



CG Solution

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CATALOGUE COMMUNICATION SYSTEM

THINGS GO BETTER WITH ENERGY!

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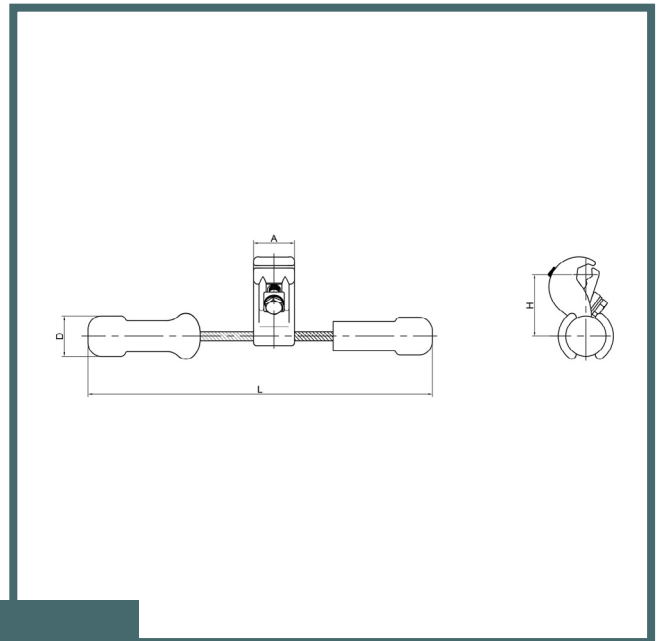
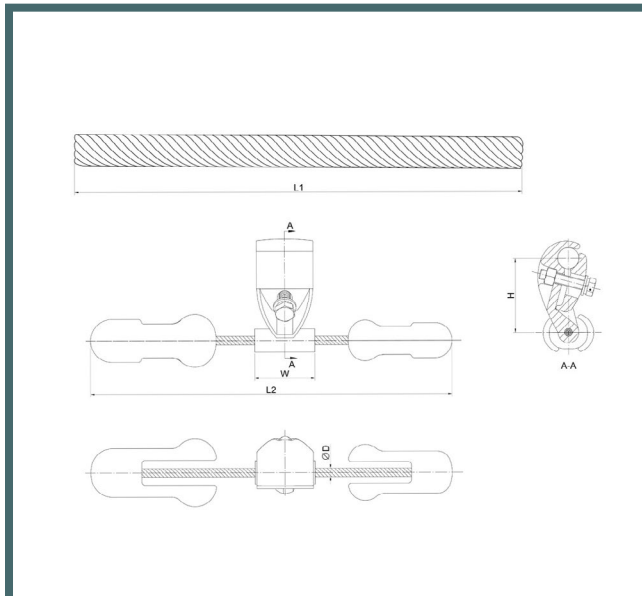
Vibration Damper



Vibration Dampers are used to absorb Aeolian Vibrations of conductor of transmission lines, as well as ground wire, OPGW, and ADSS.

Products

BOLTED VIBRATION DAMPER FOR OPGW ADSS



The Vibration Damper is to provide the best possible protection from aeolian vibration for OPGW used for the electric power transmission lines.

Technical features:

1. Vibration Dampers are to dissipate the maximum amount of vibration energy to prevent fatigue damage to the strands of the OPGW;
2. Vibration Damper has an asymmetric design that features 4 resonant frequencies.

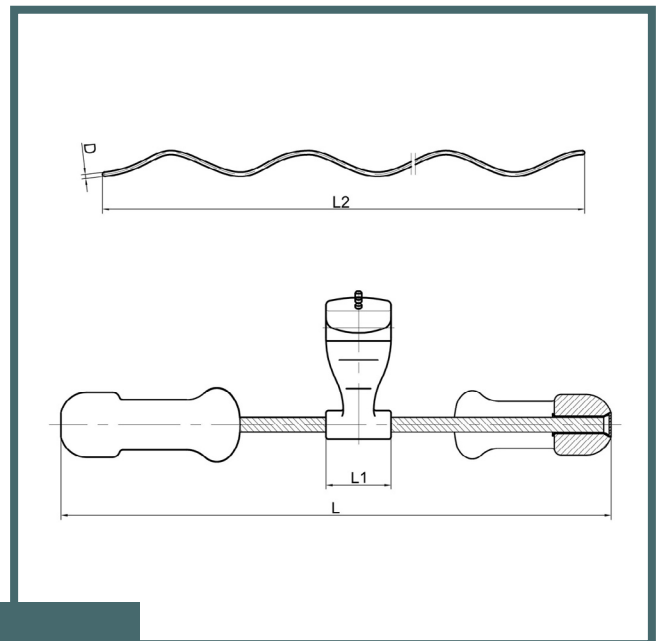
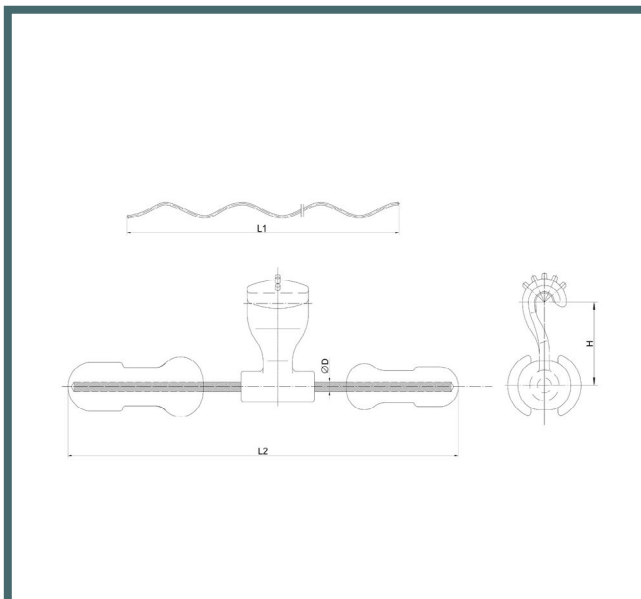
Product advantages:

1. Computer simulation software TIII. This computer model identifies the optimum damper placement on the span whose development has been verified by decades of testing and field measurements.
2. Own test lab which has CNAS certificate (IEC 17025). Can do all type tests for vibration damper according to IEC 61897, AS 1154.1, etc. Even damper effectiveness evaluation test for large span.
3. Can provide breakaway bolt for this vibration dampers as per requirements.
4. Install with special armour rod to avoid damage to OPGW by damper clamp.

Catalog No.	OPGW Dia. (mm)	Dimensions (mm)				
		L1	L2	W	H	Ø D
4D-20	16.0~21.0	420	319	53	73	7.5
4D-30	21.0~26.0	420	391	55	73	9
4D-40	26.0~30.0	420	479	65	93.2	11

Remark: *L1, *L2, *W, *H, *D, please refer to related product drawings.

PREFORMED VIBRATION DAMPER FOR OPGW ADSS



The Vibration Damper has been designed to provide the best possible protection from aeolian vibration for OPGW used for the electric power transmission lines.

Technical features:

Vibration Dampers are designed to dissipate the maximum amount of vibration energy. Which can prevent fatigue damage to the strands of the OPGW;

Vibration Damper has an asymmetric design that features 4 resonant frequencies.

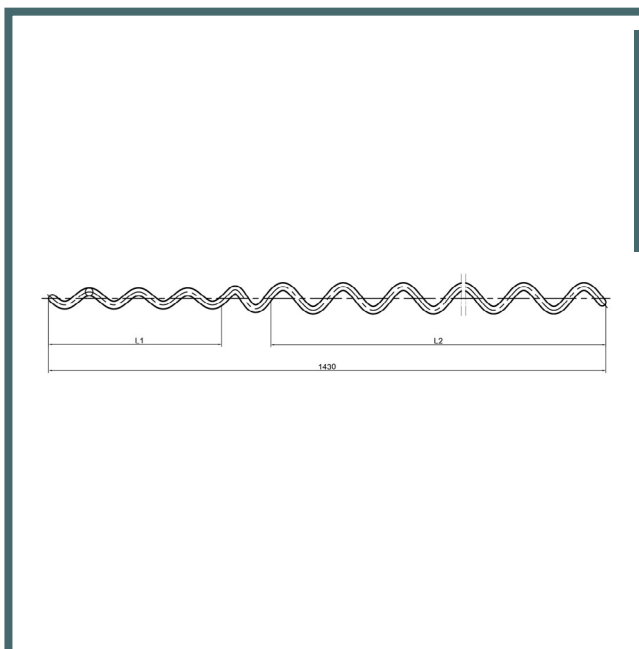
Product advantages:

1. Computer simulation software TIII. This computer model identifies the optimum damper placement on the span. Of which the development has been verified by decades of testing and field measurements.
2. We have own test lab which has CNAS certificate (IEC 17025). We can do all type tests for vibration damper according to IEC 61897, AS 1154.1, etc. Even damper effectiveness evaluation test for large span.
3. This design can avoid stress concentration and it is suitable for stress sensitive OPGW.

Catalog No.	Conductor Dia. (mm)	Dimensions (mm)			
		L1	L2	H	Ø D
FFH-0713Y	8.0~13.99	700	319	65	7.5
FFH-1318Y	14.0~17.99	800	391	70	9
FFH-1824Y	18.0~23.99	900	440	90	11

Remark: *L1, *L2, *H, *D, please refer to related product drawings.

SPIRAL VIBRATION DAMPER



Spiral Vibration Dampers are designed to control vibration on ADSS or small diameter conductors (including OPGW).

Technical features:

1. Vibration dampers do not dissipate energy, but control vibration to disrupt vibration build up, by impacting on the cable or the conductor;
2. Preformed design can hold the cable tightly without affecting the attenuation of the fibers in the cable.

Product advantages:

1. For ADSS used in the transmission lines with voltage higher than 110kV, we can provide anti-E corrosion type;
2. Using a high impact strength, UV resistant plastic. They are suitable for use in all environments, and may be used for conductor temperatures up to 75°C;
3. It is easy to install on the cable.

Catalogue number		Range diameter (mm)	Dimensions (mm)	
Normal type	Resistance to E-corrosion type		L1	L2
FLP-10	FLN-10	10.39~11.70	300	1050
FLP-11	FLN-11	11.71~13.0	300	1050
FLP-12	FLN-12	13.01~14.30	300	1050
FLP-12.5	FLN-12.5	14.31~15.70	300	1050
FLP-13	FLN-13	15.71~17.10	300	1050
FLP-14	FLN-14	17.11~18.50	300	1050
FLP-16	FLN-16	18.51~20.00	300	1050
FLP-17	FLN-17	20.01~21.50	300	1050
FLP-18	FLN-18	21.51~22.90	300	1050

Remark: *L1, *L2, please refer to related product drawings.



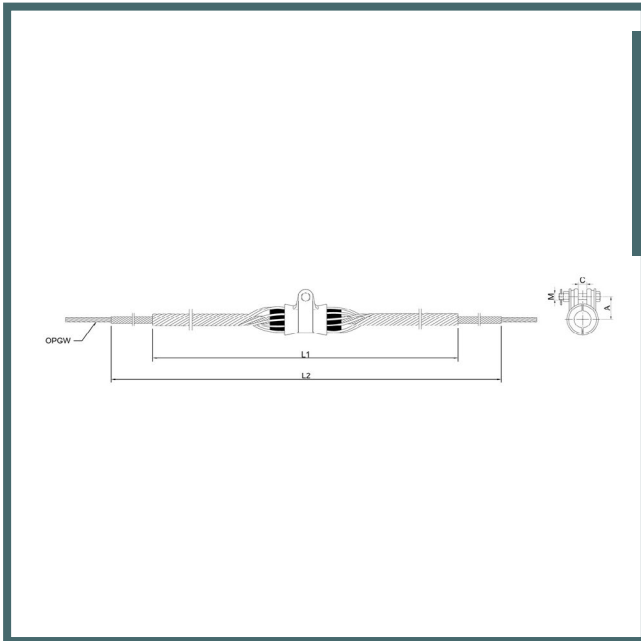
Suspension Clamp



The Suspension Clamp is primarily used to fix conductors to insulator strings or hang lightning conductors on straight-line towers, as well as transposition towers to support conductors, and tension towers or angle poles to fix the jumper wires.

Products

ARMOUR GRIP SUSPENSION CLAMP FOR OPGW ADSS



Armour Grip Suspension Clamp is used to support OPGW and ADSS at the intermediate towers.

Technical features:

Preformed structure, distribute the stress evenly.

Product advantages:

1. It's structure is simple , installation is convenient, there is no need special tools and is maintenance free;
2. It has good dynamic stress bearing capacity and can provide sufficient grip strength of not less than 14% RTS to protect the safe operation of OPGW under unbalanced load;
3. It has large contact area, uniform stress distribution, and there is no stress concentration point, which has a good protective effect on OPGW.

