layer：

Specification	Fiber Count	Diameter (mm)	Weight (kg/km)	RTS (KN)	Short Circuit (KA2s)
OPGW-96(121.7;42.2)	12	13	671	121.7	42.2

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OPGW-127(141.0;87.9)	24	15	825	141	87.9
OPGW-127(77.8;128.0)	24	15	547	77.8	128
OPGW-145(121.0;132.2)	28	16	857	121	132.2
OPGW-163(138.2;183.6)	36	17	910	138.2	186.3
OPGW-163(99.9;213.7)	36	17	694	99.9	213.7
OPGW-183(109.7;268.7)	48	18	775	109.7	268.7
OPGW-183(118.4;261.6)	48	18	895	118.4	261.6

2. Stranded Stainless Steel Tube OPGW Wire(Stranding SST OPGW Wire Cable)

Typical design for Double Layer：

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-89[55.4;62.9]	24	12.6	381	55.4	62.9
OPGW-110[90.0;86.9]	24	14	600	90	86.9
OPGW-104[64.6;85.6]	28	13.6	441	64.6	85.6
OPGW-127[79.0;129.5]	36	15	537	79	129.5
OPGW-137[85.0;148.5]	36	15.6	575	85	148.5
OPGW-145[98.6;162.3]	48	16	719	98.6	162.3

Typical design for Three Layer：

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-232[343.0;191.4]	28	20.15	1696	343	191.4
OPGW-254[116.5;554.6]	36	21	889	116.5	554.6
OPGW-347[366.9;687.7]	48	24.7	2157	366.9	687.7
OPGW-282[358.7;372.1]	96	22.5	1938	358.7	372.1

3. Central/Center Aluminium-Clad Stainless Steel Tube OPGW Wire(AL Clad SST OPGW Wire Cable)

Typical Design for Single Layer:

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit(KA2s)
OPGW-80(82.3;46.8)	24	11.9	504	82.3	46.8
OPGW-70(54.0;8.4)	24	11	432	70.1	33.9
OPGW-80(84.6;46.7)	48	12.1	514	84.6	46.7

Typical Design for Double Layer:

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Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit(KA2s)
OPGW-143(87.9;176.9)	36	15.9	617	87.9	176.9

4. Aluminium Covered/Clad PBT Tube OPGW Wire

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit(KA2s)
OPGW-113(87.9;176.9)	48	14.8	600	87.9	176.9
OPGW-70（81; 41）	24	12	500	81	41
OPGW-66(79;36)	36	11.8	484	79	36
OPGW-77(72;36)	36	12.7	503	72	67

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