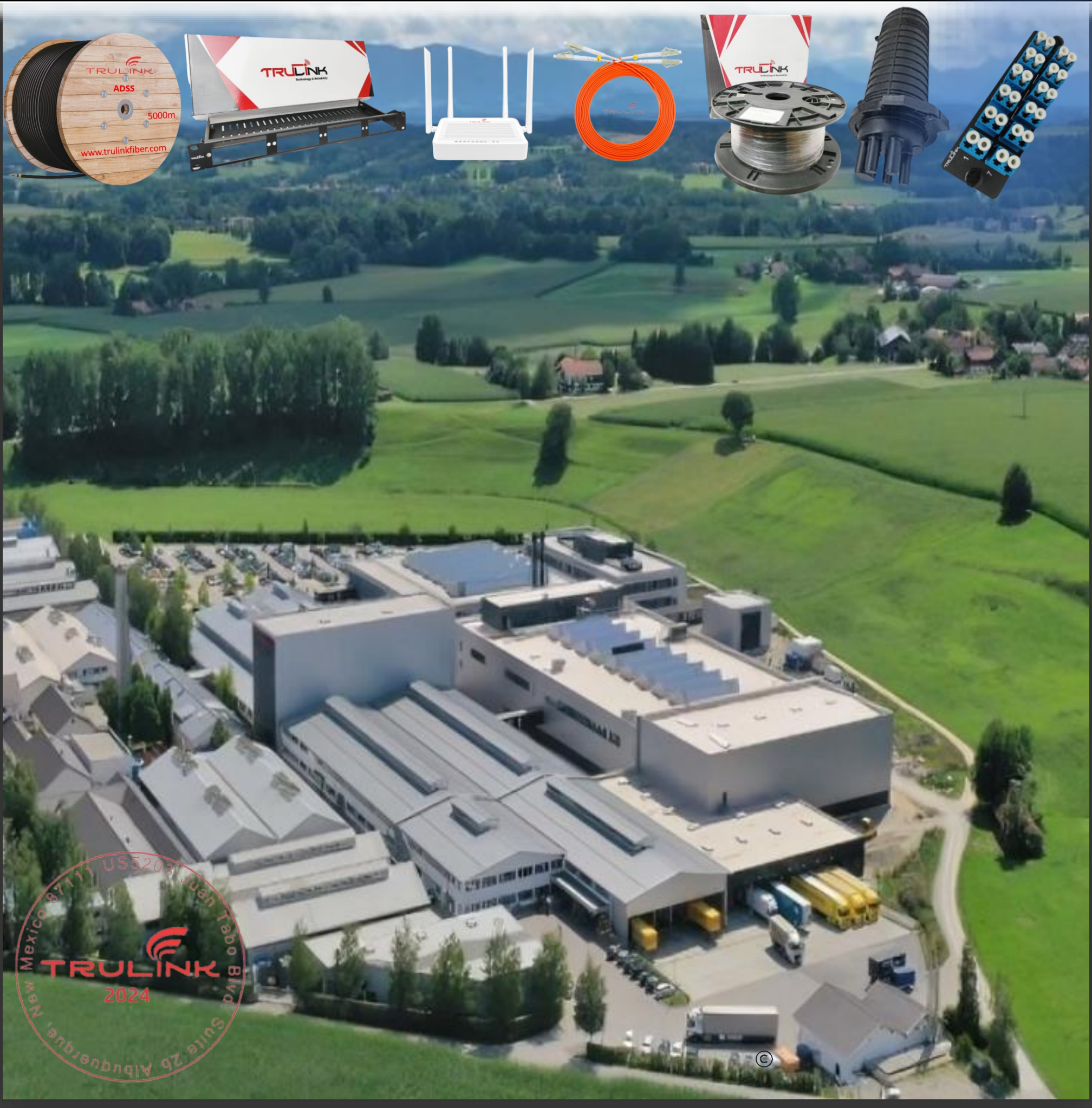


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**OPTICAL CABLES FITTINGS V.1.0** **2024-25 CATALOG**





# OPTICAL CABLE FITTINGS



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*"We came to humanize the business."*

A handwritten signature in black ink, appearing to read "Todd J. Ross".

**CEO  
TRULINK FIBER, LLC**



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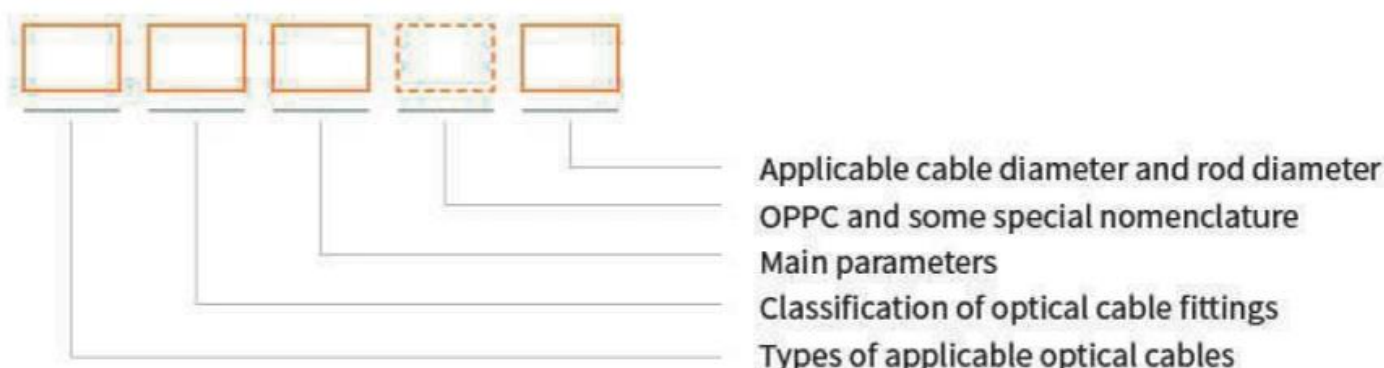
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# NAMING RULES OF OPTICAL CABLE FITTINGS



## ► Types of suitable optical cables

**O**-OPPC、OPGW; **A**-ADSS **T**- For tower

## ► Classification of pre twisted optical cable fittings

<b>N</b>	tension clamp	<b>G</b>	pole type fastening clamp
<b>C</b>	suspension clamp	<b>JDX</b>	ground wire
<b>SC</b>	double suspension clamp	<b>T</b>	For tower installation
<b>F</b>	guard fittings	<b>Y</b>	Down lead clamp/cable bracket

**Note:** ONL, OCL and OSCI represent OPPC tension, suspension and double suspension clamps respectively, and L represents that the outermost layer of optical cable is aluminum alloy stranded wire.

## ► Main parameters

<b>kN</b>	Tension grip strength, three digits
<b>m</b>	span of suspension clamp, four digits
<b>mm</b>	axis spacing for double suspension clamp, three digits
<b>mm</b>	size of the clamp
<b>mm<sup>2</sup></b>	cross-sectional area of ground wire

## ► Cable diameter range

The cable diameter range is represented by four digits in mm / 100. If it is less than four digits, it is supplemented by 0.

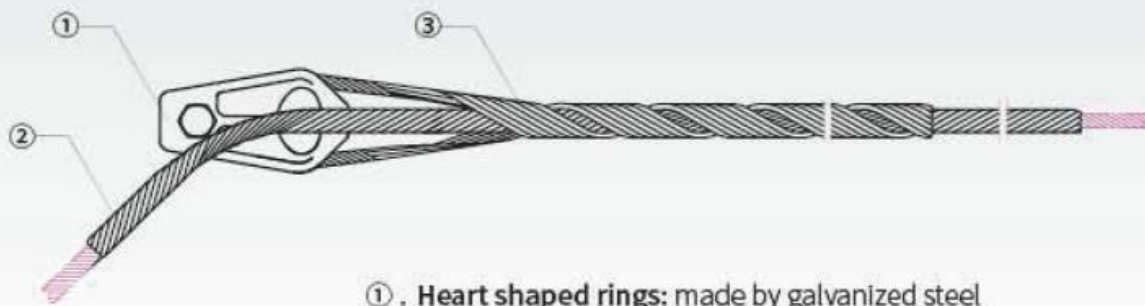


## OPCC CABLE FITTINGS

### ◆ OPCC tension clamp tension clamp

#### ► Illustration

Figure: 1-01



- ① . Heart shaped rings: made by galvanized steel
- ② . Inner preformed wire: made by Aluminum alloy wire or aluminum clad steel wire
- ③ . Outer preformed wire: made by aluminum clad steel wire

#### ► Features

- The inner walls of the inner and outer strands are coated with conductive sand to increase damping and conductive effect.
- Because of large contact area, uniform stress distribution and no stress concentration, it has a good protective effect on OPCC.
- The grip strength of OPCC is no less than 95% RTS of optical cable, which fully meets the requirements of OPCC erection.
- The rubber clip is a rubber elastomer with special formula, which can resist ozone attack, extreme high temperature, low temperature and other adverse weather.
- Simple structure, easy installation, no special tools, maintenance free.

#### ► Application range

- It is used for terminal tower, tension tower, tower with angle (elevation) greater than 25 degrees and connecting tower.
- See table 1-01 for model selection.

#### ► Attention

- The grip strength of the clamp depends on the internal structure of OPCC and the material of the strand. When ordering, the appropriate clamp should be selected according to the ultimate tensile strength and outer diameter of OPCC optical cable.
- The standard product is suitable for right-handed OPCC. If it is left-handed OPCC, it should be indicated when ordering.
- The standard configuration of the product only provides tension clamps, excluding connectors and insulators. If you need to order connectors and insulators, please indicate when ordering.
- The pre twisted wire clamp is recommended to be used once after bearing full tension, and other accessories can be disassembled once in good condition.
- For the structure of OPCC strain fittings with a cross section of more than 300 square meters, please consult before ordering.

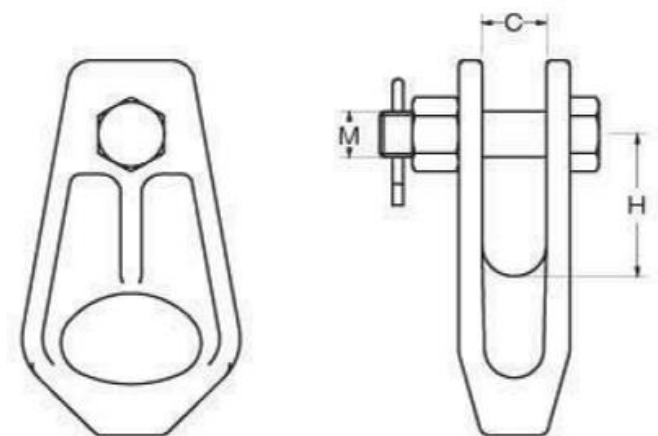
# OPCC CABLE FITTINGS

## ► 1-01 OPPC tension clamp selection table

Model	Applicable for OPPC		Strand wire length (mm)	Strand wire length (mm)	Weight (kg)	Matching fittings
	Model	Outer diameter				
ONL-70/10	OPPC-70/10	11.75	/	1050	1.1	TC-7
ONL-70/40	OPPC-70/40	13.60	/	1150	1.5	TC-7
ONL-90/15	OPPC-95/15	14.00	/	1150	1.5	TC-7
ONL-95/55	OPPC-95/55	16.10	/	1200	2.0	TC-12
ONL-120/20	OPPC-120/20	15.40	/	1200	2.0	TC-7
ONL-120/25	OPPC-120/25	15.90	/	1200	2.0	TC-7
ONL-150/20	OPPC-150/20	16.75	1800	1400	4.2	TC-7
ONL-150/25	OPPC-150/25	17.50	1800	1400	4.3	TC-7
ONL-150/35	OPPC-150/35	17.60	1850	1450	4.7	TC-7
ONL-185/25	OPPC-185/25	19.00	1850	1450	4.7	TC-7
ONL-185/30	OPPC-185/30	19.00	1850	1450	4.9	TC-7
ONL-185/45	OPPC-185/45	19.65	1900	1500	5.3	TC-12
ONL-210/35	OPPC-210/35	20.40	1900	1500	5.4	TC-12
ONL-240/30	OPPC-240/30	21.70	2000	1600	6.5	TC-12
ONL-240/40	OPPC-240/40	21.80	2000	1600	6.5	TC-12
ONL-240/55	OPPC-240/55	22.50	2100	1700	7.0	TC-12

## ► Table 1-02 Heart shaped ring

Model	Main size (mm)			Failure load (kN)	Weight (kg)
	C	M	H		
TC-7A	22	16	50	≥70	0.9
TC-12	24	18	50	≥120	1.3



## ► Installation Cases



Figure 1-02



Figure 1-03

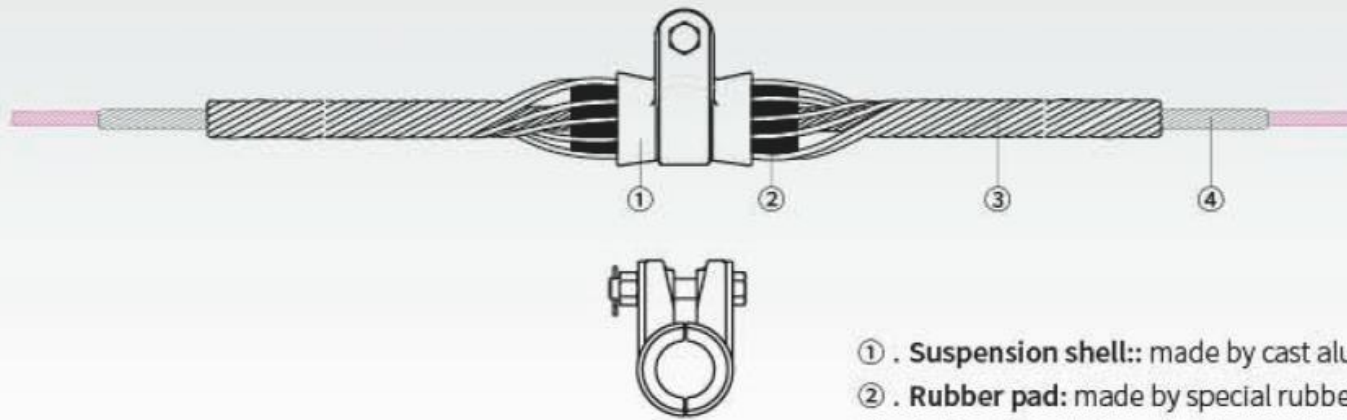


# OPCC CABLE FITTINGS

## ◆ OPCC single suspension clamp

### ► Illustration

Figure: 1-04



- ① . **Suspension shell::** made by cast aluminum alloy
- ② . **Rubber pad:** made by special rubber
- ③ . **Outer strand wire:** aluminum alloy wire
- ④ . **Inner strand wire:** aluminum alloy wire

### ► Features

- The double-layer structure makes the optical cable with unbalanced load for a long time have better dynamic stress bearing capacity, and can also improve the grip strength of the optical cable.
- Due to the large contact area, uniform stress distribution and no stress concentration point, the stiffness of the installation point of the cable is enhanced and the cable is well protected.
- It can provide enough grip strength of 14% - 20% RTS to protect the OPCC cable under unbalanced load.
- Simple structure, easy installation, no special tools, maintenance free

### ► Application Range

- Tower with elevation angle less than 30 degrees (double suspension clamp is recommended for tower with elevation angle more than 30 degrees).
- See table 1-04 for model selection.