Catalog No.	Suitable diameter of OPGW (mm)	RTS of OPGW (kN)	Dimensions (mm)					Vertical Failure load (kN)
			L1	L2	M	C	A	
OC-0200-****	9.0~16.9	≤40	1000	1600	16	24	65	70
OC-0300-****	9.0~16.9	40~50	1200	1800	16	24	65	70
OC-0400-****	9.0~16.9	50~60	1300	1900	16	24	65	70
OC-0500-****	9.0~16.9	60~70	1400	2000	16	24	65	70

Catalog No.	Suitable diameter of OPGW (mm)	RTS of OPGW (kN)	Dimensions (mm)					Vertical Failure load (kN)
			L1	L2	M	C	A	
OC-0600-****	9.0~16.9	70~80	1500	2100	16	24	65	70
OC-0700-****	9.0~16.9	80~90	1600	2200	16	24	65	70
OC-0800-****	9.0~16.9	90~100	1700	2300	16	24	65	70
OC-0900-****	9.0~16.9	100~110	1800	2400	18	24	65	100
OC-1000-****	9.0~16.9	110~120	1900	2500	18	24	65	100

*Remark: "****" refers to diameter of OPGW, if stranding direction is left hand, we normally add "S" at the end of type. For example, OPGW diameter: 13.20mm, RTS=76.5kN, right hand, the type is: OC-0600-1320 ; OPGW diameter: 14.40mm, RTS=118kN, left hand, the type is: OC-1000-1440S*

**L1, *L2, *M, *C, *A, please refer to related product drawings.*



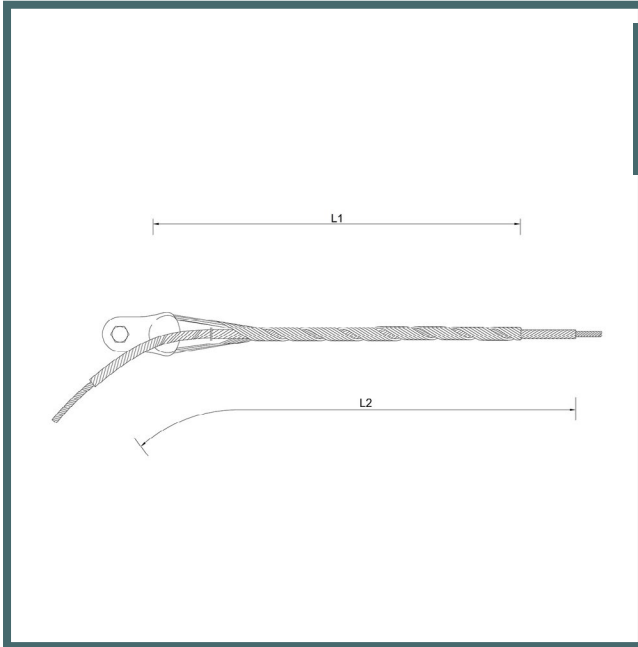
Tension Clamp



The Tension Clamp is used to fix the conductor, ground wire terminals on tension towers of overhead lines, distribution lines, and distribution equipments in substations, power plants, as well as fixing the guy wire terminals on poles.

Products

PREFORMED TENSION CLAMP



A Preformed Tension Clamp is used for fixing OPGW at the corner tower or terminal tower.

Technical features:

Preformed structure, distribute the stress evenly.

Product advantages:

1. Holding strength of dead-end set is high, which is not less than 95% RTS of cable;
2. It has an excellent anti-fatigue characteristic;
3. The installation is convenient, no special tools is needed;
4. The inside of inner and outer rods cover with silicon carbide, increasing friction.

Catalogue number Normal type	Resistance to E-cor- rosion type	Range diameter (mm)	Dimensions (mm)	
			L1	L2
ON-AAAA-****	10.5~11.0	≤80	1500	1160
ON-AAAA-***	11.0~11.5	≤80	1500	1160
ON-AAAA-***	11.5~12.4	≤80	1500	1170
ON-AAAA-***	11.5~12.4	80~100	1600	1270
ON-AAAA-***	11.5~12.4	100~130	1900	1570
ON-AAAA-***	12.4~13.4	≤80	1600	1270
ON-AAAA-***	12.4~13.4	80~100	1700	1370
ON-AAAA-***	12.4~13.4	100~130	2000	1670

Catalogue number Normal type	Resistance to E-cor- rosion type	Range diameter (mm)	Dimensions (mm)	
			L1	L2
ON-AAAA-***	13.4~14.9	≤80	1600	1270
ON-AAAA-***	13.4~14.9	80~100	1800	1470
ON-AAAA-***	13.4~14.9	100~130	2000	1680
ON-AAAA-***	13.4~14.9	130~150	2100	1780
ON-AAAA-***	14.9~15.9	≤80	1600	1280
ON-AAAA-***	14.9~15.9	80~100	1800	1480
ON-AAAA-***	14.9~15.9	100~130	2000	1680
ON-AAAA-***	14.9~15.9	130~150	2100	1780

Remark: AAAA is the largest integer tens within the 95% RTS range, *** is the diameter of OPGW, if stranding direction is left hand, we normally add "S" at the end of type.

For example, OPGW diameter: 13.20mm, RTS=76.5kN, right hand, the type is: ON-080-1320; OPGW diameter: 14.40mm, RTS=118kN, left hand, the type is: ON-120-1440S.



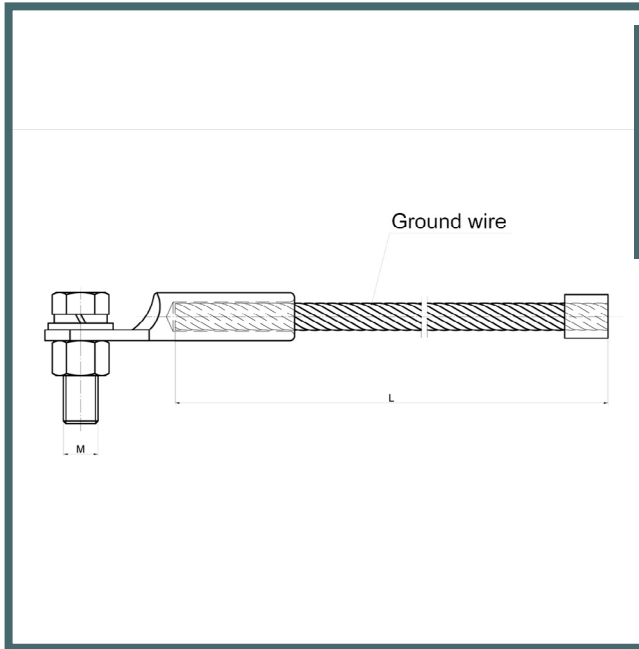
Earthing Fittings



Earthing Fittings are mainly including Electric-check Earthing Ring, Connecting Terminal, etc., which used for grounding devices of overhead insulated lines.

Products

Earth Boding Lead



Earth Boding Lead is for the safety grounding lead of OPGW or overhead ground wire to improve the reliability of the grounding system.

Technical features:

The Earth Boding Lead consists of aluminum wire, pipe head, and bolt. According to the application environment and design requirements, the length of the ground line can be selected.

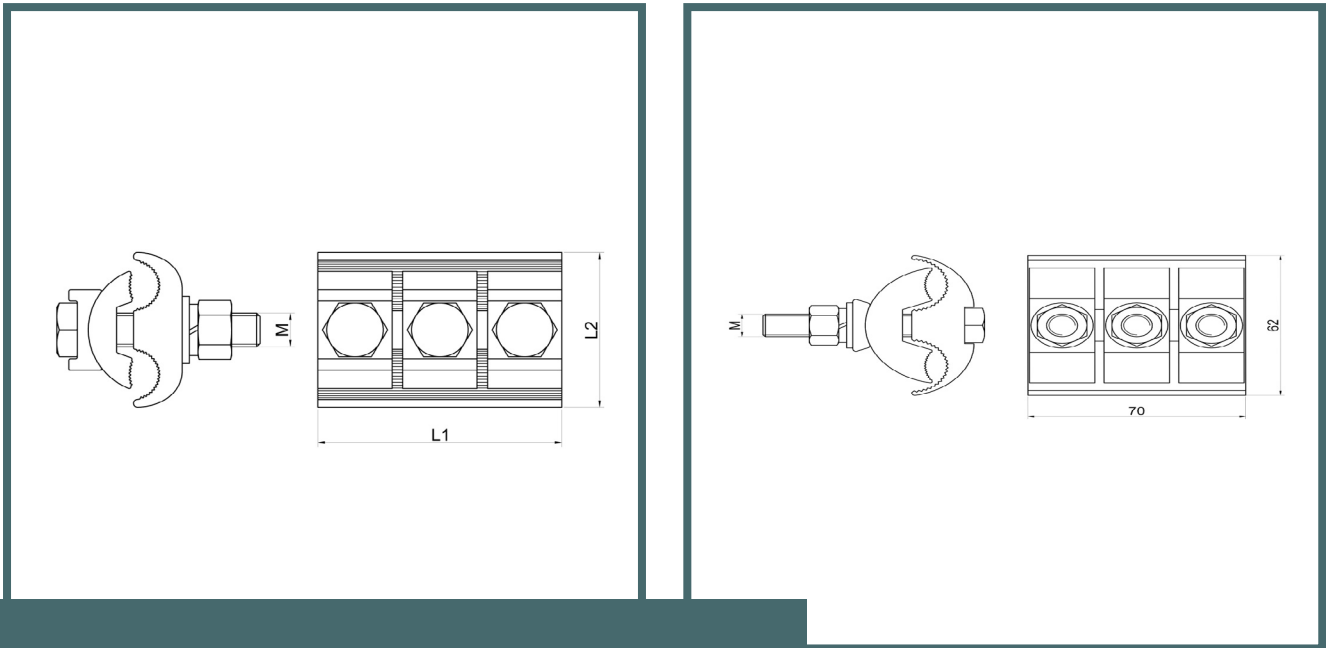
Product advantages:

1. Flexible selection of different length, cross section of ground line;
2. The ground wire is aluminum wire, which is strong and safe by current ability.

Catalog No.	Dimensions (mm)		Section area of wire (mm)
	L1	L2	
JDX-95-1500	1500	16	95
JDX-95-1500B	1500	12	95
JDX-95-2000	2000	16	95
JDX-95-2000B	2000	12	95
JDX-120-1500	1500	16	120
JDX-120-1500B	1500	12	120
JDX-120-2000	2000	16	120
JDX-120-2000B	2000	12	120
JDX-185-2500B	2500	12	185
JDX-185-4000B	4000	12	185

Remark: *L,*M, please refer to related product drawings.

SPECIFIC FORM PARALLEL GROOVE CLAMP



It is for parallel non-tension connection of small and medium section cables.

Technical features:

The fastening pressure of the bolt will be fixed on the upper and lower grooves with the connecting wire of the bolt, which is made of board and aluminum alloy material.

Product advantages:

1. The surface is smooth and flat without burrs;
2. High-quality aluminum alloy material, strong corrosion resistance, not easy to rust and age;
3. The product type is different, can apply to multiple cross section cables.

Catalog No.	Dimensions (mm)				Number of Bolt	Section area of cable (mm ²)
	Fig.No.	L1	L2	M		
JBL-16-120	1	45	46	10	2	16-120
JBL-16-120B	2	69	46	10	3	16-120
JBL-50-240A	3	45	62	10	2	50-240
JBL-50-240B	4	70	62	10	3	50-240
JBL-120-400A	5	70	78	12	2	120-400
JBL-120-400B	6	90	78	12	3	120-400

Remark: *L1,*L2,*M, please refer to related product drawings.



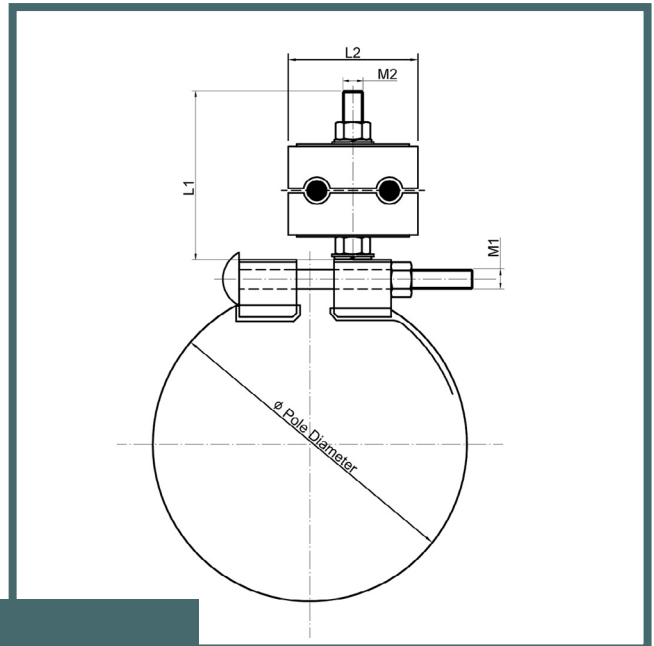
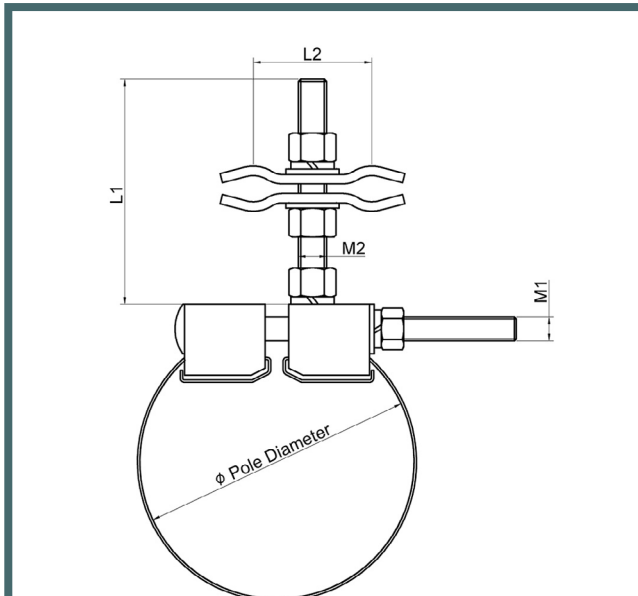
Downlead Clamp



Downlead Clamp is mainly used for the fixed installation of the ADSS and OPGW cable on the pole or tower. Avoid the damage of the cable to the pole or tower by the wind power.

Products

DOWNLEAD CLAMP ON POLE



Downlead Clamp is mainly used for the fixed installation of the ADSS and OPGW cable on the pole. Avoid the damage of the cable to the pole or other objects by the wind power.

Technical features:

1. Simple and practical structure;
2. Convenient installation and fastening;
3. Steel components are made of steel and are manufactured in the hot galvanizing process.

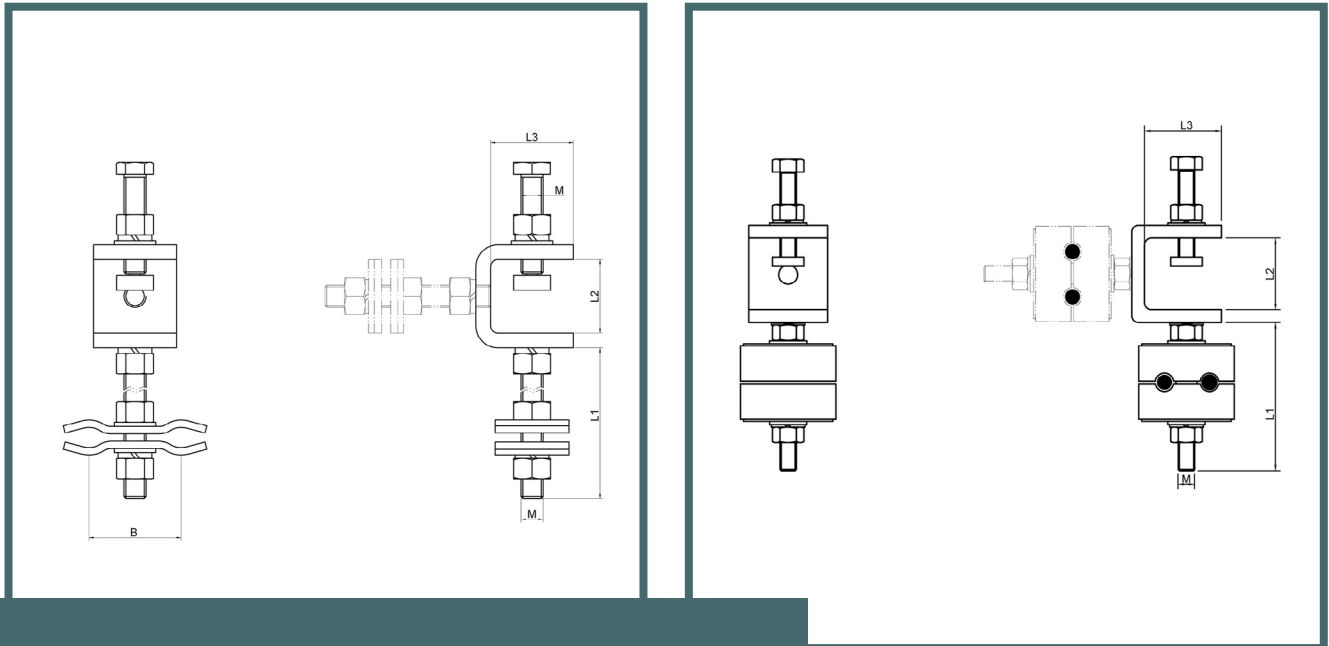
Product advantages:

1. The product is easy to install;
2. .The adjustable range is wide;
3. Applicable to the different diameter of pole;
4. The product can apply to multiple cross section cables.

Catalog No.	Dimensions (mm)						Suitable cable diameter (mm)	Application	
	Fig. No.	L1	L2	M1	M2	Φ			
OYG	1	95	50	10	12	400	8-22	General	For OPGW
AYG	2	95	40	10	12	400	9-20	General	For ADSS

Remark: *L1,*L2,*M1,*M2,*Φ, please refer to related product drawings.

DOWNLEAD CLAMP ON TOWER



Downlead Clamp is mainly used for the fixed installation of the ADSS and OPGW cable on the tower. Avoid the damage of the cable to the tower or other objects by the wind power.

Technical features:

1. Simple and practical structure;
2. Convenient installation and fastening;
3. Steel components are made of steel and are manufactured in the hot galvanizing process.

Product advantages:

1. The downlead for tower could be adjusted 90° in direction;
2. The product is easy to install;
3. The adjustable range is wide;
4. Applicable to the different thickness of towers;
5. The product can apply to multiple cross section cables.

Catalog No.	Dimensions (mm)					Suitable cable diameter (mm)	Application	
	Fig.No.	L1	L2	L3	M			
OYT	1	82	40	45	12	8-22	General	For OPGW
OYTL	1	300	40	45	12	8-22	Adjustable	For OPGW
OYTL1	1	142	40	90	12	8-22	Adjustable Big Angle	For OPGW
AYT	2	82	40	45	12	8-22	General	For OPGW

Remark: *L1,*L2,*L3,*M, please refer to related product drawings.



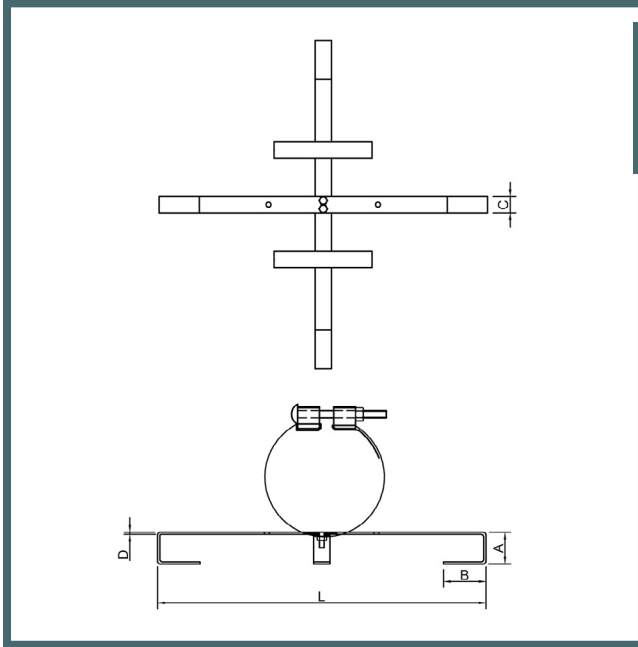
Cable Tray



The Cable Tray is used to store and protect the remaining optical cables on Pole or tower.

Products

CABLE TRAY ON POLE



The cable tray is used to store and protect the remaining optical cables on the pole.

Technical features:

1. Simple and practical structure;
2. Convenient installation and fastening;
3. The cable tray is made of galvanized steel except for the band of cable tray for the pole, which is made of stainless steel.

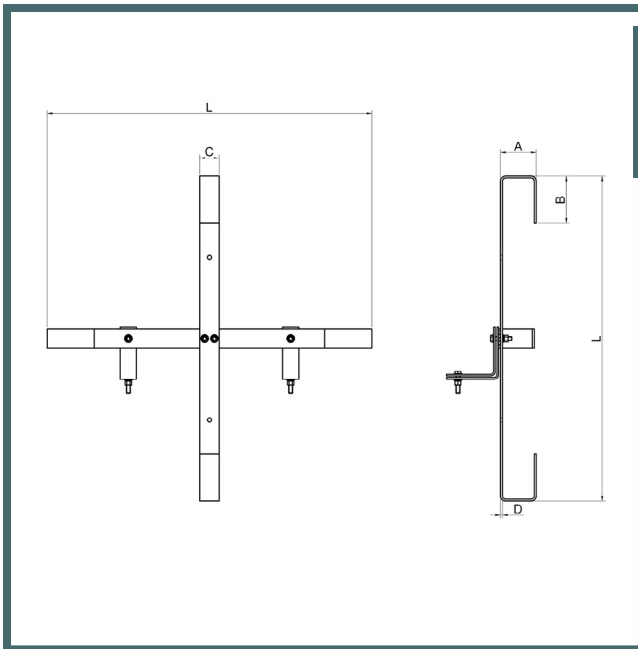
Product advantages:

1. The product is easy to install and securely connected ;
2. The stainless steel band can be adjusted to apply to different diameter of pole;
3. Provide different sizes of cable trays according to customer's requirements.

Catalog No.	Dimensions (mm)				
	L	A	B	C	D
YLJ-66&BG	660	110	150	50	5
YLJ-80&BG	800	110	145	50	5
YLJ-100&BG	1000	110	145	60	6
YLJ-120&BG	1200	110	145	60	6

Remark: *L,*A,*B,*C,*D, please refer to related product drawings.

CABLE TRAY ON TOWER



The cable tray is used to store and protect the remaining optical cables on the tower.

Technical features:

1. Simple and practical structure;
2. Convenient installation and fastening;
3. Steel components are made of steel and are manufactured in the hot galvanizing process.

Product advantages:

1. The downlead for tower could be adjusted 90° in direction;
2. The product is easy to install and securely connected ;
3. Applicable to the different thickness of towers;
4. Provide different sizes of cable trays according to customer's requirements.

Catalog No.	Dimensions (mm)				
	L	A	B	C	D
YLJ-66	660	110	150	50	5
YLJ-80	800	110	145	50	5
YLJ-100	1000	110	145	60	6
YLJ-120	1200	110	145	60	6

Remark: *L,*A,*B,*C,*D, please refer to related product drawings.



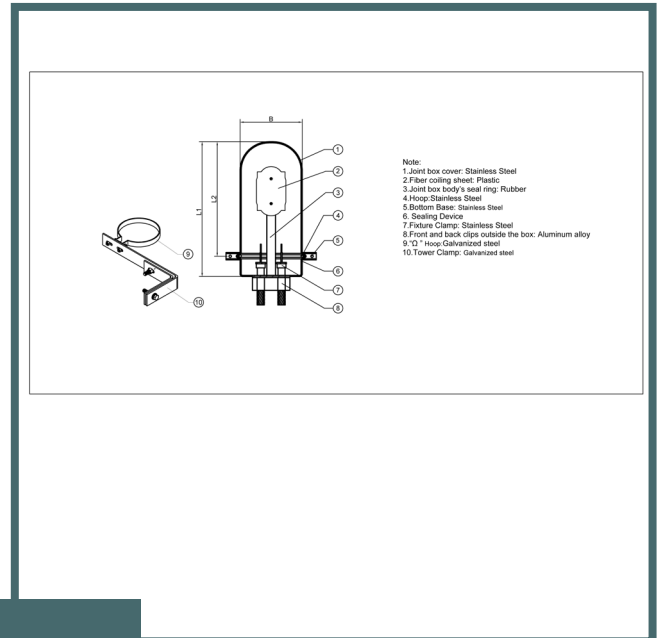
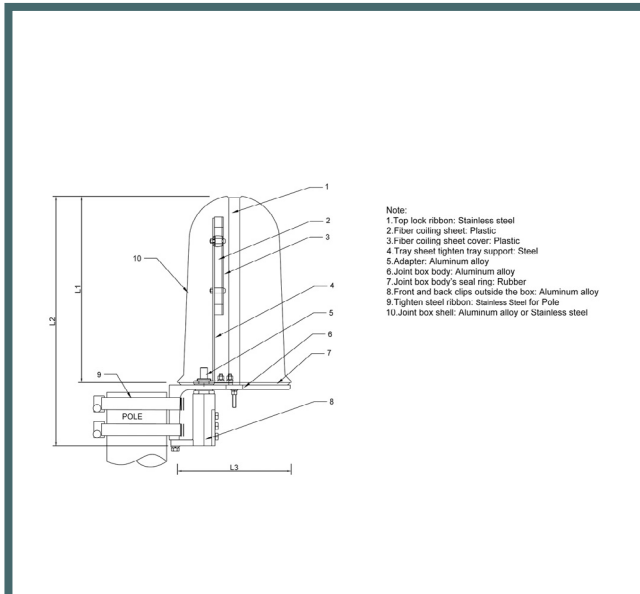
Joint Box



The Cable Joint box is used for the direct joint and branch joint of optical fiber optic cable.

Products

JOINT BOX ON POLE



A Joint Box is used for the direct and branch joint of optical fiber cable on the pole.

Technical features:

1. The shell is made of high density aluminum alloy or stainless steel;
2. The jointing parts and fixing parts are made of high-quality stainless steel;
3. Fiber bending additional attenuation: $\leq 0.01\text{dB}$;
4. Fiber bending radius: $\geq 30\text{mm}$;
5. Retaining fiber length: $\geq 1.6\text{m}$;
6. Tensile crush resistance: $2000\text{N}/100\text{mm}$;
7. Environment temperature: $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$.