### ► Attention

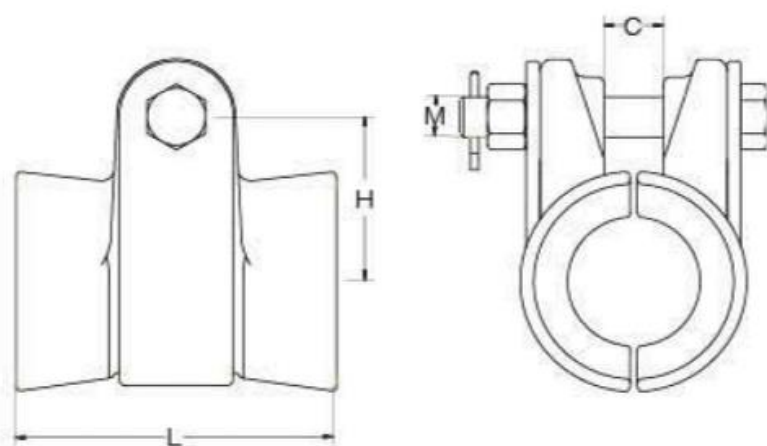
- The standard configuration of this product only provides suspension clamp, excluding connectors and insulators. If you need to order connectors and insulators, please indicate when ordering.
- The standard product is suitable for right-handed OPCC. If it is left-handed OPCC, it should be noted when ordering.

## OPCC CABLE FITTINGS

► 1-01 OPPC tension clamp selection table

Model	Applicable for OPPC		Strand wire length (mm)	Weight (kg)	Matching fittings
	Model	Outer diameter(mm)			
OCL-70/10	OPPC-70/10	11.75	1200	1.4	TK-12
OCL-70/40	OPPC-70/40	13.60	1300	1.5	TK-12
OCL-90/15	OPPC-95/15	14.00	1300	1.5	TK-12
OCL-95/55	OPPC-95/55	16.10	1400	1.9	TK-12
OCL-120/20	OPPC-120/20	15.40	1400	1.9	TK-12
OCL-120/25	OPPC-120/25	15.90	1400	1.9	TK-12
OCL-150/20	OPPC-150/20	16.75	1500	3.5	TK-12
OCL-150/25	OPPC-150/25	17.50	1500	3.5	TK-12
OCL-150/35	OPPC-150/35	17.60	1550	3.7	TK-12
OCL-185/25	OPPC-185/25	19.00	1650	3.9	TK-12
OCL-185/30	OPPC-185/30	19.00	1650	3.9	TK-12
OCL-185/45	OPPC-185/45	19.65	1750	4.7	TK-12
OCL-210/35	OPPC-210/35	20.40	1750	4.7	TK-12
OCL-240/30	OPPC-240/30	21.70	1800	5.4	TK-12
OCL-240/40	OPPC-240/40	21.80	1800	5.4	TK-12
OCL-240/55	OPPC-240/55	22.50	1800	5.7	TK-12
OCL-300/25	OPPC-300/25	24.00	1850	6.1	TK-12
OCL-300/40	OPPC-300/40	24.20	1950	6.5	TK-12
OCL-400/35	OPPC-400/35	27.10	2100	7.4	TK-13
OCL-400/50	OPPC-400/50	28.00	2150	8.1	TK-13
OCL-500/45	OPPC-500/45	30.40	2200	10.1	TK-13

Model	Main size (mm)				Failure load (kN)
	C	M	L	H	
TK-12	20	18	120	75	≥ 120
TK-13	26	18	140	75	≥ 120



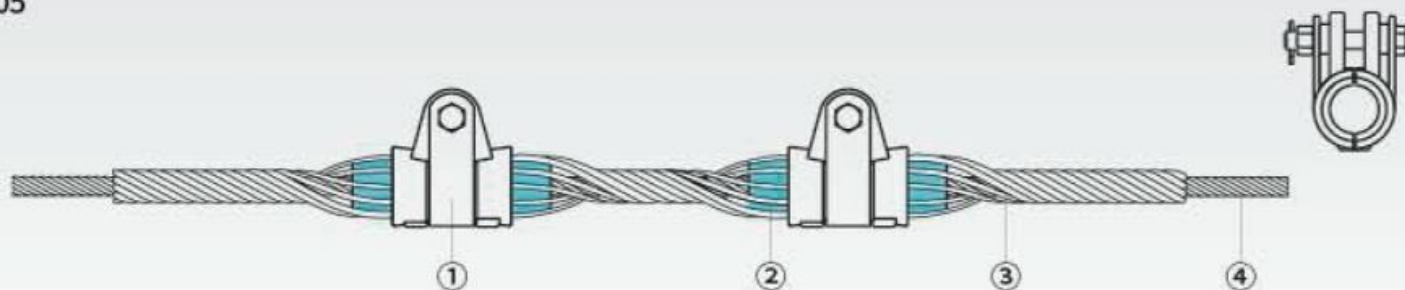


# OPCC CABLE FITTINGS

## ◆ OPCC double suspension clamp

### ► Illustration

Figure 1-05



- ① . **Suspension shell**:: made by cast aluminum alloy
- ② . **Rubber pad**: made by special rubber
- ③ . **Outer strand wire**: aluminum alloy wire
- ④ . **Inner strand wire**: aluminum alloy wire

### ► Features

- The clamp is composed of inner and outer twisted wires, buffer elastic pad and shell structure, which has good protection and damping effect on OPCC and can reduce the damage to OPCC caused by breeze vibration and galloping.
- It can provide enough grip strength not less than 14% RTS to ensure the safe operation of OPCC cable under unbalanced load.
- Simple structure, convenient installation, no need of special tools, maintenance free and convenient installation.

### ► Application Range

- It is mainly suitable for large span rivers, high drop valleys and other special places.
- It is suitable for tower with OPCC line angle less than 60 degrees.
- See table 1-05 for model selection.

### ► Attention

- When ordering, it is convenient to select the suitable suspension clamp according to the outer diameter of OPCC optical cable and other parameters.
- The standard configuration of this product only provides double suspension clamp, excluding connectors and insulators. If connectors and insulators are required, please indicate when ordering.
- The standard product is suitable for right-handed OPCC. If it is left-handed OPCC, it should be noted when ordering.

## OPCC CABLE FITTINGS

► 1-05 OPPC double tension clamp selection table

Model	Applicable for OPPC		Strand wire length (mm)	Weight (kg)	Matching fittings
	Model	Outer diameter(mm)			
OSCL-70/10	OPPC-70/10	11.75	1600	1.9	TK-12
OSCL-70/40	OPPC-70/40	13.60	1700	2.2	TK-12
OSCL-90/15	OPPC-90/15	14.00	1700	2.3	TK-12
OSCL-95/55	OPPC-95/55	16.10	1800	2.5	TK-12
OSCL-120/20	OPPC-120/20	15.40	1800	2.5	TK-12
OSCL-120/25	OPPC-120/25	15.90	1800	2.5	TK-12
OSCL-150/20	OPPC-150/20	16.75	1800	4.2	TK-12
OSCL-150/25	OPPC-150/25	17.50	1900	4.5	TK-12
OSCL-150/35	OPPC-150/35	17.60	1950	4.7	TK-12
OSCL-185/25	OPPC-185/25	19.00	2150	5.1	TK-12
OSCL-185/30	OPPC-185/30	19.00	2150	5.1	TK-12
OSCL-185/45	OPPC-185/45	19.65	2250	6.0	TK-12
OSCL-210/35	OPPC-210/35	20.40	2350	6.3	TK-12
OSCL-240/30	OPPC-240/30	21.70	2400	7.2	TK-12
OSCL-240/40	OPPC-240/40	21.80	2400	7.2	TK-12
OSCL-240/55	OPPC-240/55	22.50	2500	8.0	TK-12
OSCL-300/25	OPPC-300/25	24.00	2600	8.6	TK-12
OSCL-300/40	OPPC-300/40	24.20	2800	9.4	TK-12
OSCL-400/35	OPPC-400/35	27.10	2850	10.0	TK-13
OSCL-400/50	OPPC-400/50	28.00	2900	11.1	TK-13
OSCL-500/45	OPPC-500/45	30.40	3000	13.8	TK-13



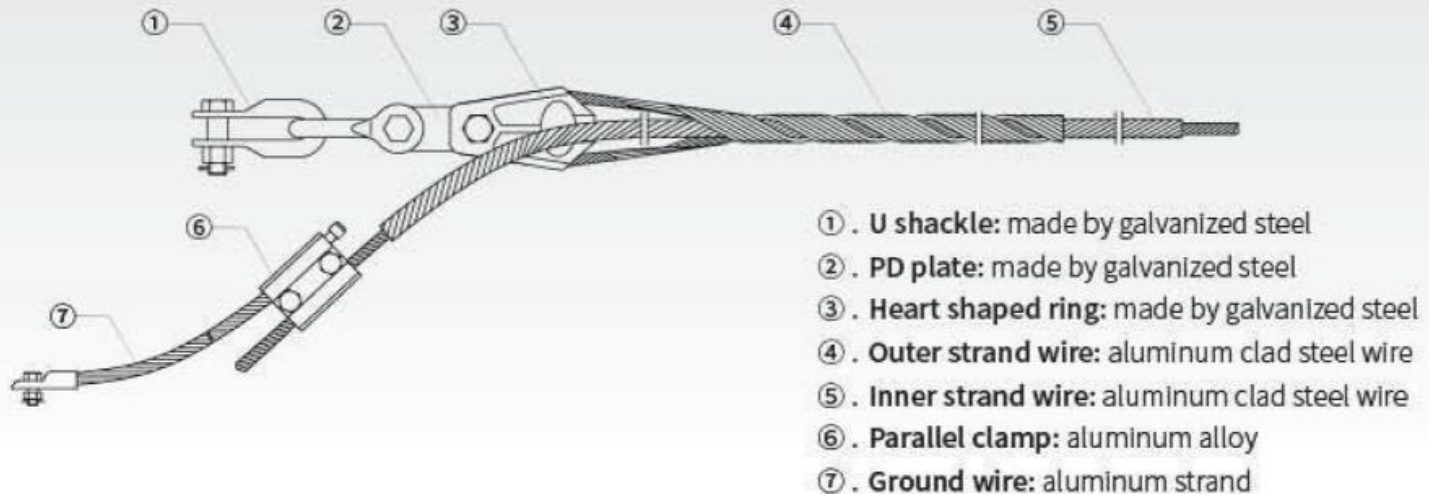


# OPGW CABLE FITTINGS

## ◆ OPGW tension clamp

### ► Illustration

Figure: 2-01



### ► Features

- The inner and outer strands are sprayed with emery to increase the damping effect.
- Due to the large contact area, uniform stress distribution and no stress concentration, it has a good protective effect on the optical cable.
- The grip strength of the optical cable can reach more than 95% RTs of the optical cable, which fully meets the needs of optical cable erection.
- The selected materials have strong corrosion resistance and aging resistance.
- Simple structure, easy installation, no special tools, maintenance free.

### ► Application Range

- It is used for terminal tower, tension tower, tower with angle (elevation) greater than 25 degrees and connecting tower.
- See table 2-01 for model selection.

### ► Attention

- The standard product is suitable for right-handed OPGW, if it is left-handed OPGW, it should be noted when ordering.
- The gripping strength of the clamp depends on the internal structure of OPGW and the material of the strand. When the optical cable is single-layer aluminum clad steel wire, the gripping strength is the largest.
- The use of multi-layer aluminum clad steel or aluminum alloy stranded wire may reduce the grip strength. For special structure, please consult our company.
- The pre twisted clamp is recommended to be used once after bearing full tension. Other accessories can be disassembled once when necessary in good condition.