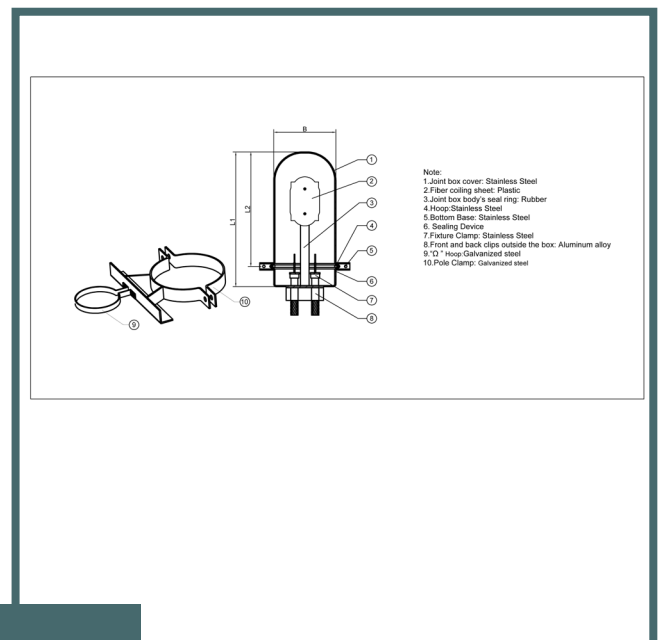
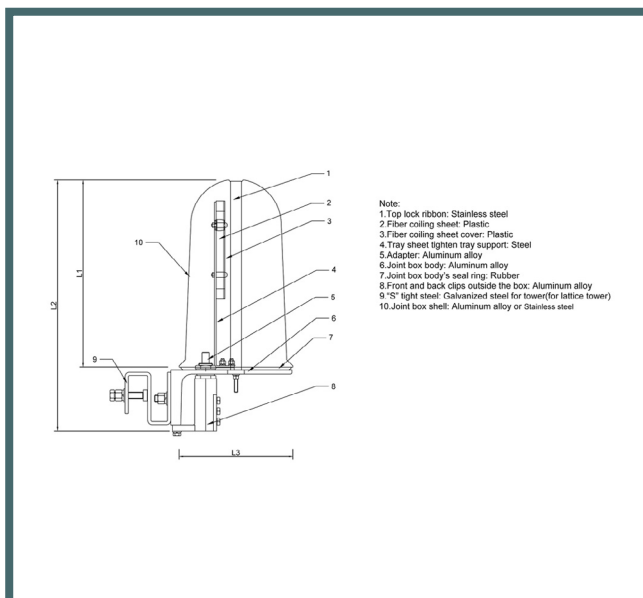
Product advantages:

1. Good mechanical, sealing and anti-corrosion performance;
2. Repeated used, easy to re-joint and expand capacity;
3. Maximum fibers splice capacity of joint box on pole: 192D;
4. The stainless steel band can be adjusted to apply to different diameter of pole.

Catalog No.	Dimensions (mm)			Specification
	L1	L2	L3	
PTK(B)-O20-G **D	340	458	206	2 ports (OPGW - OPGW)
PTK(B)-O30-G **D	340	458	206	3 ports (OPGW - OPGW - OPGW)
PTK(B)-O40-G **D	340	458	206	4 ports (OPGW - OPGW - OPGW - OPGW)
PTK(B)-O11-G **D	340	458	206	2 ports (OPGW - ADSS)
PTK(B)-O12-G **D	340	458	206	3 ports (OPGW - ADSS -ADSS)
PTK(B)-O21-G **D	340	458	206	3 ports (OPGW - OPGW -ADSS)
PTK(B)-O22-G **D	340	458	206	4 ports (OPGW - OPGW -ADSS - ADSS)
PTK(B)-O31-G **D	340	458	206	4 ports (OPGW - OPGW -OPGW - ADSS)

Remark: PTK refers to joint box type, ** is the fiber number; B-shell is stainless steel otherwise is aluminum alloy.*L1,*L2,*L3,please refer to related product drawings.

JOINT BOX ON POLE



A joint box is used for the direct and branch joint of optical fiber cable on the pole.

Technical features:

1. The shell is made of high density aluminum alloy or stainless steel;
2. The jointing parts and fixing parts are made of high-quality stainless steel and galvanized steel;
3. Fiber bending additional attenuation: $\leq 0.01\text{dB}$;
4. Fiber bending radius: $\geq 30\text{mm}$;
5. Retaining fiber length: $\geq 1.6\text{m}$;
6. Tensile crush resistance: $2000\text{N}/100\text{mm}$;
7. Environment temperature: $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$.

Product advantages:

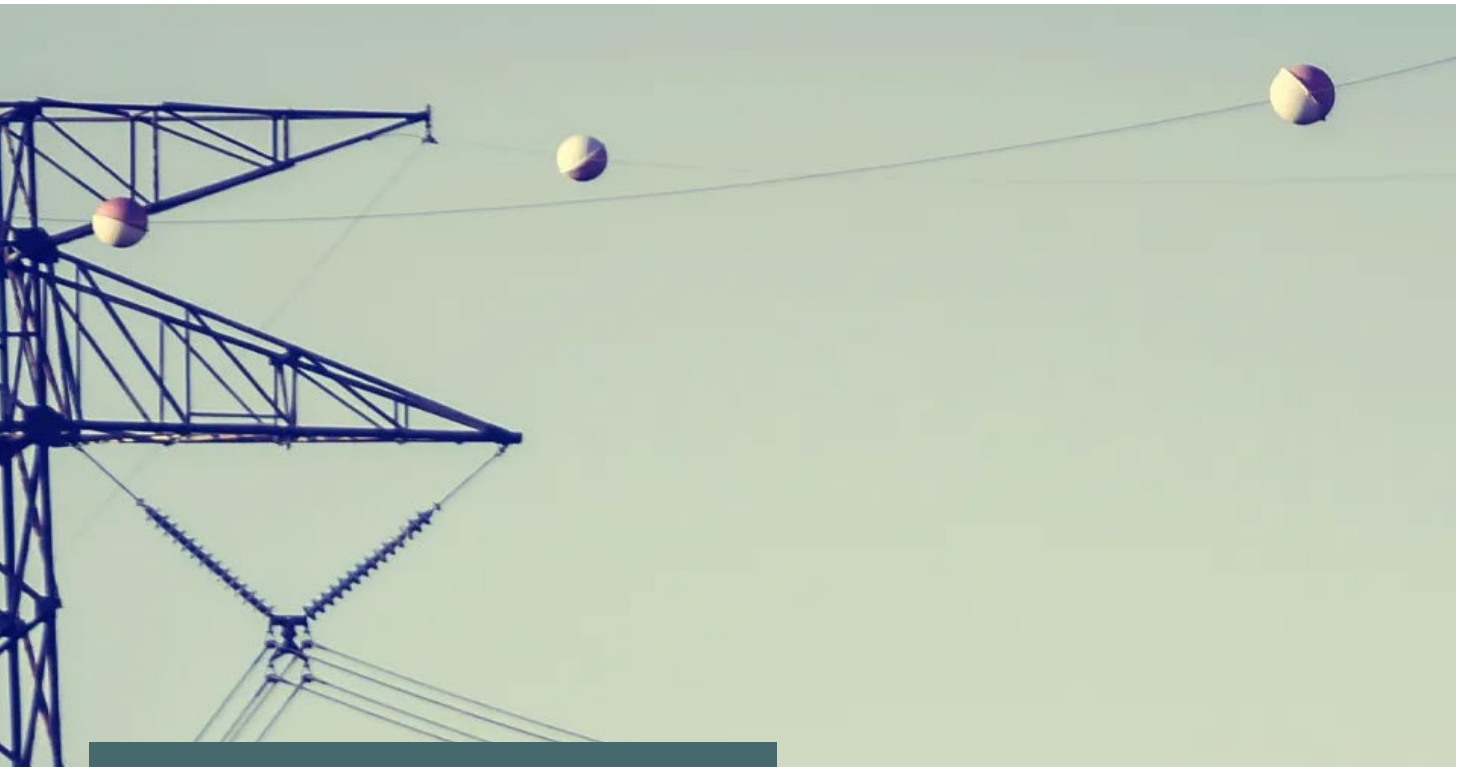
1. Good mechanical, sealing and anti-corrosion performance;
2. Repeated used, easy to re-joint and expand capacity;
3. Maximum fibers splice capacity of joint box on tower: 192D.

Catalog No.	Dimensions (mm)			Specification
	L1	L2	L3	
PTK(B)-O20-T **D	340	458	206	2 ports (OPGW - OPGW)
PTK(B)-O30-T **D	340	458	206	3 ports (OPGW - OPGW - OPGW)
PTK(B)-O40-T **D	340	458	206	4 ports (OPGW - OPGW - OPGW - OPGW)
PTK(B)-O11-T **D	340	458	206	2 ports (OPGW - ADSS)
PTK(B)-O12-T **D	340	458	206	3 ports (OPGW - ADSS -ADSS)
PTK(B)-O21-T **D	340	458	206	3 ports (OPGW - OPGW -ADSS)
PTK(B)-O22-T **D	340	458	206	4 ports (OPGW - OPGW -ADSS - ADSS)
PTK(B)-O31-T **D	340	458	206	4 ports (OPGW - OPGW -OPGW - ADSS)

Remark: PTK refers to joint box type, ** is the fiber number; B-shell is stainless steel otherwise is aluminum alloy.*L1,*L2,*L3,,please refer to related product drawings.



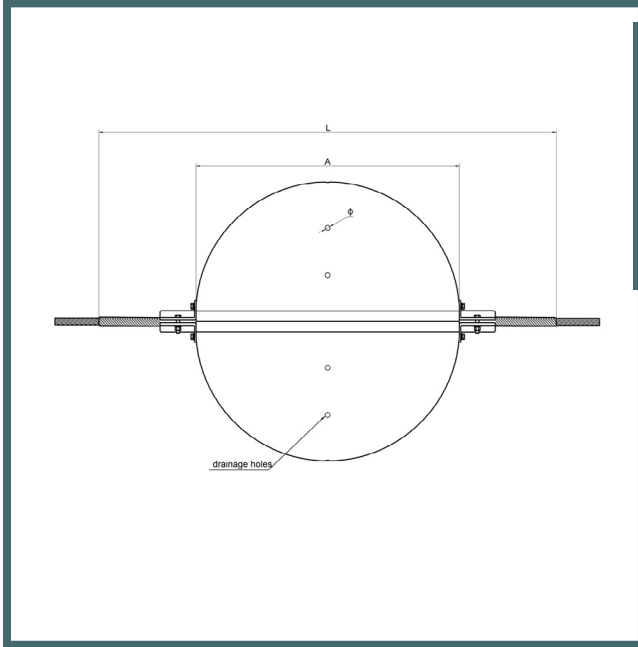
Aircraft Warning Sphere



The Aircraft Warning Sphere is used for overhead transmission lines, and the eye-catching air flag ball is installed on the online road to provide warning signs.

Products

AIRCRAFT WARNING SPHERE



The Aircraft Warning Sphere is used for overhead transmission lines, and the eye-catching air flag ball is installed on the on-line road to provide warning signs.

Technical features:

The Aircraft Warning Sphere consists of an upper half ball, lower half ball, clamps, bolts, and armor rods. The type of Installation is bolted type. The material of the sphere is FRP.

Product advantages:

1. There are multiple drainage holes on the sphere, which can prevent the rain and snow water;
2. According to the customer's request, can provide different color spheres..

Catalog No.	Dimensions (mm)			Number of Drainage Holes	Color
	A	L	Φ		
AWS-0600-****	600	1000	5	10	Orange/ White/Re

Remark: **** refers to cable diameter; *A,*L,*Φ ,please refer to related product drawings



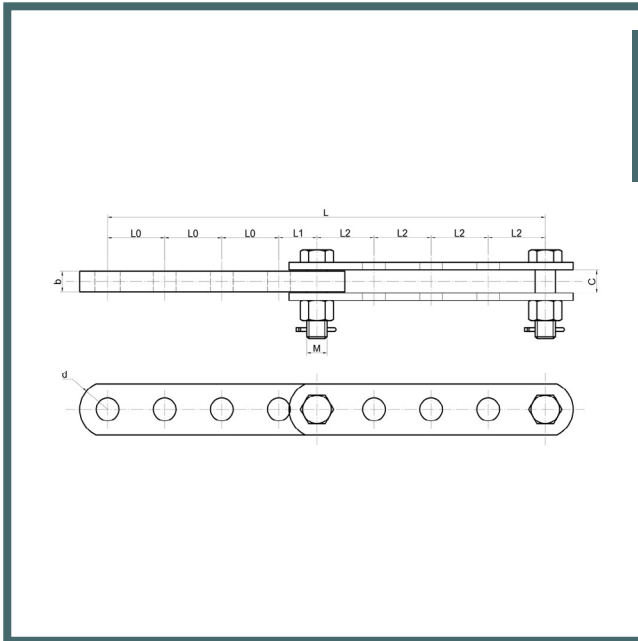
Link Fittings



The Link Fittings is primarily used for the link of insulators and the connection of fittings it bears mechanical load. All the ferrous should be hot-dip galvanized. Our Link Fittings is smooth and free of burrs with high mechanical strength.

Products

ADJUSTER PLATE



Adjuster Plate is a connection fitting with adjustable length.

Technical features:

The adjuster plate is generally used on the tension insulator string to adjust the string length.

Product advantages:

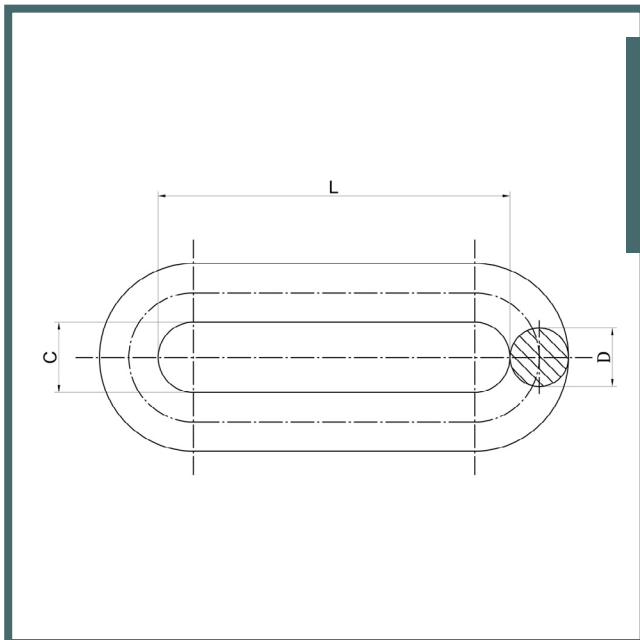
1. The adjuster plate uses hot-dip galvanizing to prevent corrosion;
2. The mechanical strength of the adjuster plate is high.

Type	Dimensions (mm)								Rated Failure Load (kN)
	L0	L1	L2	M	d	b	C	L	
PT-7	45	30	45	16	18	16	18	225-345	70
PT-10	50	40	50	18	20	16	20	250-390	100
PT-12	60	75	60	22	24	16	24	315-495	120
PT-16	65	50	65	24	26	18	26	325-505	160
PT-21	70	90	70	27	30	26	30	370-580	210
PT-25	80	90	80	30	33	30	34	420-660	250
PT-30	85	100	85	36	39	32	38	455-710	300
PT-50	70	80	100	42	45	38	40	740-1280	500
PT-60	90	80	100	48	51	42	44	820-1390	600
PT-21370-580	70	80	70	24	26	20	24	370-580	210
PT-25420-660	80	90	80	27	30	24	28	420-660	250

Type	Dimensions (mm)								Rated Failure Load (kN)
	L0	L1	L2	M	d	b	C	L	
PT-32420-660	80	90	80	30	33	28	32	420-660	320
PT-42440-680	80	100	80	36	39	32	36	440-680	420
PT-55550-820	90	140	90	36	39	32	36	550-820	550
PT-64600-900	100	150	-	42	45	36	40	600-900	640
PT-84870-1310	110	215	100	48	51	36	44	870-1310	840
PT-110740-1180	110	150	110	52	55	40	48	740-1180	1100
PT-128800-1280	120	160	120	60	64	45	52	800-1280	1280
PT-168690-990	150	240	-	72	76	52	62	690-990	1680

Remark: *L0, *L1, *L2, *M, *d, *b, *C, *L, please refer to related product drawings.

CHAIN LINK



Chain Link is used for the connection of ring fittings to lengthen the connection size or change the connection direction.

Technical features:

The chain link is integrally forged from round steel and bears mechanical load.

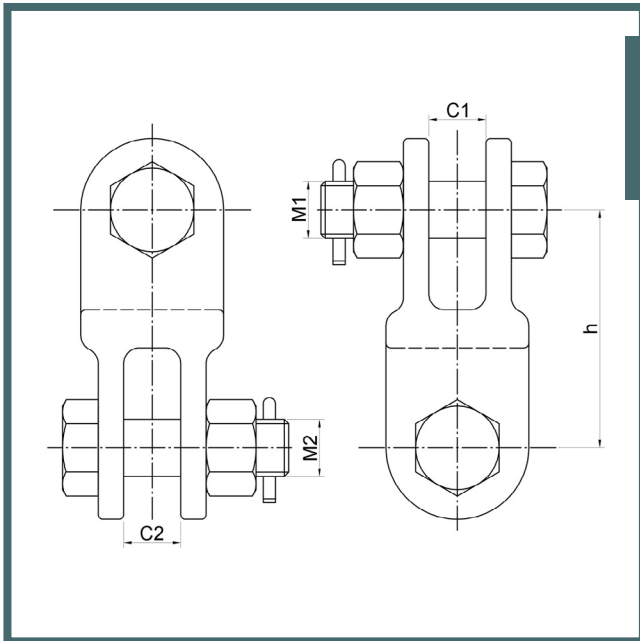
Product advantages:

1. The surface is smooth and free of burrs;
2. The chain link uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength of the chain link is high.

Catalog No.	Dimensions (mm)			Rated Failure Load (kN)
	C	D	L	
PH-4	18	14	60	40
PH-7	20	16	80	70
PH-10	22	18	100	100
PH-12	24	20	120	120
PH-16	26	22	140	160
PH-21	30	24	160	210
PH-25	34	26	160	250
PH-30	38	30	180	300
PH-16S	26	20	120	160
PH-21S	26	20	130	210
PH-25S	32	24	120	250
PH-32S	34	28	140	320
PH-42S	40	32	160	420
YH-55160	40	32	160	550
YH-64160	42	36	160	640
YH-84190	48	40	190	840
YH-110190	52	48	190	1100

Remark: *C, *D, *L, please refer to related product drawings.

CLEVISES



Clevises is a steering connection fitting that changes the connection direction.

Technical features:

Since the connecting directions of the clevises are at right angles to each other, they are flexible and adaptable.

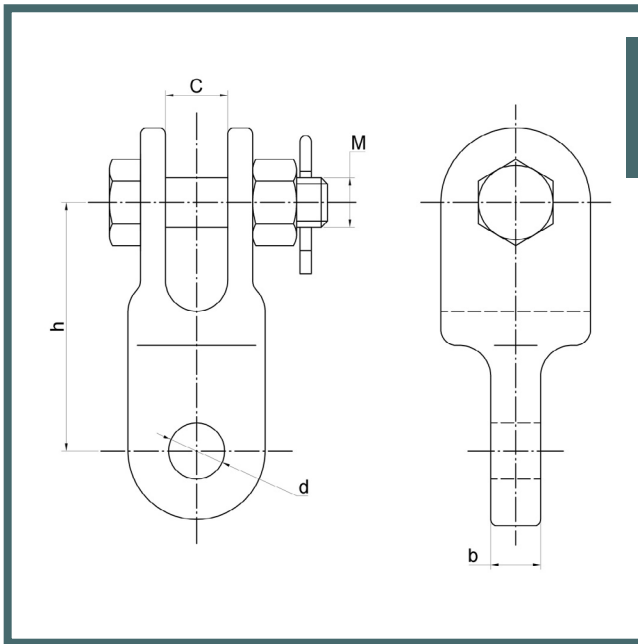
Product advantages:

1. The surface is smooth and free of burrs;
2. The clevises uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength of the clevises is high.

Catalog No.	Dimensions (mm)					Rated Failure Load (kN)
	C1	C2	M1	M2	h	
Z-32135	32	32	30	30	135	320
Z-42150	36	36	36	36	150	420
Z-50	42	44	42	42	150	500
Z-60	40	40	42	42	180	600
Z-64180	40	40	42	42	180	640
Z-84S	44	44	48	48	180	840
Z-110220	48	48	52	52	220	1100
Z-128220	52	52	60	60	220	1280
Z-168260	62	62	72	72	260	1680

Remark: *C1, *C2, *M1, *M2, *h, please refer to related product drawings.

CLEVISES TONGUE



Clevises Tongue is a steering connection fitting that changes the connection direction.

Technical features:

Since the connecting directions of the clevises tongue are at right angles to each other, they are flexible and adaptable.

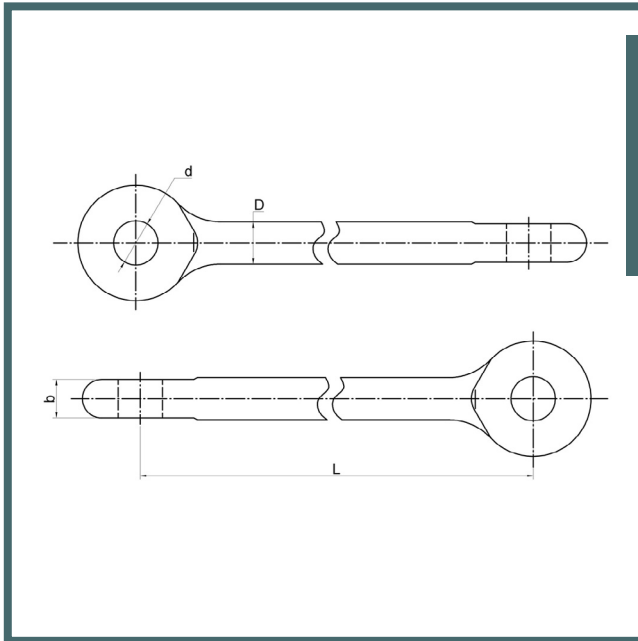
Product advantages:

1. The surface is smooth and free of burrs;
2. The clevises tongue uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength of the clevises tongue is high.

Catalog No.	Dimensions (mm)					Rated Failure Load (kN)
	C	b	M	d	h	
ZBD-0780	20	16	16	18	80	70
ZBD-1080	20	16	18	20	80	100
ZBD-1290	20	16	22	24	90	120
ZBD-16100	24	18	24	26	100	160
ZBD-21100	26	20	24	26	100	210
ZBD-32S	32	28	30	33	136	320
ZBD-42S	38	32	36	39	145	420
ZBD-55150	38	32	36	39	150	550
ZBD-64150	42	36	42	45	150	640
ZBD-84S	44	36	48	51	180	840
ZBD-110250	48	40	52	55	250	1100
ZBD-168S	62	52	72	76	260	1680

Remark: *C, *b, *M, *d, *h, please refer to related product drawings.

EXTENSION ROD



Extension Rod is used for the connection of fittings to extend the connection distance. The earrings at both ends of the rod form a 90 angle, and they can also be used to switch the connection direction.

Technical features:

The extension rod is integrally forged from round steel and bears a mechanical load. It can stagger the tension clamps of the upper and lower conductors of the vertically arranged split conductors, avoiding the tension clamps of the upper and lower conductors from colliding or keeping the distance between the four conductors of the jumper.

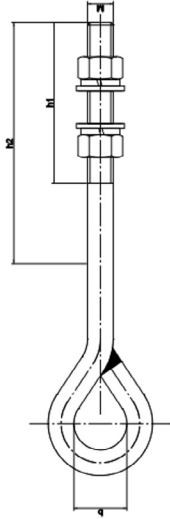
Product advantages:

1. The surface is smooth and free of burrs;
2. It uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength is high.

Catalog No.	Dimensions (mm)				Rated Failure Load (kN)
	D	d	b	L	
YL-0712	18	18	16	120	70
YL-1040	18	20	16	400	100
YL-1243	22	24	18	43	120
YL-1640	22	26	18	400	160
YL-2140S	24	26	20	400	210
YL-2543S	28	30	24	430	250
YL-3253S	30	33	28	530	320
YL-42450	36	39	32	450	420
YL-55350	40	39	32	350	550
YL-64406S	42	45	36	406	640
YL-84426S	50	51	36	426	840
YL-110500S	56	55	42	500	1100

Remark: *D, *d, *b, *L, please refer to related product drawings.

EYE BOLT



The Eye Bolt is the fitting usually used for the wooden pole. It can provide a hanging point for fittings.

Technical features:

It uses hot-dip galvanizing to prevent corrosion.

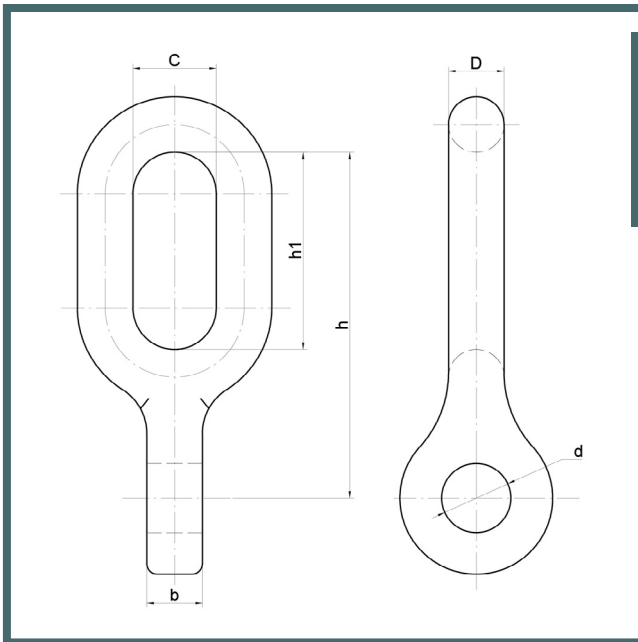
Product advantages:

1. It has simple structure;
2. It can save space.
3. It has high failing load.

Catalog No.	Dimensions (mm)			
	h1	h2	M	b
EB-16-150-100	100	150	16	33
EB-16-250-150	150	250	16	33
EB-16-300-150	150	300	16	33
EB-16-320-210	210	320	16	33
EB-16-350-200	200	350	16	33
EB-16-350-250	250	350	16	33

Remark: *h1,*h2,*M,*b, please refer to related product drawings.