## OPGW CABLE FITTINGS

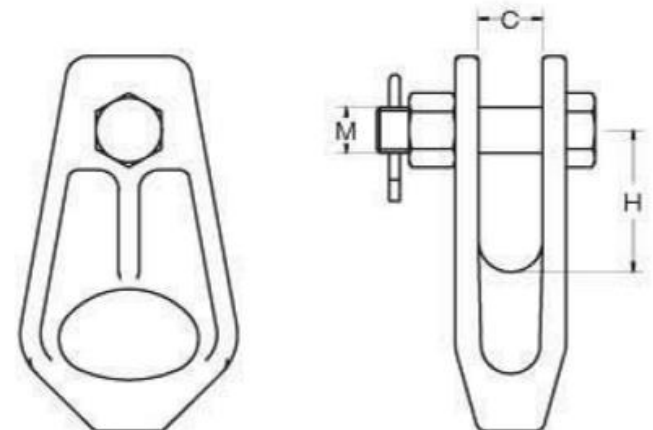
► Figure 2-01 OPGW tension clamp selection table

Model	Diameter range (mm)		95%RTS (kN)	Inner strand wire length(mm)	Outer strand wire length(kg)	Weight (kg)
	Min.	Max.(mm)				
ON-070-****	8.0	9.4	≤ 70	1400	1000	1.4
ON-070-****	9.5	11.1		1500	1100	1.7
ON-070-****	11.2	12.4		1500	1100	1.9
ON-070-****	12.5	15.9		1600	1200	2.3
ON-070-****	16.0	17.9		1700	1300	2.4
ON-070-****	18.0	19.9		1800	1400	3.3
ON-070-****	20.0	21.0		1900	1500	3.6
ON-100-****	11.6	12.4	81~100	1600	1200	2.2
ON-100-****	12.5	13.4		1700	1300	2.7
ON-100-****	13.5	15.9		1800	1400	2.9
ON-100-****	16.0	17.9		1900	1500	3.2
ON-100-****	18.0	19.9		2000	1600	3.7
ON-100-****	20.0	21.0		2100	1700	4.0
ON-120-****	11.6	12.4	101~120	1900	1500	2.0
ON-120-****	12.5	15.9		2000	1600	4.2
ON-120-****	16.0	17.9		2100	1700	4.5
ON-120-****	18.0	19.9		2200	1800	5.2
ON-120-****	20.0	21.0		2300	1900	5.6
ON-160-****	13.5	15.9	121~160	2100	1700	3.2
ON-160-****	16.0	17.9		2200	1800	3.3
ON-160-****	18.0	18.9		2300	1900	3.5
ON-160-****	19.0	19.9		2400	2000	3.6
ON-160-****	20.0	21		2500	2100	3.8
ON-180-****	18.0	18.9	161~180	2500	2100	4.7
ON-180-****	19.0	19.9		2600	2200	4.9
ON-180-****	20.0	21		2700	2300	5.2

**Note:** "\*\*\*\*" represent the cable outer diameter. For example 1250 means 12.50mm.

► Table 2-02 Heart shaped ring

Model	Main size (mm)			Failure load (kN)	Weight (kg)
	C	M	H		
TC-7A	22	16	50	≥ 70	0.9
TC-12	24	18	50	≥ 120	1.3
TC-16	26	24	65	≥ 160	2.6



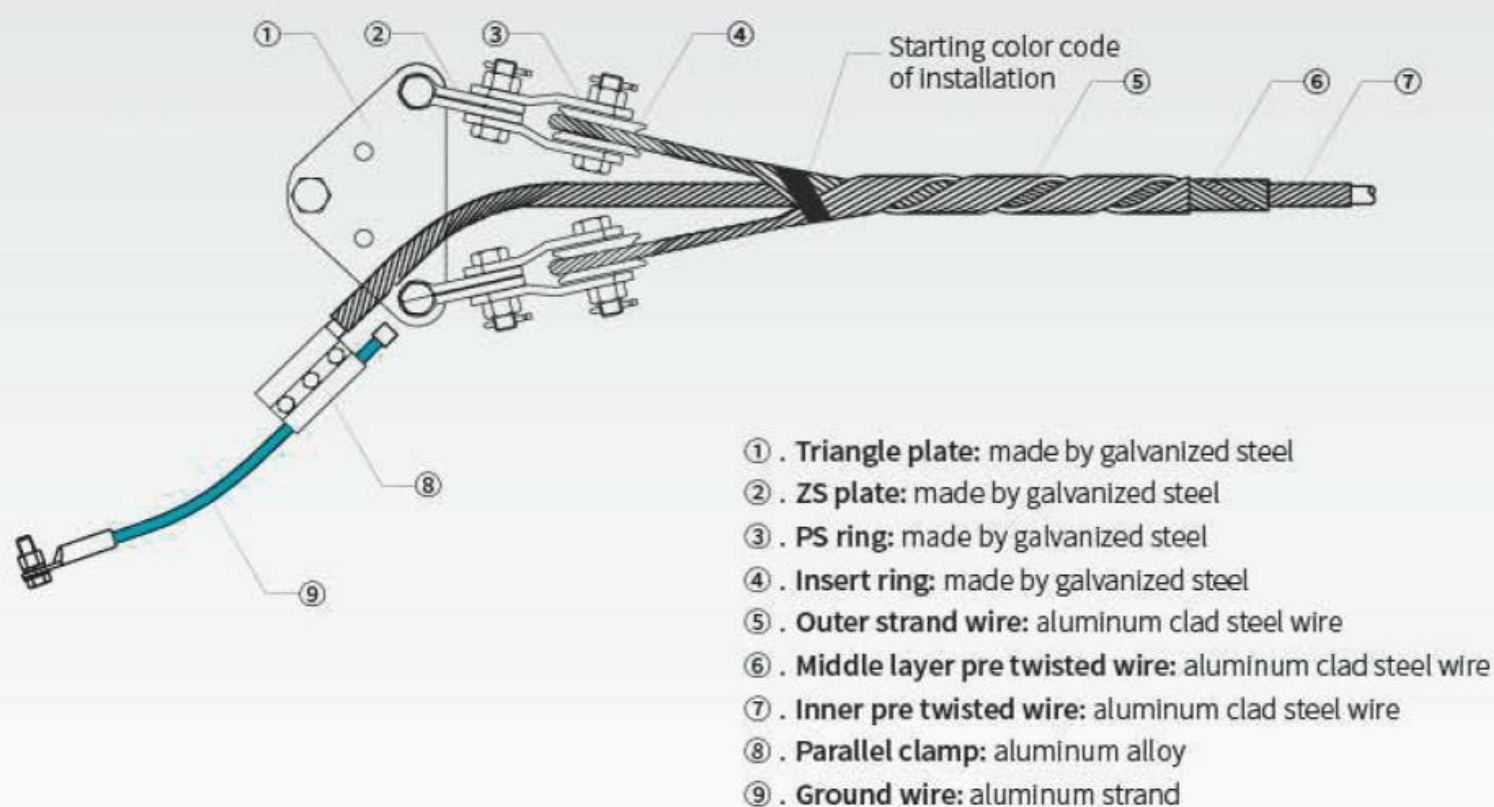


# OPGW CABLE FITTINGS

## ◆ OPGW double tension clamp

### ► Illustration

Figure: 3-02



### ► Features

- The pre twisted double tension clamp adopts three-layer stranded wire design, which effectively improves the mechanical strength of the clamp.
- It is not limited by the line corner angle and other conditions.

### ► Application Range

- It is used in the special designed operation lines with large span and high drop, etc.
- See Figure 3-02 for model selection.

### ► Attention

- The standard product is suitable for right-handed OPGW, if it is left-handed OPGW, it should be noted when ordering.
- The pre twisted clamp is recommended to be used once after bearing full tension. Other accessories can be disassembled once when necessary in good condition.

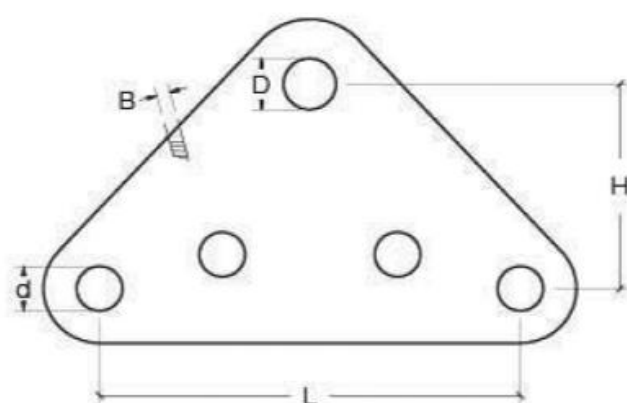
## OPGW CABLE FITTINGS

► Table 3-02: OPGW double tension clamp selection table

Model	Breaking strength (95% RTS)(kN)	Inner strand wire length (mm)	Middle strand wire length (mm)	Outer strand wire length (mm)	Weight (kg)
ON-210-****	181~210	2200	1800	1500	5.33
ON-250-****	211~250	2300	1900	1600	6.52
ON-320-****	251~320	2500	2200	2000	11.0
ON-420-****	321~420	3000	2500	2200	18.5

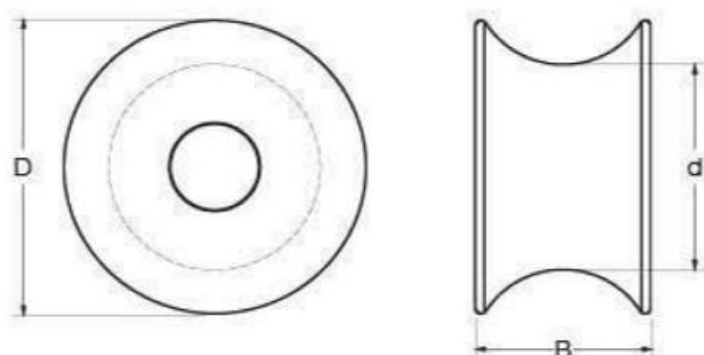
**Note:** "\*\*\*\*" represent the cable outer diameter. For example 1250 means 12.50mm.

► Table 3-03: triangle plate



Model	Main size (mm)						Failure load (kN)	Weight (kg)
	L	H	D	d	B	b		
L-21240S	240	120	26	26	20	20	≥ 210	6.2
L-25240S	240	120	30	26	24	20	≥ 250	10.4
L-32250S	250	130	24	26	28	20	≥ 320	14.6
L-423000S	300	150	39	26	32	20	≥ 420	18.9

► Table 4-04: insert ring



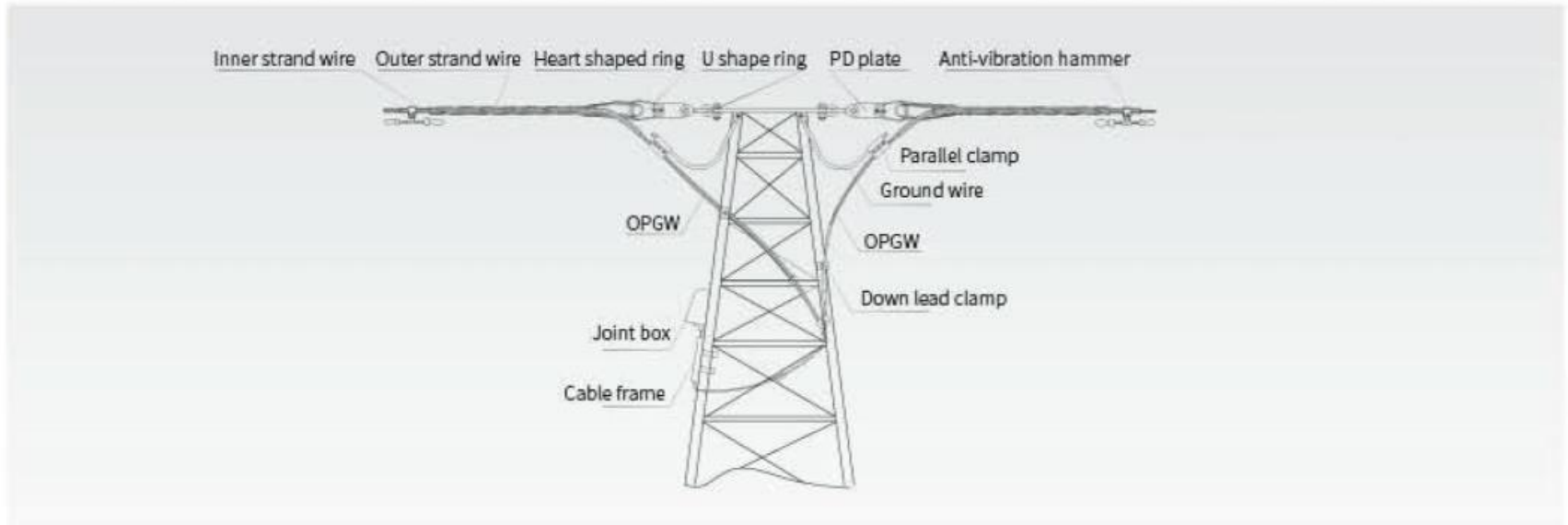
Model	Main size (mm)			Weight (kg)
	B	D	d	
TCB-40	40	100	70	1.8
TCB-58	58	100	70	2.2