EYE LINK



The Eye Link is the fitting used for the connection of ring fittings to change the connection direction.

Technical features:

1. The Eye link is integrally forged from round steel and bears mechanical load;
2. It use hot-dip galvanizing to prevent corrosion.

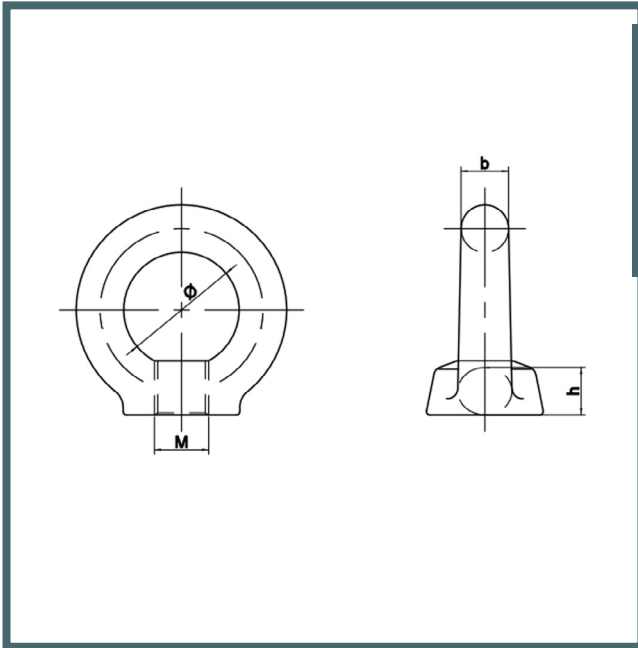
Product advantages:

1. The structure is simple;
2. It has high failing load;
3. It can be flexibly rotated without being restricted by direction.

Type	Dimensions (mm)						Rated Failure Load (kN)
	D	b	C	d	h1	h	
ZH-4	12	12.5	18	14	38	70	40
ZH-7	16	16	24	20	57	100	70
ZH-10	18	16	24	20	57	100	100
ZH-12	18	16	22	24	65	115	120
ZH-16	22	18	26	26	75	135	160
ZH-21	24	26	32	30	75	150	210

Remark: *D, *b, *C, *d, *h1, *h, please refer to related product drawings.

EYE NUT



The Eye Nut is the fitting usually used in conjunction with the Eye Bolt. It can provide a hanging point for fittings on the other side of the Eye Bolt.

Technical features:

It uses hot-dip galvanizing to prevent corrosion.

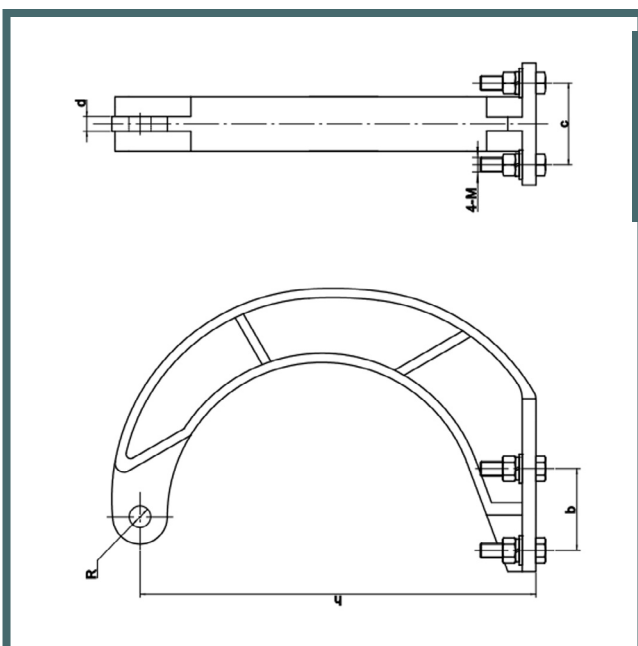
Product advantages:

1. It has simple structure;
2. It can save space;
3. It has high failing load.

Catalog No.	Dimensions (mm)			
	Φ	M	b	h
EN-16	34	16	14	14

Remark: * Φ , *M, *b, *h, please refer to related product drawings.

G SUPPORT



The G Support is the fitting usually used for the tower. It can provide a hanging point for fittings.

Technical features:

It uses hot-dip galvanizing to prevent corrosion.

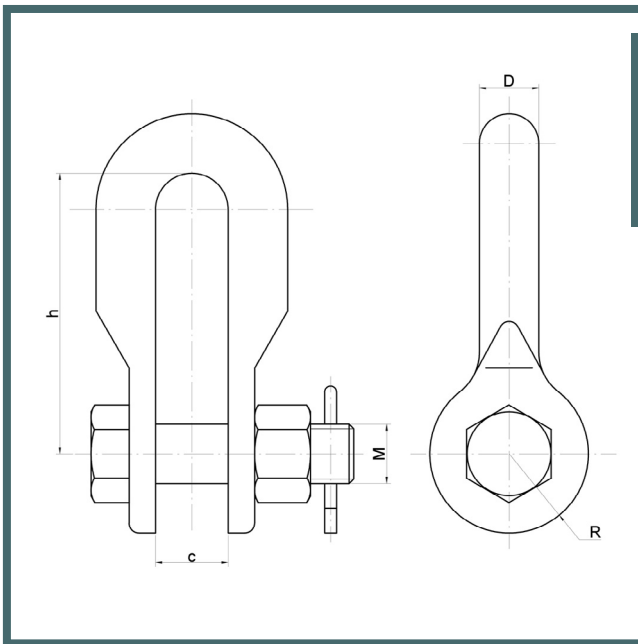
Product advantages:

1. It has simple structure;
2. It can save space;
3. It has high failing load.

Catalog No.	Dimensions (mm)						Rated Failure Load (kN)
	h	Φ	M	d	b	c	
G-1	435	18~24	12~16	16	90	90	70~120

Remark: *h, * Φ , *M, *d, *b, *c, please refer to related product drawings.

SHACKLE



U Shackle is the fitting usually used for installing insulator strings to the cross arm of a pole or tower.

Technical features:

1. The U shackle is integrally forged from round steel;
2. It has a wide range of uses.

Product advantages:

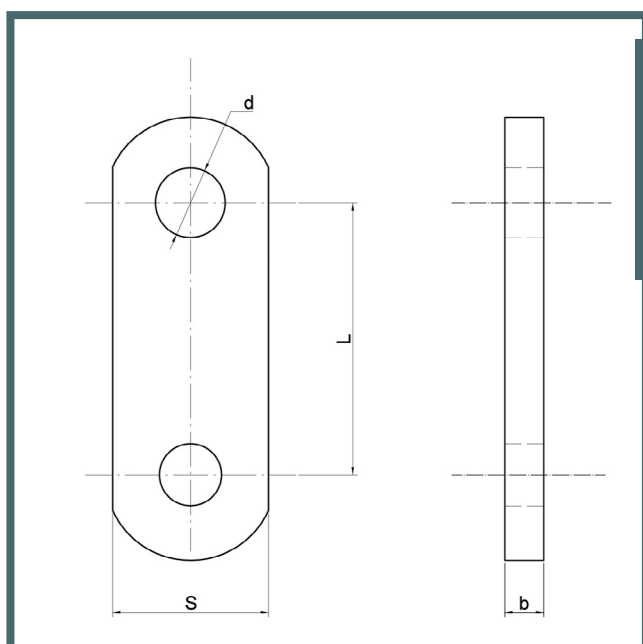
1. The structure is simple;
2. It has high failing load;
3. It can be flexibly rotated without being restricted by direction.

Type	Dimensions (mm)					Rated Failure Load (kN)
	D	b	C	d	h1	
U-4	18	12	12	60	16	40
U-7	20	16	16	80	22	70
U-10	22	18	18	85	24	100
U-12	24	22	20	90	30	120
U-16	26	24	22	95	32	160

Type	Dimensions (mm)					Rated Failure Load (kN)
	D	b	C	d	h1	
U-21	30	27	24	100	36	200
U-25	34	30	26	110	40	250
U-30	38	36	30	130	46	300
U-21S	26	24	20	100	32	210
U-25S	30	27	24	110	36	250
U-32S	32	30	28	115	40	320
U-42S	38	36	32	140	45	420
U-50S	40	36	32	150	48	500
U-60G	42	42	36	172	55	600
U-64S	42	42	36	200	55	640
U-64185S	42	42	36	185	55	640
U-84180	44	48	40	180	62	840
U-110200	50	52	48	200	52.5	1100

Remark: *C, *M, *D, *h, *R, please refer to related product drawings.

STRAPS



The Strap is the fitting used for the connection of the fittings with the clevis. The straps can be used to change the string length. It can not be used to change the connection direction.

Technical features:

It is cut from a steel plate and bears a mechanical load.

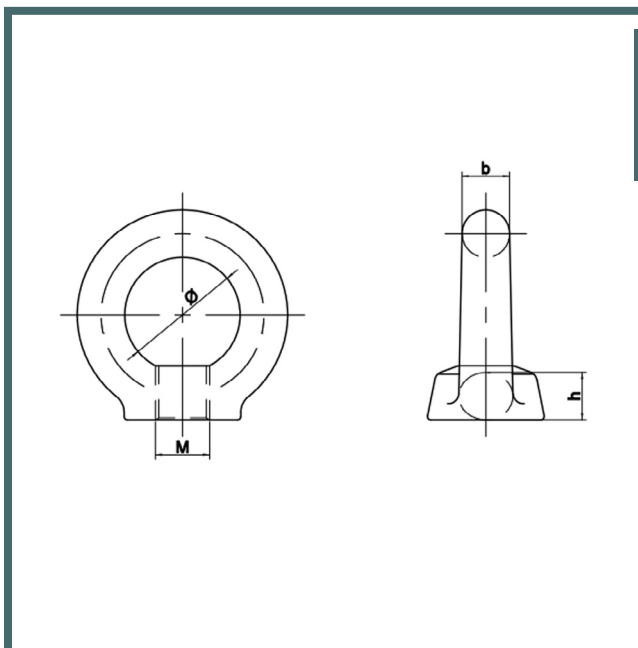
Product advantages:

1. The surface is smooth and free of burrs;
2. It use hot-dip galvanizing to prevent corrosion;
3. It has high failing load.

Catalog No.	Dimensions (mm)				Rated Failure Load (kN)
	d	b	S	L	
PD-7	18	16	40	70	70
PD-10	20	16	45	80	100
PD-12	24	16	50	100	120
PD-16	26	22	60	130	160
PD-20	30	26	70	110	200
PD-3012	39	32	80	120	300
PD-50	45	38	110	130	500
PD-16100	26	18	60	100	160
PD-21S	26	20	60	130	210
PD-25400S	30	24	70	400	250
PD-3209S	33	28	78	90	320
PD-42120S	39	32	85	120	420
PD-55151S.1	39	32	94	151	550
PD-64S	45	36	100	135	640
PD-84230S	51	36	122	230	840

Remark: *d, *b, *S, *L, please refer to related product drawings.

THIMBLE CLEVIS



The Thimble is the fitting used for stay wire.

Technical features:

The Thimble is integrally forged from round steel and bears a mechanical load.

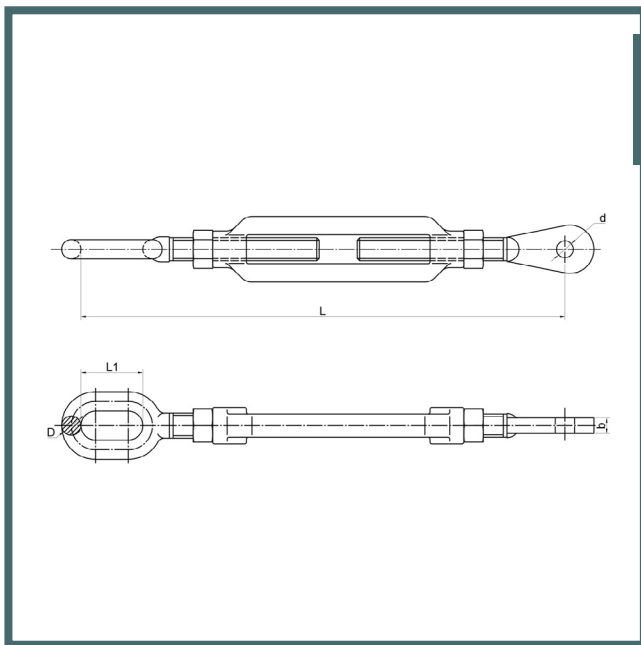
Product advantages:

1. It has simple structure;
2. It use hot-dip galvanizing to prevent corrosion;
3. It has high failing load.

Catalog No.	Dimensions (mm)					Rated Failure Load (kN)
	C	M	b	h	R	
TC-02	20	14	28	37	18	20
TC-04	20	12	32	39	20	40
TC-7	22	16	18	45	22	70
TC-12	24	20	23	47	28	120
TC-16	26	26	23	55	28	160

Remark: *C,*M,*b,*h,*R, please refer to related product drawings.

TURNBUCKET



A connection fitting with adjustable length.

Technical features:

The turnbuckle is generally used on the tension insulator string to adjust the string length.

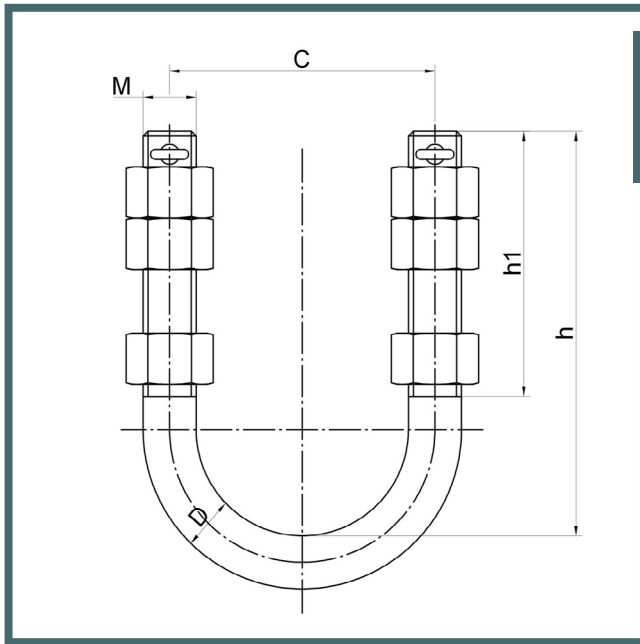
Product advantages:

1. The surface is smooth and free of burrs;
2. The turnbuckle uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength of the turnbuckle is high.

Type	Dimensions (mm)					Rated Failure Load (kN)
	d	L	L1	D	b	
TB-70ET	17.5	460-640	64	20	16	70
TB-120ET	17.5	460-640	64	20	16	120
TB-160ET	22.0	460-640	64	20	16	160
TB-210ET	22.0	460-640	64	20	19	210

Remark: *d, *L, *L1, *D, *b, please refer to related product drawings.

U BOLT



A connection fitting is used for installing insulator strings to the cross arm of the pole or tower.

Technical features:

Bears mechanical load.

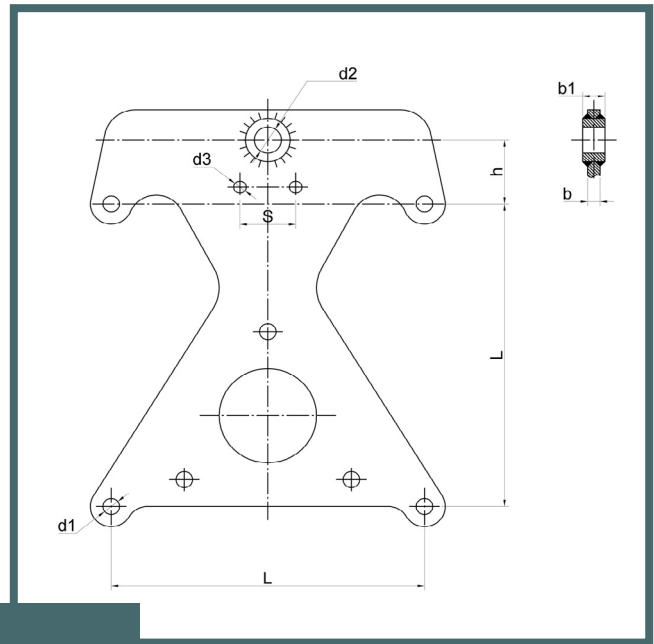
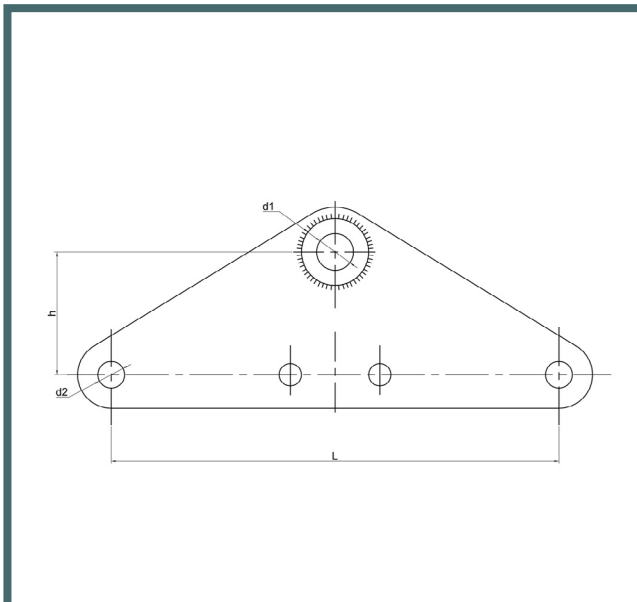
Product advantages:

1. The surface is smooth and free of burrs;
2. The U bolt uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength of the U bolt is high.

Catalog No.	Dimensions (mm)				
	C	M	D	h	h1
UJ-1880	80	18	18	105	50
UJ-2080	80	20	20	120	60
UJ-2280	80	22	22	126	65
U-1650	50	16	16	100	80
U-1670	70	16	16	122	80
U-1680	80	16	16	122	80
U-1690	90	16	16	140	80
U-1870	70	18	18	122	85
U-1880	80	18	18	122	80
U-2070	70	20	20	135	95
U-2080	80	20	20	130	90
U-2090	90	20	20	145	90
U-2280	80	22	22	118	90

Remark: *C, *M, *D, *h, *h1, please refer to related product drawings.

YOKE PLATE



Yoke Plate is a connection fitting used for the parallel assembly of double insulator strings and multiple insulator strings.

Technical features:

It is cut from a steel plate and bears a mechanical load.

Product advantages:

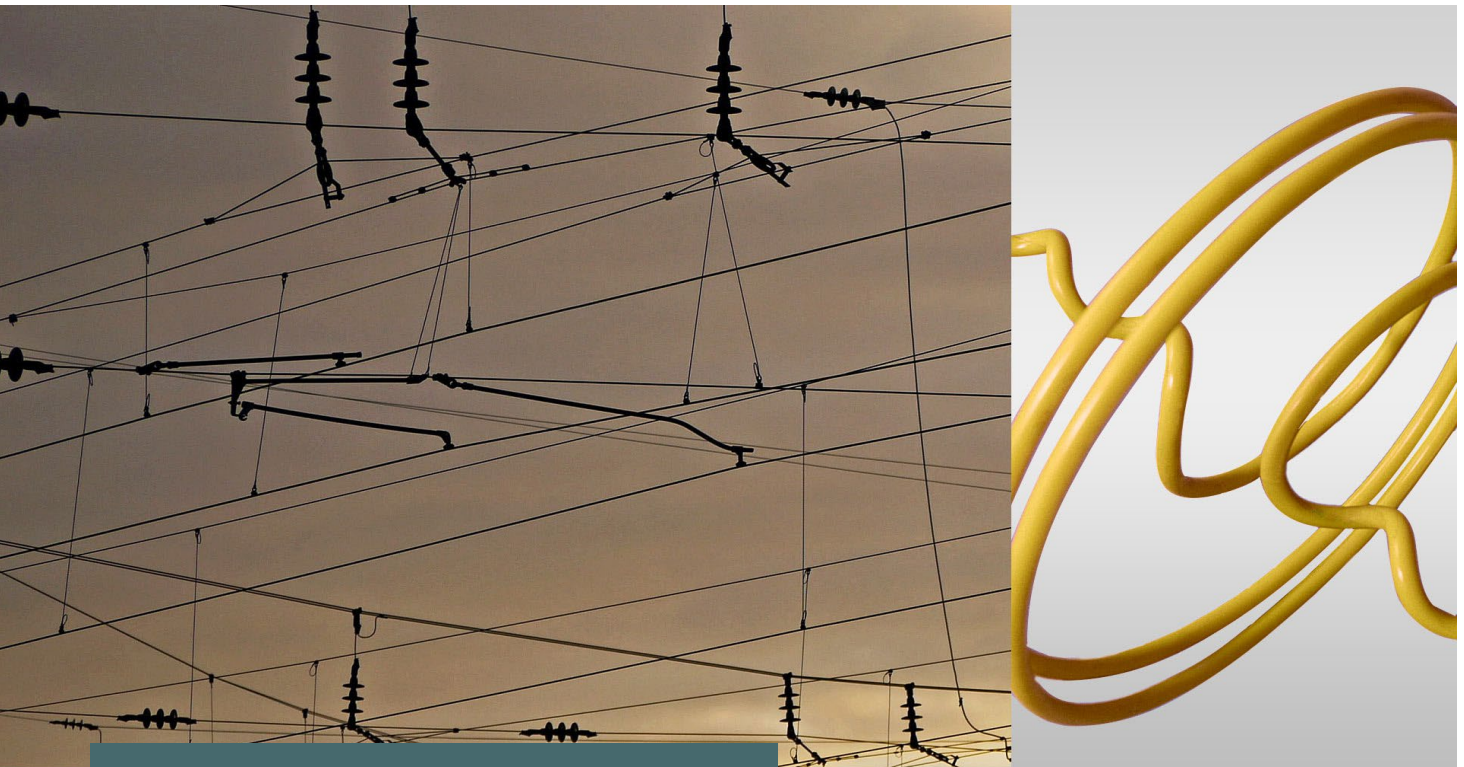
1. The surface is smooth and free of burrs;
2. The yoke plate uses hot-dip galvanizing to prevent corrosion;
3. The mechanical strength of the yoke plate is high.

Type	Dimensions (mm)					Rated Failure Load (kN)
	b	h	d1	d2	L	
L-1040	16	70	20	18	400	100
L-1050	16	130	20	18	500	100
L-1060	16	100	20	18	600	100
L-1240	16	70	24	18	400	120
L-1245-1	16	70	24	18	450	120
L-1640	18	100	26	20	400	160
L-1650S	18	130	26	20	500	160
L-1660	18	100	26	20	600	160

Remark: *b, *h, *d1, *d2, *L, please refer to related product drawings.



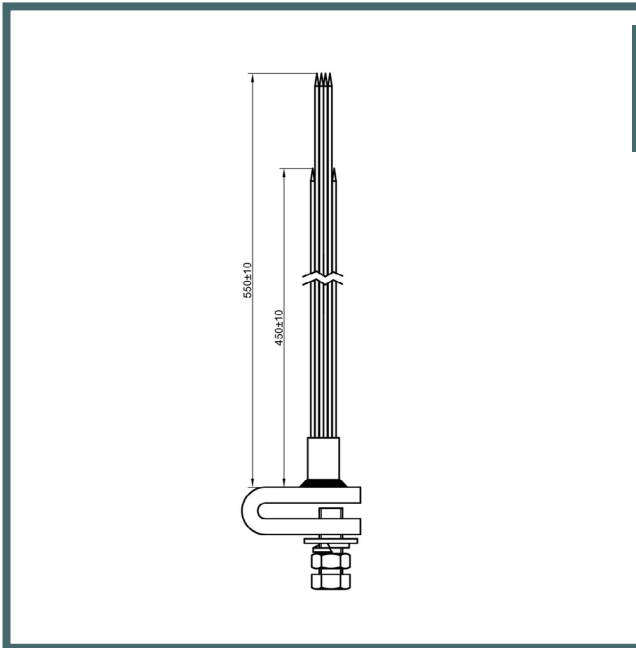
Bird-Scaring Fittings



Bird-Scaring Fittings are the bird protection device for overhead lines.

Products

BIRD SPIKE



Bird Spike is a bird protection device for overhead lines.

Technical features:

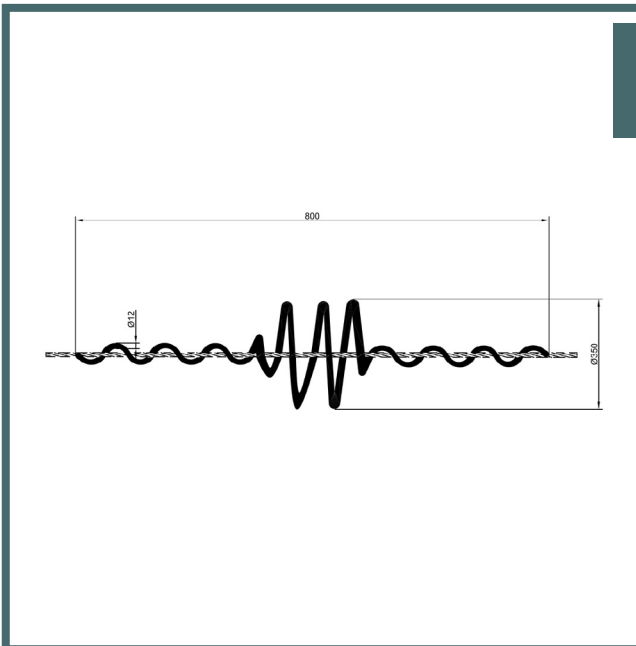
The long bird spike and the short bird spike are pressed in the fixed tube, and the fixed tube is welded on the support.