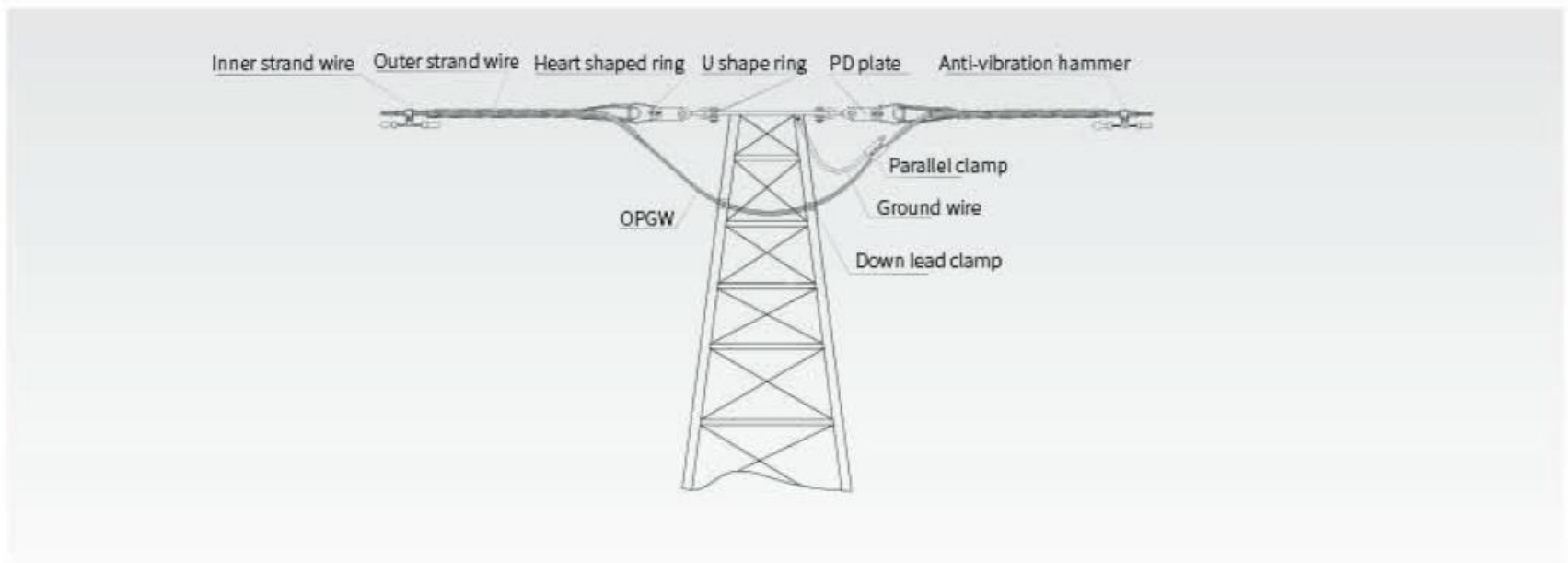
## OPGW CABLE FITTINGS

### ◆ Illustration

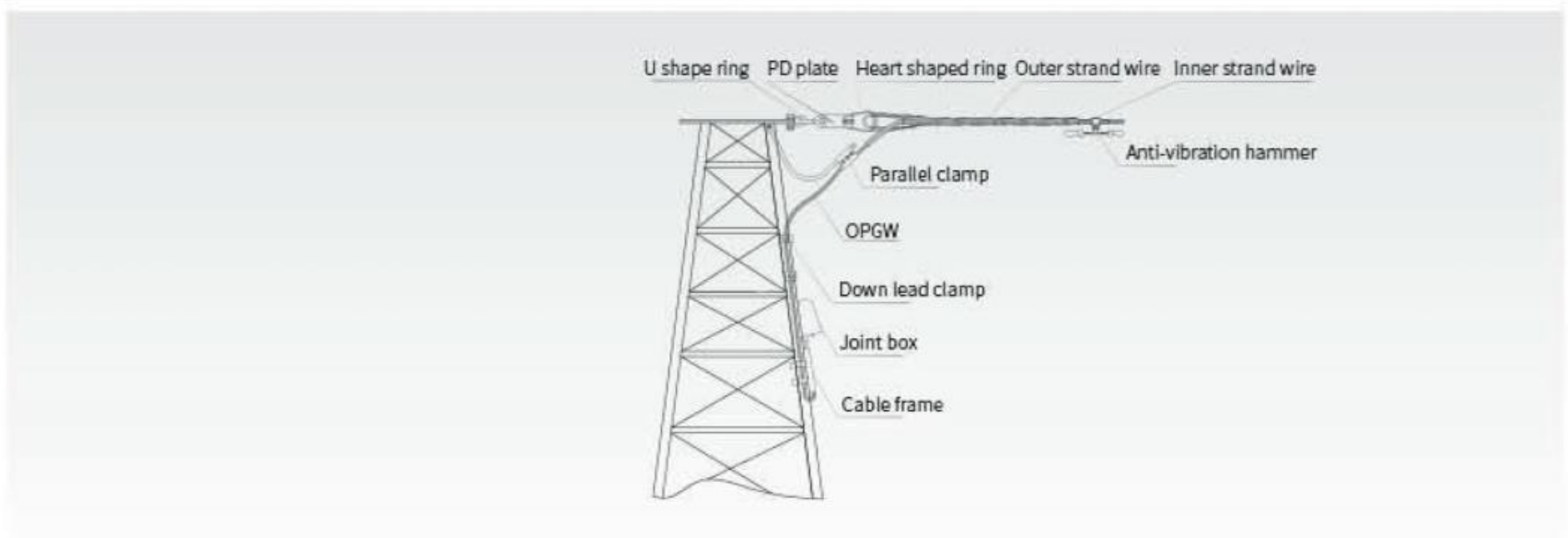
► Figure 3-03: Installation drawing of OPGW tension clamp for intermediate connecting tower



► Figure 3-04: Installation Drawing of OPGW Tension Clamp on Intermediate Tower



► Figure 3-05: Installation Drawing of OPGW Tension Clamp on Terminal Tower

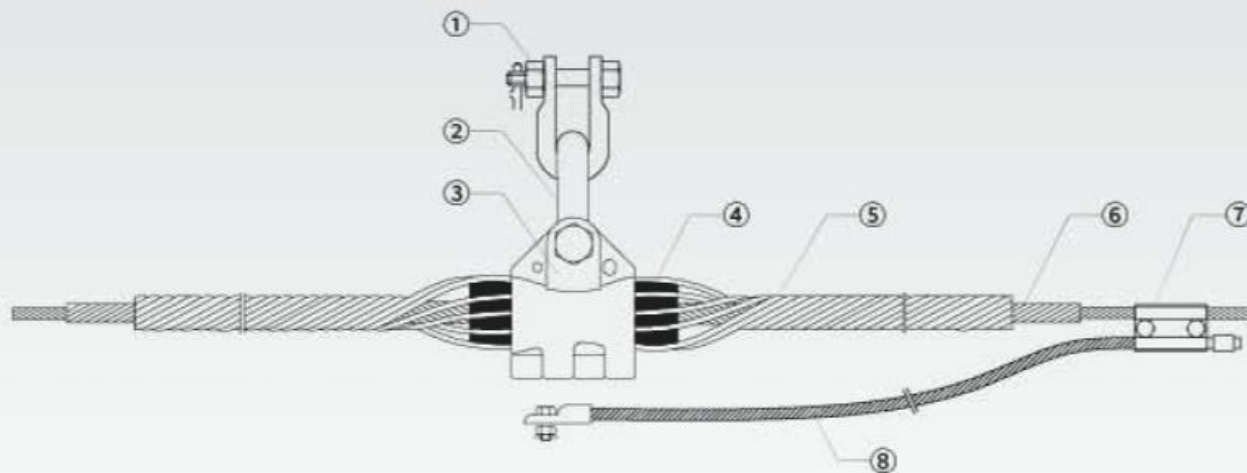


# OPGW CABLE FITTINGS

## ◆ OPGW single suspension clamp

### ► Illustration

Figure 4-06



- |  |  |
|--|--|
| ① . <b>Triangle plate:</b> made by galvanized steel    | ⑥ . <b>Middle layer pre twisted wire:</b> aluminum clad steel wire |
| ② . <b>ZS plate:</b> made by galvanized steel          | ⑦ . <b>Inner pre twisted wire:</b> aluminum clad steel wire        |
| ③ . <b>PS ring:</b> made by galvanized steel           | ⑧ . <b>Parallel clamp:</b> aluminum alloy                          |
| ④ . <b>Insert ring:</b> made by galvanized steel       | ⑨ . <b>Ground wire:</b> aluminum strand                            |
| ⑤ . <b>Outer strand wire:</b> aluminum clad steel wire |  |

### ► Features

- The double-layer structure plays a greater role in protecting the optical cable from unbalanced load for a long time. The optical cable has a better dynamic stress bearing capacity, and it can also improve the grip strength of the optical cable.
- The contact area is large, the stress distribution is uniform, and there is no stress concentration point.
- It has good dynamic stress bearing capacity, and can provide enough grip strength of not less than 14% RTS to protect OPGW cable under unbalanced load.
- The selected materials have strong corrosion resistance and aging resistance.

### ► Application Range

- The clamp can be used for optical cable lines on the same tower with various voltage levels;
- The product is suitable for tower with elevation angle less than 30 degrees (double suspension clamp is recommended for tower with elevation angle more than 30 degrees)
- See Fig. 4-06 for model selection.

### ► Attention

- When ordering, the suitable suspension clamp shall be selected according to the outer diameter and other parameters of OPGW cable;
- The standard product is suitable for right-handed OPGW. If it is left-handed OPGW, it should be noted when ordering.



## OPGW CABLE FITTINGS

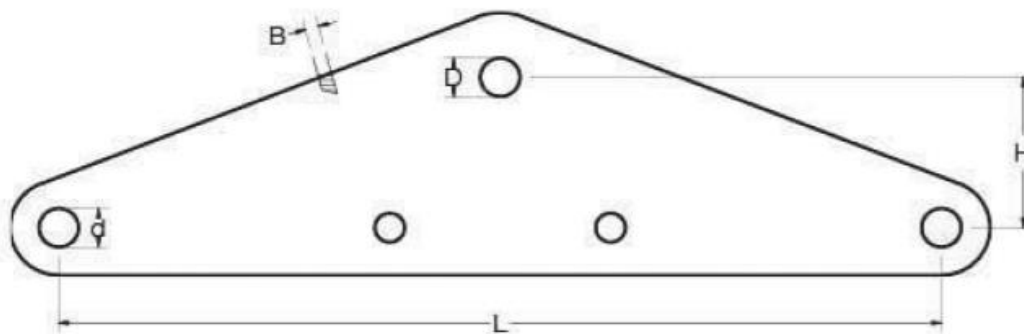
### ◆ OPGW dual suspension clamp

► Table 4-07: OPGW dual suspension clamp selection table

Model	Cable diameter (mm)	Inner strand wire length (mm)	Outer strand wire length (mm)	Reference force value RTS (kN)
OSC-400-****	9.0~15.0	2260	1660	≤ 100
		2660	2000	101~210
	15.1~16.4	2360	1760	≤ 100
		2760	2100	101~210
	16.5~16.9	2460	1860	≤ 100
		2860	2260	101~210
OSC-450-****	17.0~19.0	2560	1960	≤ 120
		2960	2360	121~210
OSC-660-****	>19.1	2660	2060	≤ 120
		3060	2460	121~210

**Note:** "\*\*\*\*" represent the cable outer diameter. For example 1250 means 12.50mm.

► Table 4-08: triangle plate



Model	Main size (mm)					Failure load (kN)	Weight (kg)
	B	d	D	L	H		
L-1040	16	18	20	400	70	≥ 100	4.5
L-1240	16	18	24	400	70	≥ 120	4.6
L-1245	16	18	24	450	70	≥ 120	5.0
L-1640	18	20	26	400	100	≥ 160	5.9
L-1645	18	20	26	450	110	≥ 160	7.0
L-2145	20	24	26	450	120	≥ 210	9.6
L-2166	20	24	26	660	150	≥ 210	14.4

# OPGW CABLE FITTINGS

## ◆ OPGW Pre wire-twisted repair strip

### ► Illustration

Figure 4-08



### ► Features

- The stress distribution is uniform and there is no stress concentration point, which can protect the optical fiber and steel cable inside OPGW cable.
- The smooth surface and shape improve the corona discharge voltage and reduce the power loss.
- It is light weight, elastic and has strong endurance to dynamic fatigue.
- The installation is fast, simple and convenient. It can be operated by hand without other tools.

### ► Application Range

- Different levels of mechanical and electrical repair can be provided according to the specific structure and material of OPGW.
- The repairable mechanical damage can be up to 50% of the rated strength of the optical cable.

### ► Attention

- The mechanical damage degree of the optical cable shall not exceed 50% of the rated strength of the optical cable, and 100% of the rated mechanical strength of the optical cable can be restored after adding OPGW pre twisted repair strip.
- Please check the broken strand of optical cable and whether the optical fiber unit is damaged before repairing, and contact the manufacturer of OPGW to confirm that the optical cable can continue to be used without endangering the performance of optical fiber components.
- When ordering, please provide cable parameters, including outer diameter and rated tensile strength.
- The standard product is suitable for right-handed OPGW. If it is left-handed OPGW, it should be explained when ordering.

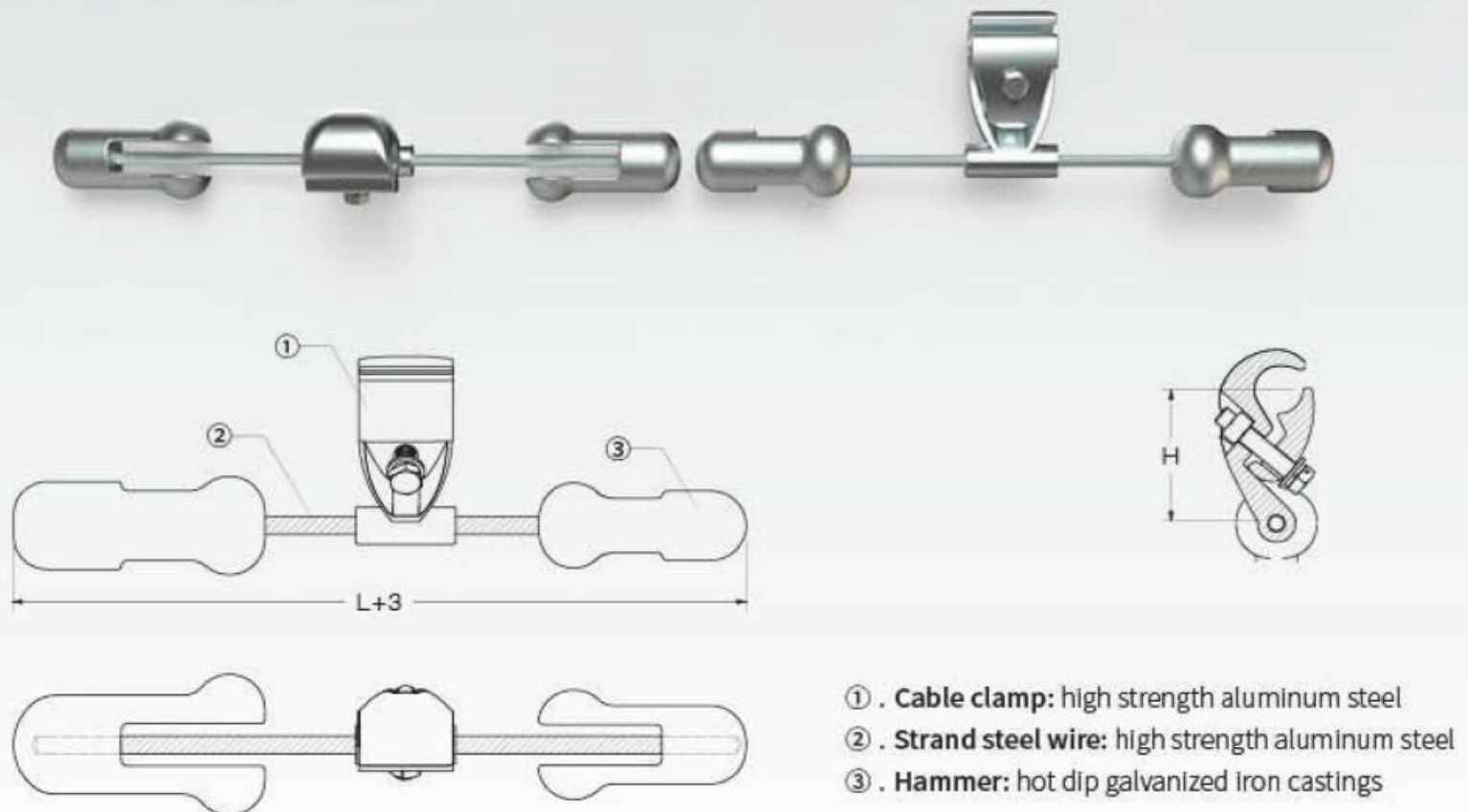


# OPGW CABLE FITTINGS

## ◆ Bolt type damper (4D Series)

### ► Illustration

Figure 4-09



### ► Features

- The damper adopts tuning fork structure, which can produce four resonance frequencies, effectively covering the vibration frequency range of overhead cable. The hammer head is different in size, and the hanging point is different from the two ends of the steel strand. Streamline aluminum alloy clamp is used to prevent corona and save energy.
- High quality steel strand has obvious damping effect and good vibration absorption effect.
- Hammer head and steel strand are connected by high strength AB glue, which is more corrosion resistant and has long service life.

### ► Application Range

- It is suitable for OPGW cable with cable diameter of 8-23mm;
- See figure 4-09 for model selection.

### ► Attention

- The company can make corresponding anti vibration scheme according to specific engineering requirements;
- If you need a solution for big span application, please contact our company.

# OPGW CABLE FITTINGS

## ◆ Damper guard rod

### ► Illustration



In order to avoid the damage caused by directly installation on the OPGW optical cable, the damper guard rod is used to protect the optical cable.

► Table 4-09: Anti-vibration damper selection

Model	Clamp size (mm)	Applicable cable diameter (mm)	Total length (mm)	Clamp length (mm)	Height of clamp (mm)	Weight (kg)
4D-20	15.0~21.0	8.0-14.0	319	53	73	1.5
4D-30	21.1~26.0	14.1-19.0	391	53	73	2.7
4D-40	26.1~30.0	19.1-23.0	479	65	93	4.7

► Table 4-10: model selection

Model	Clamp size range (mm)	Length (mm)	Cable diameter (mm)	Weight (kg)
HXT-420-1010	9.1~10.1	420	3.5	0.30
HXT-420-1110	10.2~11.1	420	3.5	0.32
HXT-420-1210	11.2~12.1	420	3.5	0.34
HXT-420-1310	12.2~13.1	420	3.5	0.36
HXT-420-1410	13.2~14.1	420	3.5	0.38
HXT-420-1510	14.2~15.1	420	3.5	0.40
HXT-420-1610	15.2~16.1	420	3.5	0.42
HXT-420-1710	16.2~17.1	420	3.5	0.44
HXT-420-1810	17.2~18.1	420	3.5	0.46
HXT-420-1910	18.2~19.1	420	3.5	0.48
HXT-420-2010	19.2~20.1	420	3.5	0.50

**Note:** 1、 The guard rod is used for vibration damper;  
2、 According to the user's requirements, our company can provide various specifications and models of guard rods with the length of 420-1500mm.

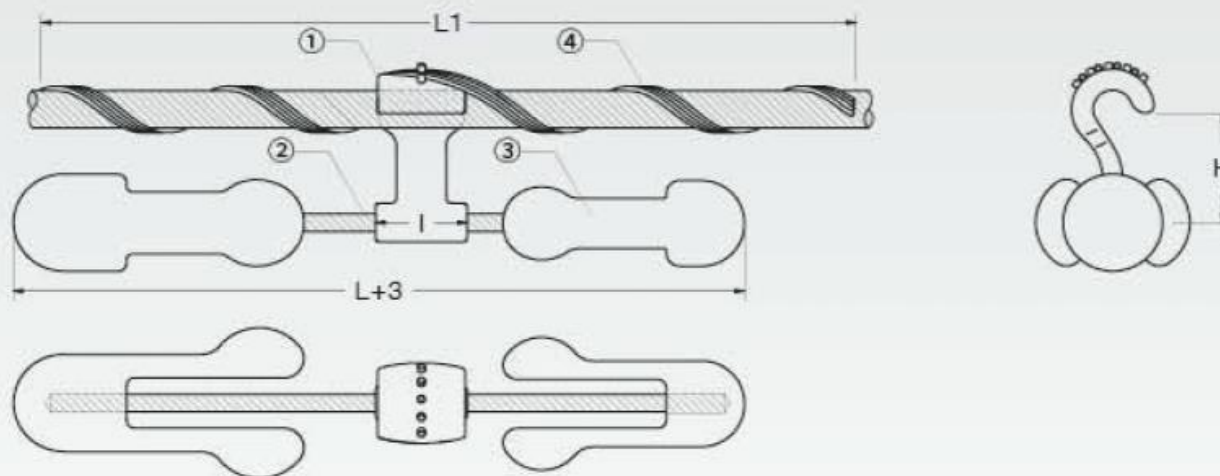


## OPGW CABLE FITTINGS

### ◆ Pre twisted damper (FTTH Series)

#### ► Illustration

Figure: 4-10



- ① . **Cable clamp:** high strength aluminum alloy
- ② . **Steel strand:** high strength galvanized steel wire
- ③ . **Hammer end:** hot dip galvanized iron castings
- ④ . **Pre twisted guard line:** aluminum clad steel wire

#### ► Features

- The damper adopts tuning fork structure, which can produce four resonance frequencies, effectively covering the vibration frequency range of overhead cable.
- The clamp of the damper can be firmly fixed on the optical cable through a number of pre twisted wires. The grip force is uniform, and the loosening and sliding phenomenon will not occur due to long-term fatigue vibration.
- The inner side of the clamp is pre installed with buffer layer to effectively protect the optical cable from internal strand breakage due to long-term vibration.
- Hammer head and steel strand are connected by high strength AB glue, which is more corrosion resistant and has long service life.

#### ► Application Range

- It is suitable for OPGW cable with diameter of 8mm-28mm;
- See figure 0-07 for model selection

#### ► Attention

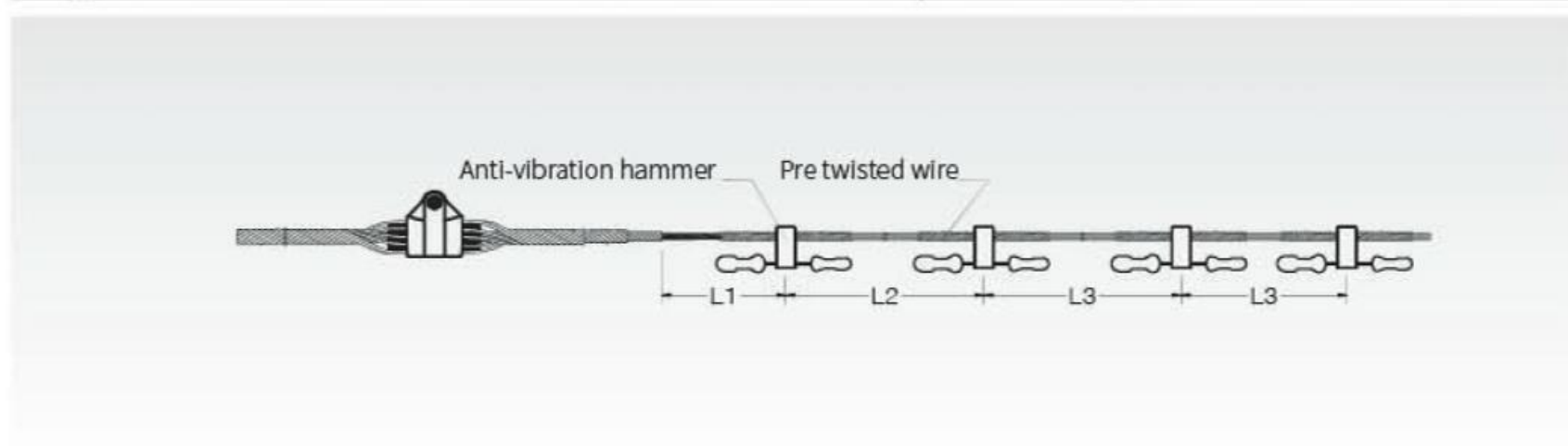
- The company can make corresponding anti vibration scheme according to specific engineering requirements;
- The pre twisted damper is equipped with pre twisted wire.

## OPGW CABLE FITTINGS

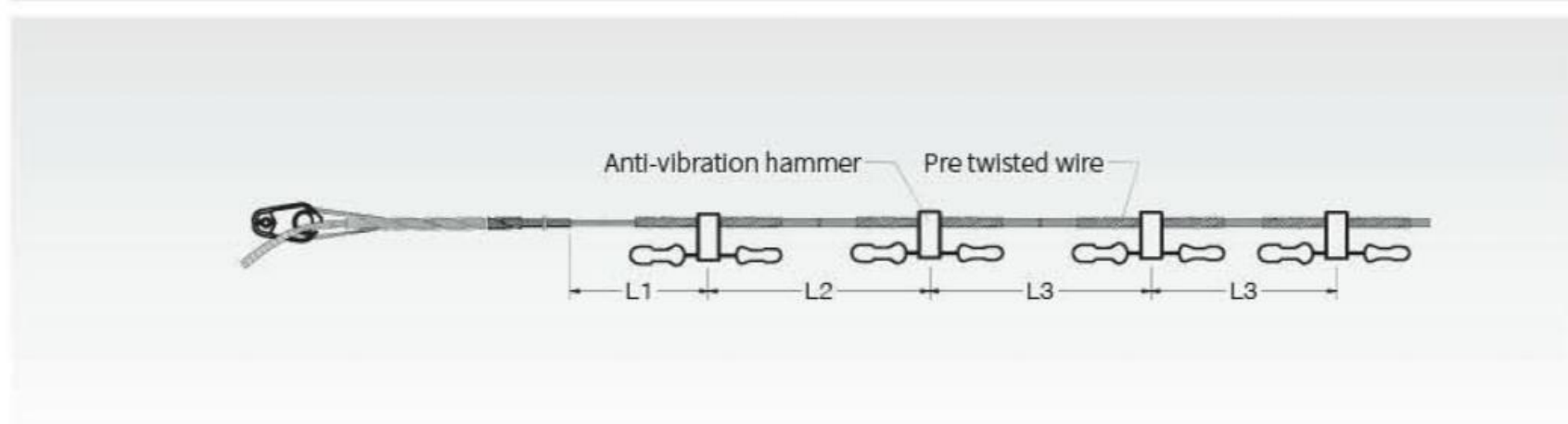
► Table 4-10: anti-vibration hammer

Model	Applicable cable range (mm)	Applicable cable range(mm)	clamp length (mm)	Clamp height (mm)	Weight (kg)	Guard rod length (mm)
FFH-0713Y	8.0-14.0	319	53	65	1.5	700
FFH-1318Y	14.1-17.5	391	53	72	2.7	800
FFH-1824Y	17.6-23.5	440	55	75	4.0	900
FFH-2428Y	23.6-28.0	479	65	98	4.9	1100

► Figure 4-12: Installation of anti-vibration hammer for suspension clamp



► Figure 4-13: Installation of anti-vibration hammer for tension clamp

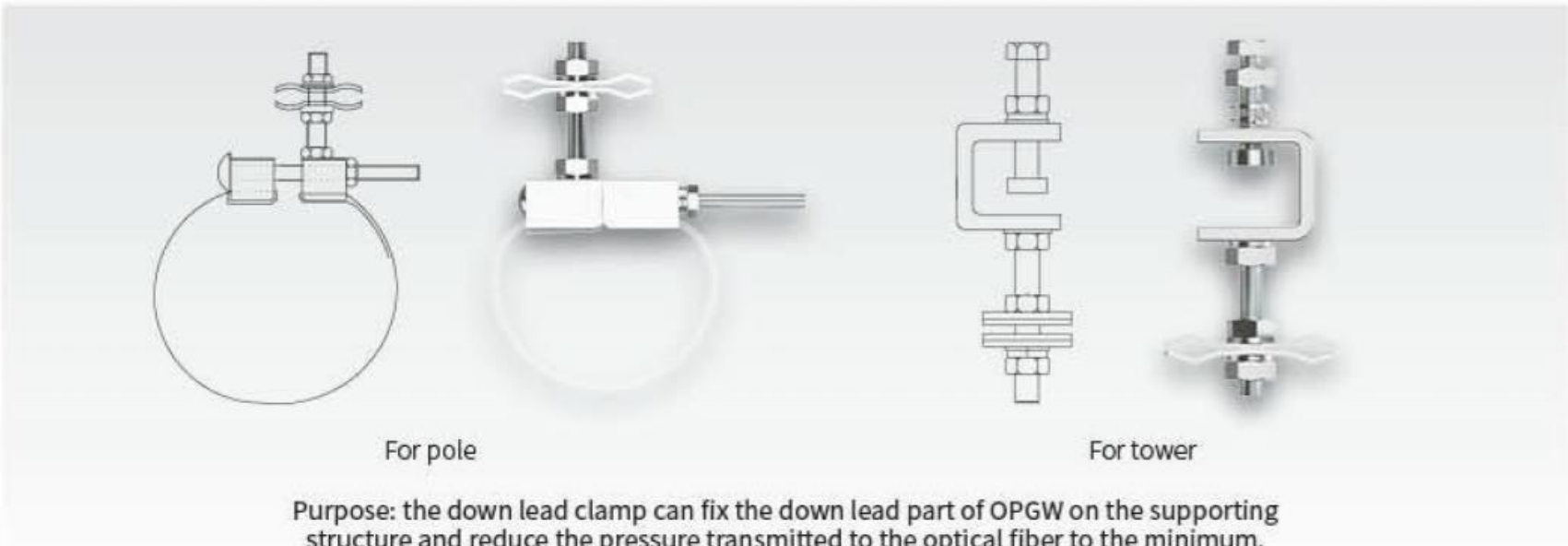




# OPGW CABLE FITTINGS

## ◆ Accessories of OPGW cable fittings

### ► Down lead clamp



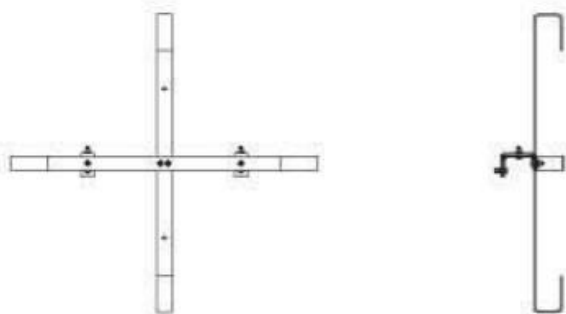
► Table 4-12: down lead clamp selection

Model	Stainless steel	Applicable cable diameter range	Remark
OYG(**)	Stainless steel	9.0~20.0	for pole
OYT	C type steel	9.0~20.0	for tower

**Note:** \* \* -- Pole diameter, hot-dip galvanized steel parts.

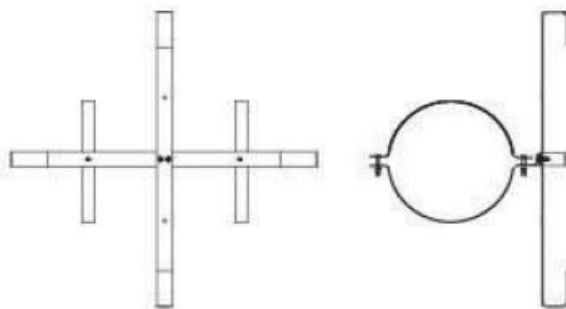
### ► Cable Frame

For tower



Model	Fastening space (mm)	Cable drum diameter (mm)	Weight (kg)
O-YLJ-T-800	400	800	for tower
O-YLJ-T-1000	500	1000	for tower
O-YLJ-T-1200	600	1200	for tower

For pole



Model	Fastening space (mm)	Cable drum diameter (mm)	Weight (kg)
O-YLJ-G(**)-800	400	800	for pole
O-YLJ-G(**)-1000	500	1000	for pole
O-YLJ-G(**)-1200	600	1200	for pole