Product advantages:

1. It has the characteristics of simple structure, convenient installation;
2. Bird Spike is firm and reliable, without metal fatigue and damage.

Catalog No.	Long bird spike length (mm)	Short bird spike length (mm)
FNC	550	450

PREFORMED BIRD-SCARING



Preformed Bird-Scaring is a bird protection device for overhead lines.

Technical features:

As birds notice vertical structures better, Preformed Bird-Scaring are designed with distinct vertical lines.

Product advantages:

1. Preformed Bird-Scaring is made of PVC material with high strength;
2. Preformed Bird-Scaring are orange, as this has been proven to be the most visible color to the birds;
3. It has the characteristics of simple structure, convenient installation.

Catalog No.	Diameter (mm)	Total length (mm)	Ring diameter (mm)
FB-****	12	800	350

Remark: **** refers to the diameter of conductor. Eg. conductor diameter: 21.30mm, the type is: FB-2130.



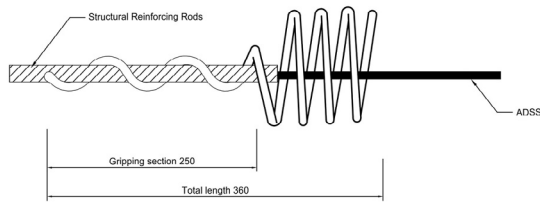
Protective Fittings



The Protective Fittings are used to protect conductors, insulators, and so on, including but not limited to grading ring, counter weight, armor rod, etc... Protective fittings can suffer the aeolian vibration to make no fatigue damage.

Products

CORONA COIL



Corona Coil is a device to reduce the electrical corrosion of metal rod end on ADSS cable.

Technical features:

Corona coils are made from a lightweight material. They are designed to suppress electrical arcing at the ends of metal rods.

Product advantages:

1. It has the characteristics of simple structure, convenient installation;
2. Corona coils are secured in place by wrapping the unique gripping section directly over the Structural Reinforcing Rods of a dead-end and suspension. They will not interfere with the performance of the dead-end or the suspension.

Catalog No.	ADSS diameter (mm)	Gripping section (mm)	Total length (mm)
FYH-10	9.0~11.0	250	360
FYH-12	11.1~13.0	250	360
FYH-14	13.1~15.0	250	360
FYH-16	15.1~17.0	250	360
FYH-18	17.1~19.0	250	360
FYH-20	19.1~21.0	250	360
FYH-22	21.1~23.0	250	360



Overhead Optical Cable



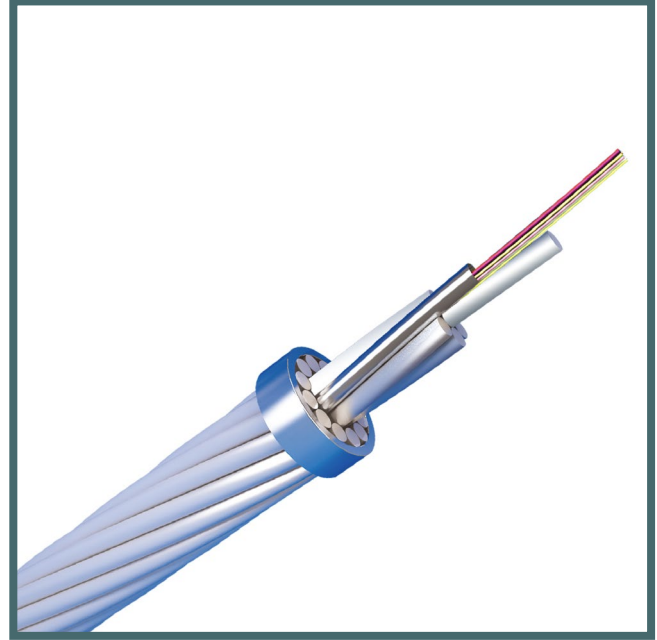
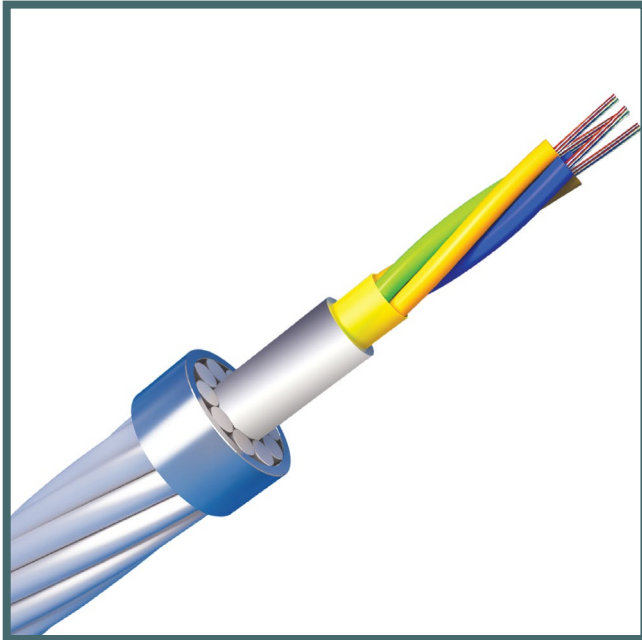
(OPGW OPPC ADSS) OVERHEAD OPTICAL CABLE

- **OPGW (Optical Fiber Composite Overhead Ground Wire)**
OPGW cables have the dual functions of ground wire with communication capabilities.
- **OPPC (Optical Fiber Composite Phase Conductor)**
OPPC cables have the dual functions performance functions of phase conductors with communication capabilities.
- **ADSS (All-Dielectric Self-Supported Cable)**
ADSS cables are a kind of non-metal optical fiber cables suspended directly between two points without any supporting elements.

Products

(OPGW OPPC ADSS)

OVERHEAD OPTICAL CABLE



Technical details:

Standards

IEC 60794-4-10

FYH-10 Aerial optical cables along electrical power lines – Family specification for OPGW

IEEE1138-2021

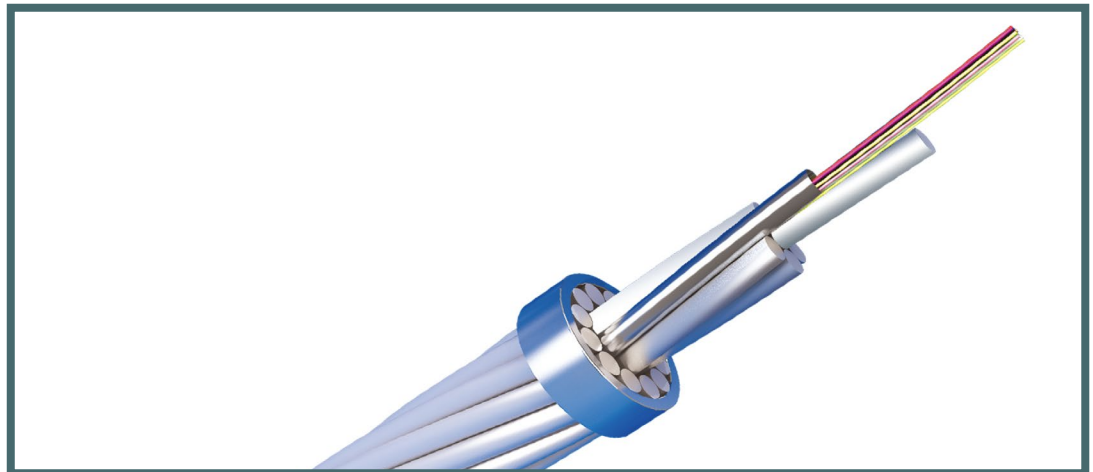
IEEE Standard for testing and performance for optical ground wire (OPGW) for use on electric utility power lines

Central Type Stainless Steel Tube OPGW



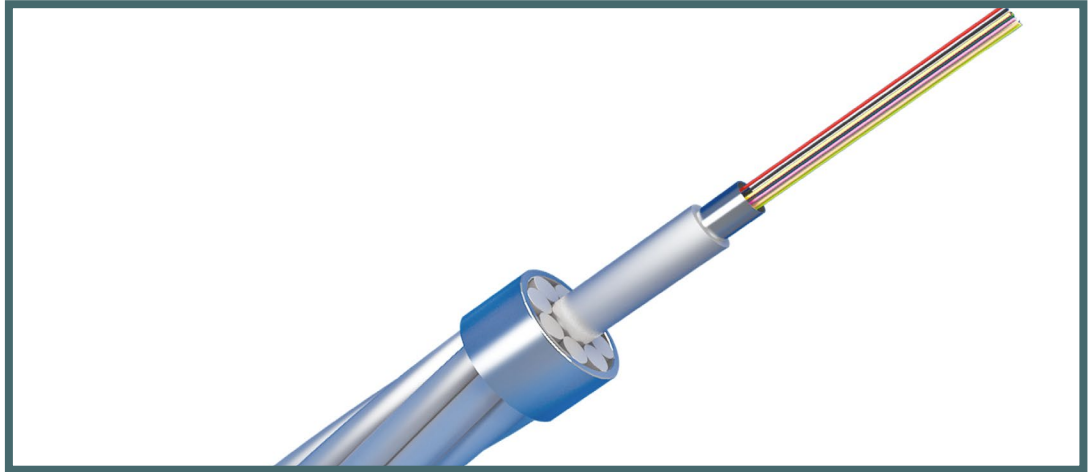
Type	Central Type Stainless Steel Tube OPGW
Fiber Core	8/12/16/24/36/48/96
Structure	The stainless steel tube is hermetically sealed by seamless welding; the central stainless steel tube is surrounded by single or double layers of metal wires. The tube is filled with water-resistant gel. This tube provides complete protection to the fibers from longitudinal and lateral water/moisture ingress. The interstices in between the stainless steel tube and the metallic wires are filled with anti-corrosive grease for protection from corrosion.
Application	Photovoltaic / wind power plant / transmission line / substation

Stranded Type Stainless Steel Tube OPGW



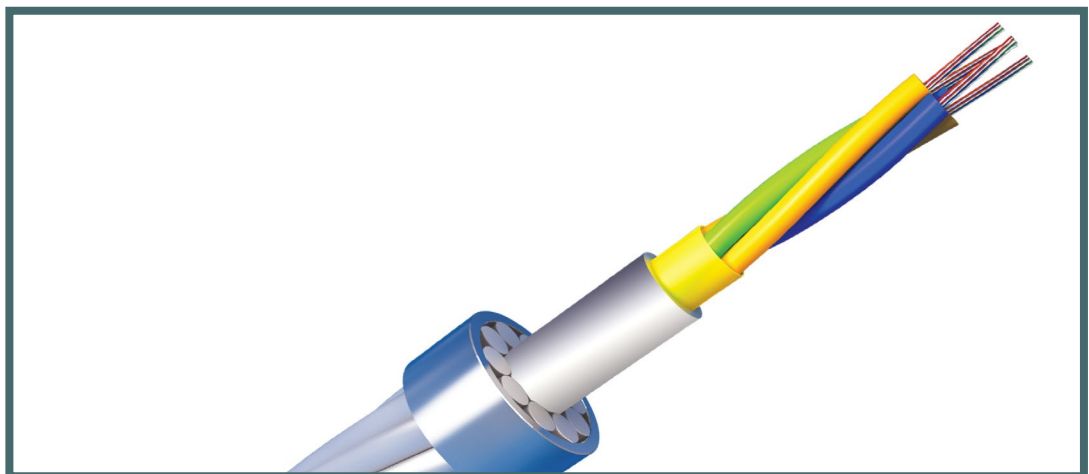
Type	Central Type Stainless Steel Tube OPGW
Fiber Core	8/12/16/24/36/48/96
Structure	The stainless steel tube is hermetically sealed by seamless welding and is surrounded by single or double layers of metal wires. The tube is filled with water-resistant gel. This tube provides complete protection to the fibers from longitudinal and lateral water/moisture ingress. The interstices in between the stainless steel tube and the metal wires are filled with anticorrosive grease for protection from corrosion.
Application	Photovoltaic / wind power plant / transmission line / substation

AL-covered Stainless Steel Tube OPGW



Type	Central Type Stainless Steel Tube OPGW
Fiber Core	8/12/16/24/36/48/96
Structure	Optical fibers are placed in a hermetically sealed stainless steel tube covered with an aluminum layer. The central aluminum-clad stainless steel tube is surrounded by single-layer or double-layer metal wires. Good anti-corrosion performance, suitable for the highly corrosive environment, no need to use anti-corrosion grease.
Application	Photovoltaic / wind power plant / transmission line / substation

Aluminum Tube OPGW



Type	Aluminum Tube OPGW
Fiber Core	8/12/16/24/36/48/96
Structure	Optical fibers are placed loosely in plastic tubes embedded in a hermetically sealed aluminum tube. The aluminum tube is surrounded by single or double layers of metal wires. The structure has good corrosion resistance for its uniform materials.
Application	Photovoltaic / wind power plant / transmission line / substation

Overseas References

Country	Total Length
India	5400km
Thailand	1332km
Vietnam	1507km
Indonesia	2510km
Poland	3270km
Turkey	1450km
Ethiopia	1450km