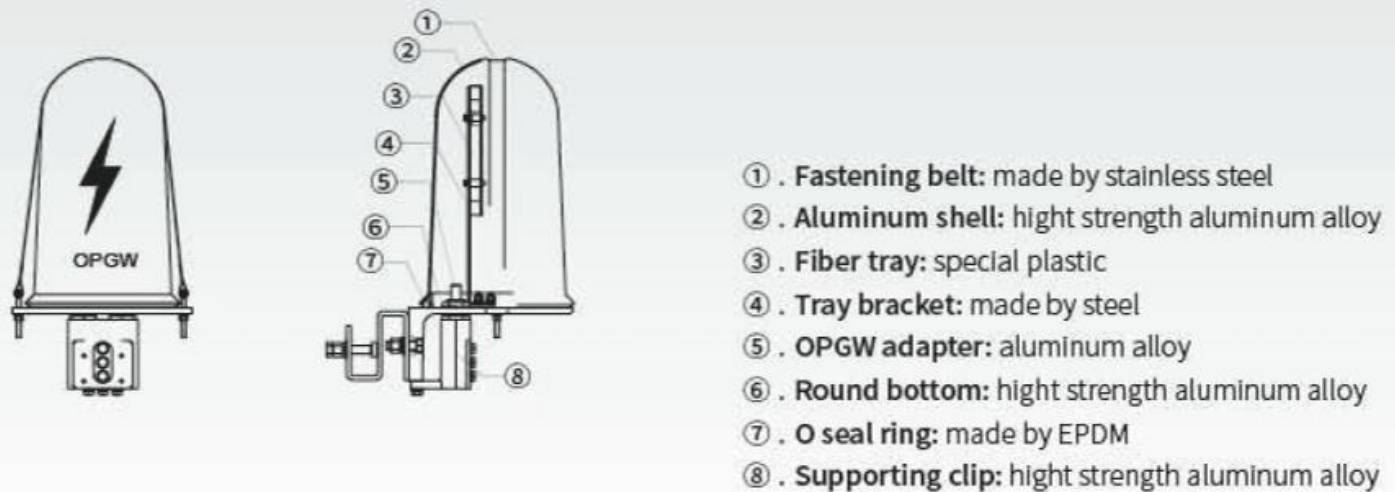
**Note:** \* \* -- Pole diameter, hot-dip galvanized steel parts.

# OPGW CABLE FITTINGS

## ◆ OPGW Cable Joint Box

### ► Illustration

Figure: 4-13



### ► Features

- The shell is made of high strength aluminum alloy;
- The connecting parts are made of high quality stainless steel;
- It can be reused for many times, and it is easy to be re-open and expansion;
- It can be fixed on iron tower or cement pole,
- High mechanical strength, good sealing performance, strong corrosion resistance.

### ► Application Range

- Additional loss to optical fiber:  $\leq 0.1\text{dB}$
- Curvature radius of optical fiber:  $\geq 37.5\text{mm}$
- The length of the reserved optical fiber: 1.6m
- Pull side pressure:  $\geq 2000\text{N}/100\text{ mm}$
- Applicable temperature:  $-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$
- Product size: 450mm (H)  $\times$  205mm ( $\Phi$ )

### ► Attention

- All joint boxes shall be marked with "tower use" or "pole use" (provide pole diameter) and optical cable cores.
- According to different uses, it can be divided into 1-in-1-out type, multiple in multiple out type, OPGW connected to OPGW, OPGW connected to ADSS, etc.
- The above joint box is suitable for OPGW optical cables with optical fiber bundle diameter  $\leq 9.0\text{ mm}$ .

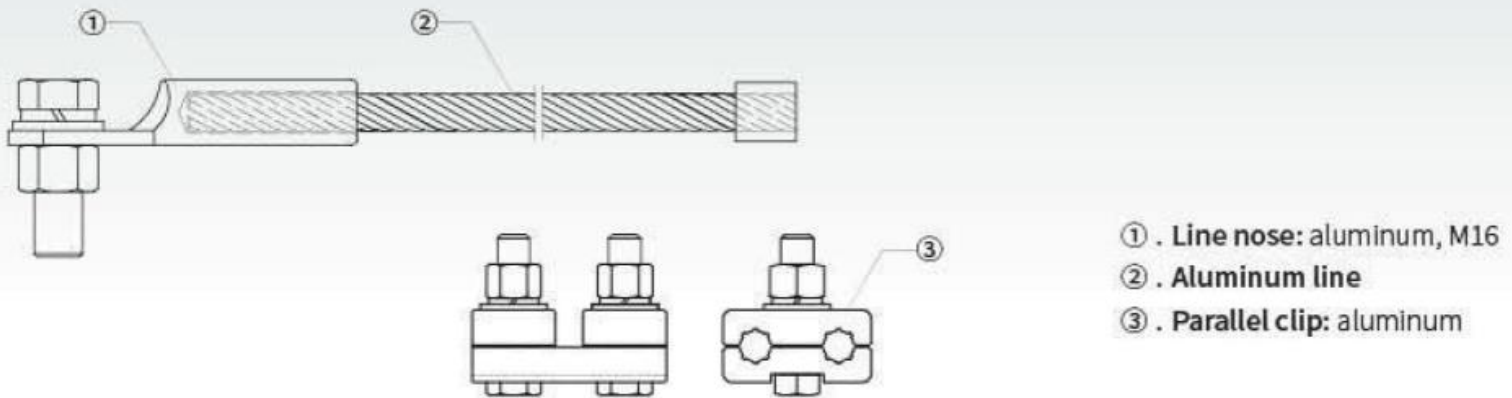


# OPGW CABLE FITTINGS

## ◆ Ground wire

### ► Illustration

Figure: 4-14



### ► Features

- When the system is grounded, the OPGW cable with a diameter of 8 mm~25 mm is used to provide a path for short-circuit current.

### ► Attention

- Our general configuration for the user's grounding wire is parallel groove clamp type grounding.
- The user should provide the value of short circuit current when ordering.
- If no special requirement, 95mm<sup>2</sup> grounding wire is used, and the wire length can be any length required by users.

► Table 4-12: ground wire selection table

Model	Sectional area S (mm <sup>2</sup> )	Length (mm)	Weight (kg)
JDX-95-1500	95	1500	0.64
JDX-95-2000	95	2000	0.81
JDX-120-1500	120	1500	0.72
JDX-120-2000	120	2000	0.90
JDX-120-3000	120	3000	1.10
JDX-185-1500	185	1500	1.05
JDX-185-2000	185	2000	1.25
JDX-185-3000	185	3000	1.84

► Table 4-16: parallel clamp selection table

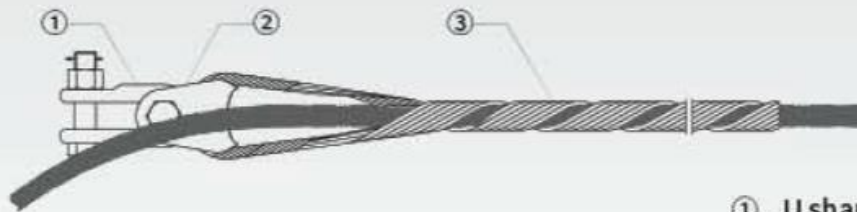
Model	Applicable cable diameter (mm)	Length (mm)	Weight (kg)
JBD-1	8.0-10.0	70	0.3
JBD-2	10.1-12.0	70	0.4
JBD-3	12.1-14.0	110	0.5
JBD-4	14.1-18.5	110	0.6

# ADSS CABLE FITTINGS

## ◆ ADSS tension clamp

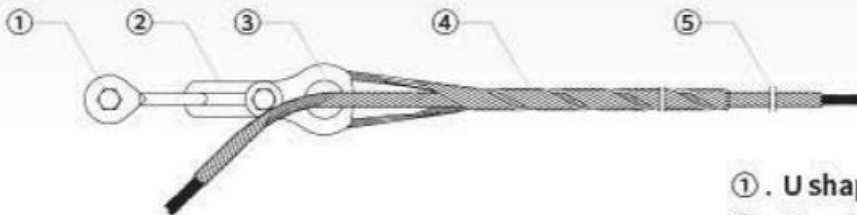
### ► Illustration

Figure 5-01: pre strand low tension clamp



- ① . U shape ring: hot dip galvanized steel
- ② . Heart shape ring: hot dip galvanized steel
- ③ . Tension resistant pre strand wire: aluminum clad steel

Figure 5-02: pre strand tension clamp



- ① . U shape ring: hot dip galvanized steel
- ② . Heart shape ring: hot dip galvanized steel
- ③ . Tension resistant pre strand wire: aluminum clad steel

### ► Features

- The inner walls of the inner and outer strands are coated with emery to increase the damping effect. The inner strands transmit the longitudinal tension to the aramid yarn of optical cable to bear the tension, so as to avoid the outer sheath of the optical cable from being pulled due to excessive stress, which has a good protective effect on the optical fiber.
- With large contact area, uniform stress distribution and no stress concentration, the cable is well protected.
- The grip strength of the optical cable is not less than 75% RTS of the optical cable, which is fully suitable for the needs of optical cable erection.
- Simple structure, easy installation, no special tools, maintenance free.

### ► Application Range

- It is used for terminal tower, tension tower, tower with angle (elevation) greater than 25 degrees and connecting tower.

### ► Attention

- The pre twisted clamp is recommended to be used once after bearing full tension, and other accessories can be disassembled once when necessary if in good condition.
- optical cable outer diameter and RTS value should be provided when ordering.



# ADSS CABLE FITTINGS

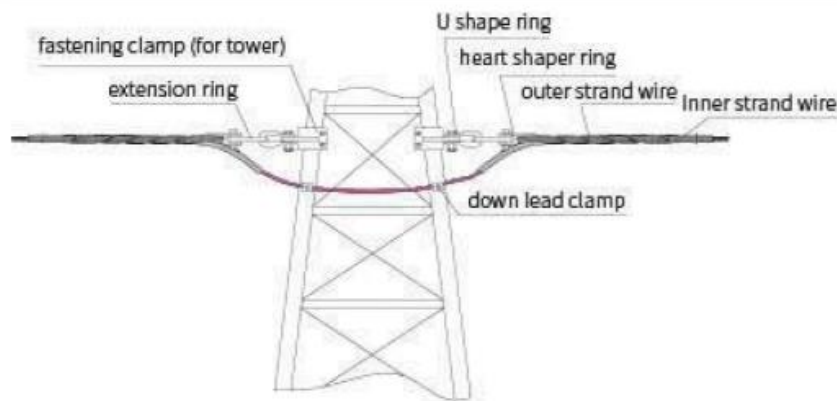
## ◆ ADSS tension clamp

► Table 5-01: ADSS tension clamp selection

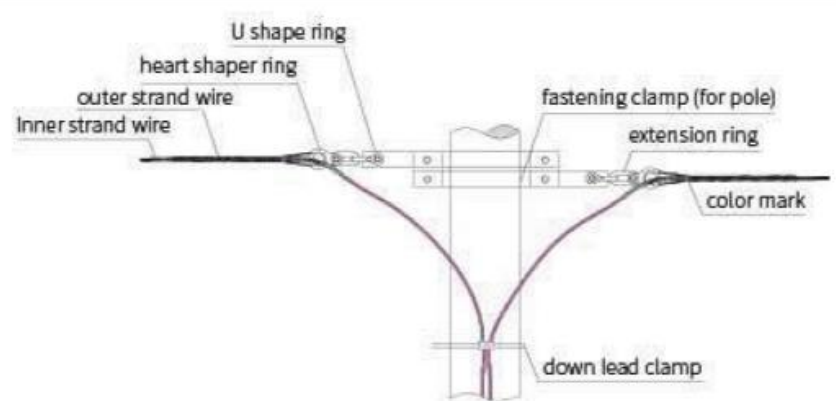
Model	RTS(kN)	Inner strand wire length(mm)	Outer strand wire length(mm)	Span for reference(m)
AN-010-****	≤ 15	-	1340	≤ 150
AN-020-****	16~20	1500	1100	150~200
AN-030-****	21~30	1600	1200	201~300
AN-040-****	31~40	1700	1400	301~400
AN-050-****	41~50	1800	1500	401~500
AN-060-****	51~60	2300	1600	501~600
AN-070-****	61~70	2400	1700	601~800

**Note:** "\*\*\*\*" represent the cable outer diameter. For example 1250 means 12.50mm.

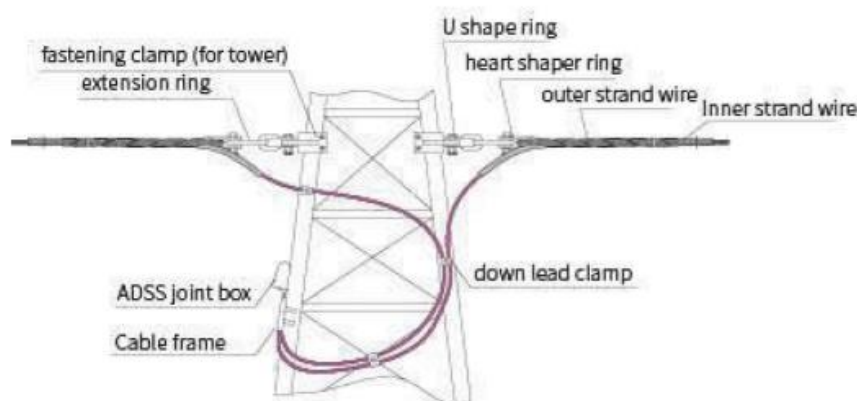
## ► Installation Diagram of ADSS Optic Cable Tension Clamp



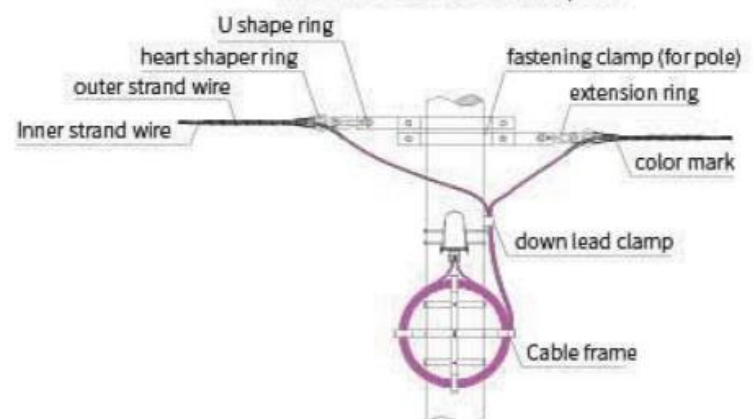
Installation on tension tower



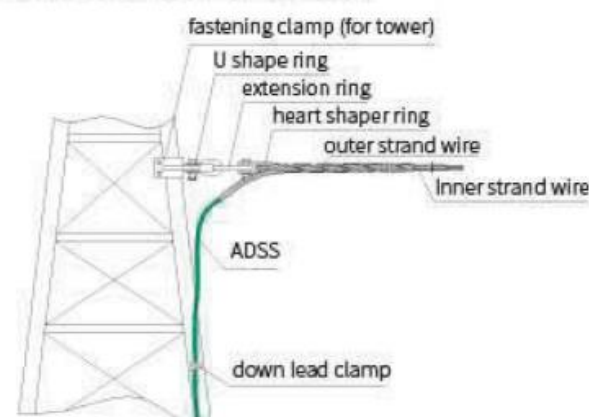
Installation on tension pole



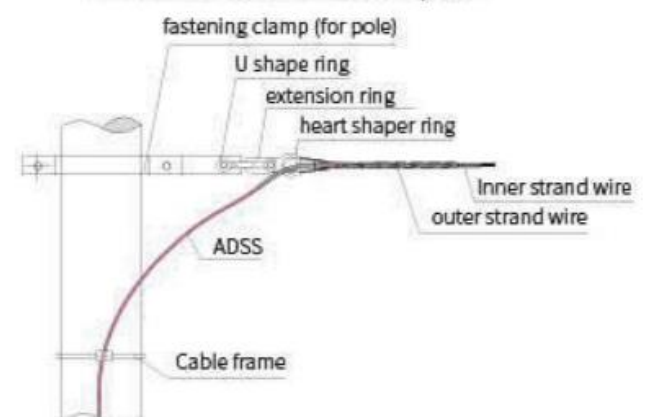
Installation on connection tower



Installation on connection pole



Installation on terminal tower



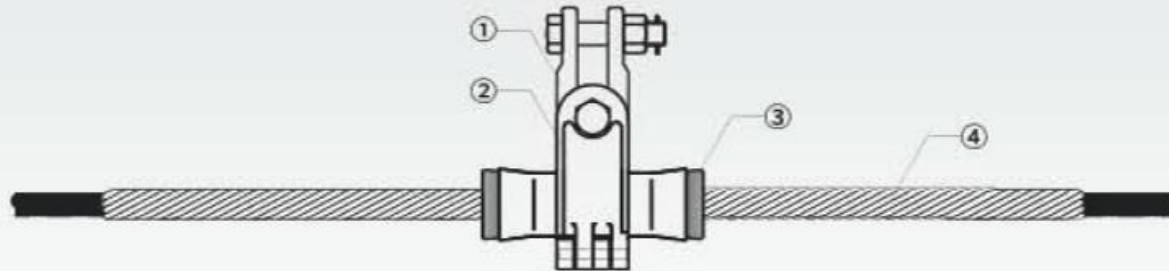
Installation on terminal pole

## ADSS CABLE FITTINGS

### ◆ Short span suspension clamp for ADSS

#### ► Illustration

Figure 5-03



- ① . U shape ring: hot dip galvanized steel
- ② . Rubber clip: special rubber
- ③ . Suspension shell: cast aluminum
- ④ . Suspension pre strand wire: aluminum cast steel

#### ► Features

- The clamp adopts single stranded wire structure;
- It has the advantages of simple structure, light weight and convenient installation.

#### ► Application Range

- It is suitable for the tower with the span of no more than 100m and the line angle of no more than 20 degrees.

#### ► Attention

- When ordering, relevant parameters of ADSS optical cable shall be provided: span, outer diameter and ultimate tensile strength of optical cable.

#### ► Table 5-02: model selection

Model	Applicable diameter range (mm)	Single wire diameter (mm)	Suspension wire length (mm)
AQC 0800	7.0~9.0	2.5	800
AQC 1000	9.1~11.0	2.5	800
AQC 1000	11.1~12.9	2.5	800

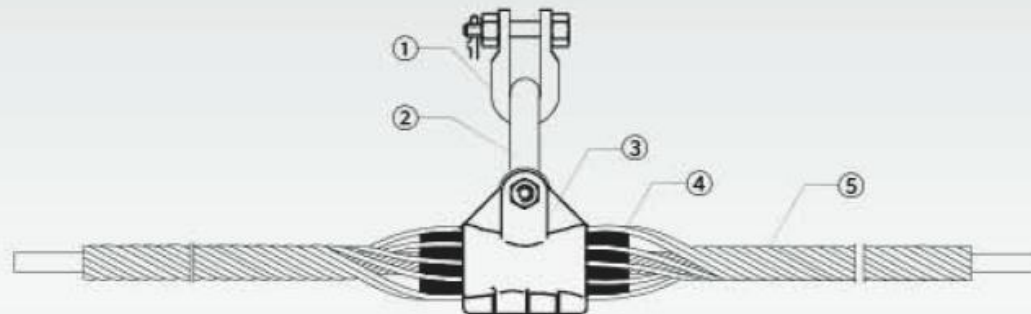


## ADSS CABLE FITTINGS

### ◆ Medium span suspension clamp for ADSS

#### ► Illustration

Figure 5-04



- ① . U shape ring: hot dip galvanized steel
- ② . Right angle plate: hot dip galvanized steel
- ③ . Suspension shell: cast aluminum
- ④ . Rubber clip: special rubber
- ⑤ . Outer pre strand wire: aluminum alloy wire

#### ► Features

- The clamp adopts single strand wire structure.
- Simple structure, light weight and convenient installation.

#### ► Application Range

- It is suitable for the tower with the distance of 100-200m and the line angle of less than 30 degrees.

#### ► Attention

- When ordering, relevant parameters of ADSS optical cable shall be provided: span, outer diameter and ultimate tensile strength of optical cable.

#### ► Table 5-03: Model List

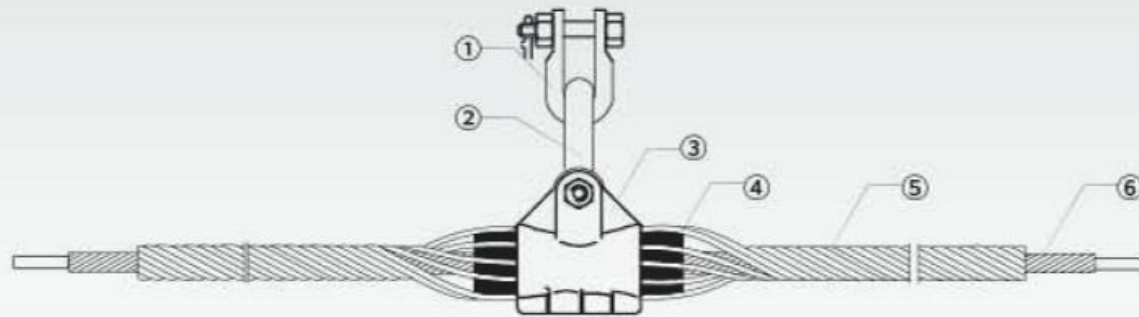
Model	Applicable cable diameter (mm)	Applicable cable diameter (mm)	Suspension pre strand wire length (mm)
AC 1200	10.0~12.0	4.6	1400
AC 1400	12.1~14.0	4.6	1400
AC 1600	14.1~16.0	4.6	1400
AC 1800	16.1~18.0	4.6	1400

# ADSS CABLE FITTINGS

## ◆ ADSS single suspension clamp

### ► Illustration

Figure 5-05



- ① . **U shape ring:** hot dip galvanized steel
- ② . **Right angle plate:** hot dip galvanized steel
- ③ . **Suspension shell:** cast aluminum
- ④ . **Rubber clip:** special rubber
- ⑤ . **Outer pre strand wire:** aluminum alloy wire
- ⑥ . **Inner pre strand wire:** aluminum alloy wire

### ► Features

- The double-layer structure plays a greater role in the protection of the optical cable under unbalanced load for a long time, has better dynamic stress bearing capacity, and can improve the grip strength of the optical cable.
- Due to the large contact area, uniform stress distribution and no stress concentration point, the stiffness of cable installation point is enhanced and the cable is well protected.
- The ends of pre twisted wires are rounded to avoid unbalanced load during installation, scratch of cable sheath and corona
- Simple structure, easy installation, no need of special tools, maintenance free

### ► Application Range

- The clamp is suitable for ADSS optical cables of various specifications.
- It is suitable for tower with elevation angle less than 30 degrees, and the tower with elevation angle more than 30 degrees, double suspension clamp is preferred, 1 set/tower.
- The vertical load shall not be less than 70kN.

### ► Attention

- In general, this clamp is not allowed to be used repeatedly. But for pre twisted wire, metal components can be used repeatedly when they are in good condition.
- When ordering, relevant parameters of ADSS optical cable shall be provided: span, outer diameter and ultimate tensile strength of optical cable.



## ADSS CABLE FITTINGS

### ◆ ADSS tension clamp

#### ► Illustration

Figure 5-07



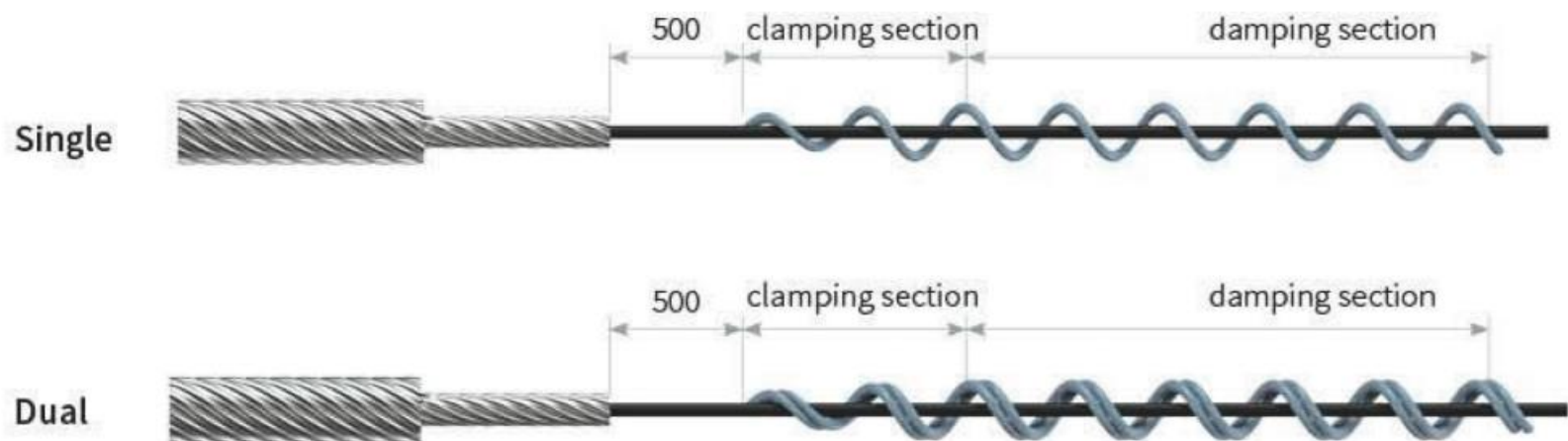
#### ► Features

- It is made of special materials and technology;
- After 1000 hours of salt spray test and other tests, it is proved that FLN type spiral shock absorber has the characteristics of strong resistance to electric corrosion, high strength, aging resistance, high elasticity, and remarkable anti vibration effect.

#### ► Application Range

- Suitable for all kinds of ADSS optical cables

#### ► Installation diagram of ADSS screw damper



#### ► Table Model List

Model	Applicable cable diameter (mm)	D(mm)	L(mm)
FLN -10/FLP-10	9.1~11.0	300	1500
FLN -12/FLP-12	11.1~13.0	300	1500
FLN -14/FLP-14	13.1~15.0	300	1500
FLN -16/FLP-16	15.1~17.0	300	1500
FLN -18/FLP-18	17.1~19.0	300	1500
FLN -20/FLP-20	19.1~21.0	300	1500

## ADSS CABLE FITTINGS

### ◆ ADSS anti corona RING

#### ► Illustration

Figure 5-08



#### ► Features

- The electric field intensity at the end of the twisted wire of ADSS optical cable fittings is concentrated, which is easy to cause the electric arc on the surface of the optical cable and lead to the electric corrosion of the sheath. If the electric field strength exceeds the air free strength, corona discharge will be generated at the end of the stranded wire, which will cause the corrosion of the outer sheath of the optical cable. Therefore, our company specially develops an anti corona ring, which greatly improves the electric field at the end of the pre stranded wire fittings and effectively prevents the electric corrosion.

#### ► Application Range

- When ordering, it should be indicated whether the supporting product is tension clamp or suspension clamp, and the diameter of optical cable should be provided;
- Generally, each set of tension clamp is installed with one set, and each set of suspension clamp is installed with two sets. The anti corona ring is only for pre twisted tension/suspension design, and can not be used in other hardware products.

#### ► Attention

- In general, this clamp is not allowed to be used repeatedly. But for pre twisted wire, metal components can be used repeatedly when they are in good condition.
- When ordering, relevant parameters of ADSS optical cable shall be provided: span, outer diameter and ultimate tensile strength of optical cable.

#### ► Table 5-07 Model list

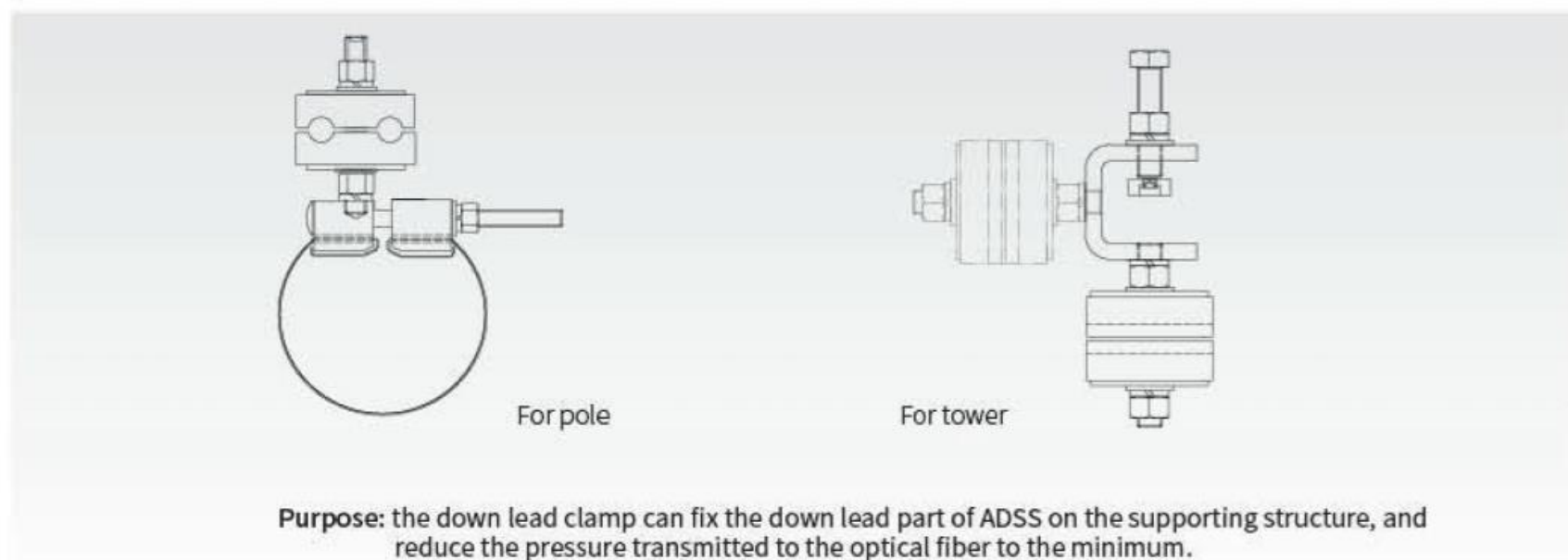
Model	Applicable cable diameter (mm)	Grip part (mm)	Total length (mm)
FYH-10	9.0~11.0	250	360
FYH-12	11.1~13.0	250	360
FYH-14	13.1~15.0	250	360
FYH-16	15.1~17.0	250	360
FYH-18	17.1~19.0	250	360
FYH-20	19.1~21.0	250	360
FYH-22	21.1~23.0	250	360



## ADSS CABLE FITTINGS

### ◆ Accessories of ADSS cable fittings

#### ► Down lead clamp



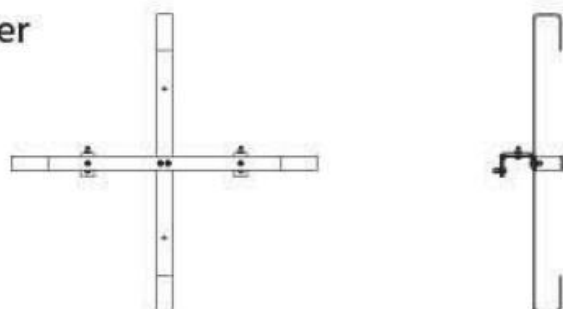
► Table 4-12: down lead clamp model list

Model	Type	Applicable cable diameter range	Remarks
AYG(**)	Stainless steel	9.0~20.0	for pole
ATT	C type steel	9.0~20.0	for tower

#### ► Cable Frame

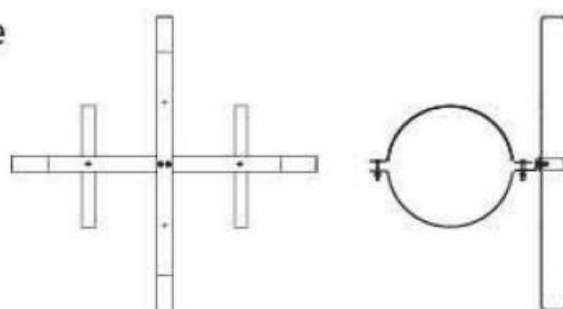
**Purpose:** it is used to coil surplus optical cables during optical cable connection. Generally, each joint box is equipped with a surplus cable frame.

For tower



Model	Fastening space (mm)	Cable drum diameter (mm)	Remarks
A-YLJ-T-660	330	660	for tower

For pole



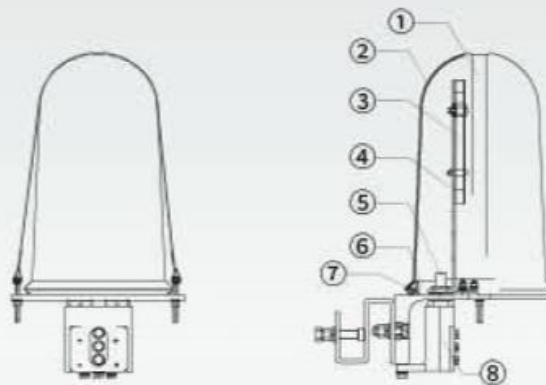
Model	Fastening space (mm)	Cable drum diameter (mm)	Remarks
A-YLJ-G(**)-660	330	660	for pole

## ADSS CABLE FITTINGS

### ◆ ADSS cable joint box

#### ► Illustration

Figure 5-09



- ① . Fastening belt: made by stainless steel
- ② . Aluminum shell: high strength aluminum alloy
- ③ . Fiber tray: special plastic
- ④ . Tray bracket : made by steel
- ⑤ . OPGW adapter: aluminum alloy
- ⑥ . Round bottom: high strength aluminum alloy
- ⑦ . O seal ring: made by EPDM
- ⑧ . Supporting clip: high strength aluminum alloy

#### ► Features

- The shell is made of high steel aluminum alloy;
- The connecting parts are made of high quality stainless steel;
- It can be reused for many times, and it is easy to be re-opened and expanded;
- It can be fixed on iron tower or cement pole;
- High mechanical strength, good sealing performance, strong corrosion resistance.

#### ► Application Range

- Additional loss to optical fiber:  $\leq 0.1\text{dB}$
- Curvature radius of optical fiber:  $\geq 37.5\text{mm}$
- The length of the reserved optical fiber: 1.6m
- Pull side pressure:  $\geq 2000\text{N}/100\text{ mm}$
- Applicable temperature:  $-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$
- Product size: 450mm (H)  $\times$  205mm ( $\Phi$ )

#### ► Attention

- All joint boxes shall be marked with "tower use" or "pole use" (provide pole diameter) and optical cable cores.
- The above joint box is suitable for ADSS optical cables with optical fiber bundle diameter  $\leq 16.0\text{ mm}$ .

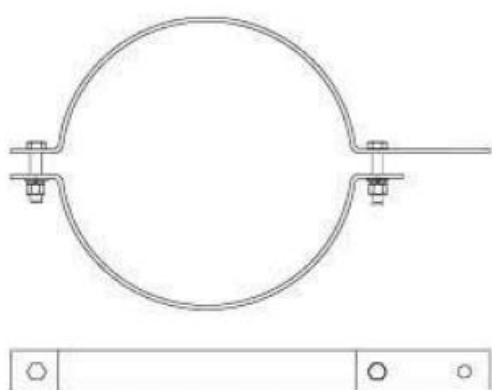


## ADSS CABLE FITTINGS

### ◆ Fastening clamp (1)

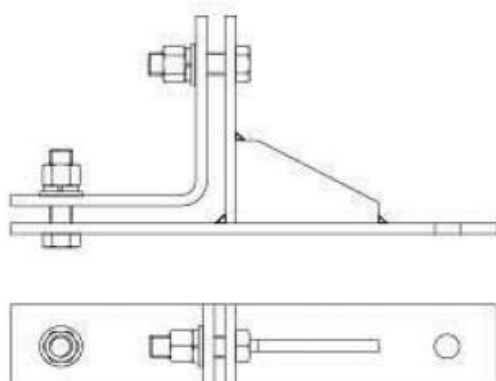
**Purpose:** the product is installed on the straight line, corner or terminal tower, which is used to connect the suspension string fittings and tension string fittings.

► Table 5-11: model list (for pole)



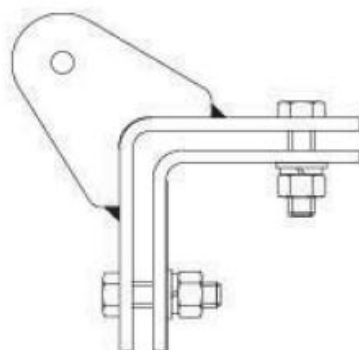
Model	Applicable pole diameter(mm)	Weight (kg)	Remarks
TGX-165	Φ165	2.9	for pole
TGX-210	Φ210	3.3	
TGX-300	Φ300	4.1	
TGX-400	Φ400	5.0	
TGX-500	Φ500	5.9	
TGX-600	Φ600	6.8	
TGX-800	Φ800	8.6	
TGX-1000	Φ1000	10.5	

► Table 5-11: model list (for pole)



Model	Applicable pole diameter(mm)	Weight (kg)	Remarks
TTZX-080	≤ 80mm	3.2	for straight tower
TTZX-100	80~100mm	3.5	
TTZX-125	100~125mm	3.8	
TTZX-145	125~145mm	4.1	
TTZX-165	145~165mm	4.4	
TTZX-200	165~200mm	6.0	

► Table 5-13: model list (for tower)



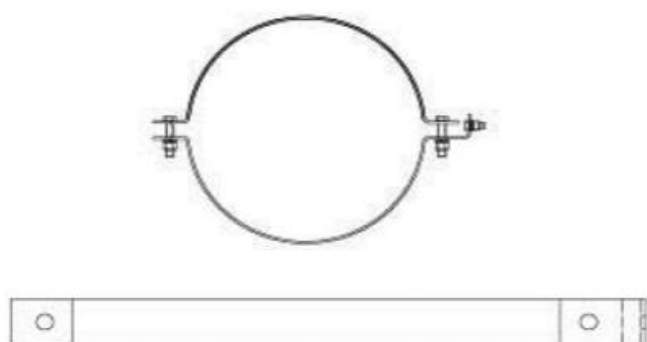
Model	Applicable pole diameter(mm)	Weight (kg)	Remarks
TTZJ-080	≤ 80	2.75	for corner tower
TTZJ-100	80~100	3.05	
TTZJ-125	100~125	3.28	
TTZJ-145	125~145	3.59	
TTZJ-165	145~165	3.95	
TTZJ-200	165~200	4.53	

## ADSS CABLE FITTINGS

### ◆ Fastening clamp (2)

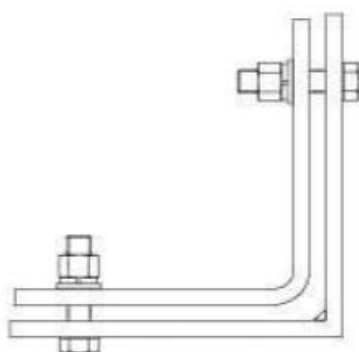
The product is suitable for the connection of cable frame and joint box.

► Table 5-14: model list (for pole)



Model	Applicable pole diameter(mm)	Weight (kg)	Remarks
TGJ-165	Φ165	1.6	for pole
TGJ-210	Φ210	2.1	
TGJ-300	Φ300	2.7	
TGJ-400	Φ400	3.4	
TGJ-500	Φ500	3.7	
TGJ-600	Φ600	4.3	
TGJ-800	Φ800	5.5	
TGJ-1000	Φ1000	6.6	

► Table 5-14: model list (for tower)



Model	Applicable pole diameter(mm)	Weight (kg)	Remarks
TTJG-100	80~100	1.2	for tower



## SPECIAL CONSTRUCTION TOOLS

### ◆ Special wire cutter



#### Instruction:

- ① . Wire cutters are made of special steel;
- ② . The hardness of knife edge is 64HRC, and the tail is PVC sleeve.

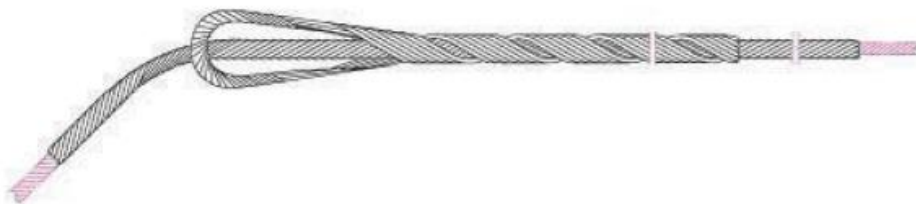
### ◆ Steel pipe cutter



#### Instruction:

- ① . Pipe cutters are made of special steel;
- ② . The hardness of knife edge is 84HRC, applicable for pipe of ① 1.5 ~ 10mm

### ◆ Tightening pre twisted wire



#### Instruction:

- ① . Made of aluminum clad steel wire;
- ② . It is used to tighten the cable when erection;
- ③ . See table 6-01 for model selection.

► Table 6-1: model list of tightening pre twisted wire

Diameter range (mm)	Inner strand wire length (mm)	Outer strand wire length (mm)	Weight (kg)
8.0-12.0	1500	1100	1.6
12.1-15.0	1700	1300	2.5
15.1-18.0	1800	1400	2.8
≥ 18.1	2000	1600	4.0

## ◆ Torque retractor



### Instruction:

- ① . It is suitable for connection of OPGW and ADSS optical cables during cable laying, connecting traction wire rope and releasing the twisting warp of wire rope.
- ② . See table 6-02 for model selection.

► Table 6-2: model list of torque retractor

Model	Rated load (kN)	Weight (kg)
SXL-0.5	5	0.20
SXL-1	10	0.40
SXL-2	20	0.55
SXL-3	30	0.65
SXL-5	50	1.50
SXL-8	80	2.40
SL-130	130	3.50

## ◆ Traction rope



### Note:

- ① . It is used for OPGW and ADSS optical cable construction and matches with OPGW cable diameter.
- ② . See table 6-03 for model selection

► Table 6-3: model list of traction rope

Model	Applicable cable diameter (mm)	Rated load (kN)	Length (m)
SWL-1	Φ7-11	10	1.4
SWL-2	Φ11-15	15	1.4
SWL-3	Φ15-17	20	1.4
SWL-4	Φ17-22	25	1.4



## SPECIAL CONSTRUCTION TOOLS

### ◆ ADSS special construction toolbox (hs-250)



► Table 6-3: packing list of tool

No.	Name	Origin	Qty.	No.	Name	Origin	Qty.
1	Double fiber stripper	China	PC	14	Hexagon screw driver	China	SET
2	Flashlight	Taiwan	PC	15	Skin Tiger	Taiwan	PC
3	Wire plier	China	PC	16	Marking pen	Japan	PC
4	Diagonal pliers	China	PC	17	Adjustable wrench	China	PC
5	Needle nose pliers	China	PC	18	Tweezer	Japan	PC
6	Pincer pliers	China	PC	19	Test pencil	Taiwan	PC
7	Cross screwdriver	Taiwan	PC	20	Loose tube cutter	America	PC
8	Slotted screwdriver	Taiwan	PC	21	Insulating tape	China	PC
9	Optical cable transverse cutter	America	PC	22	Hacksaw	China	PC
10	Alcohol pump	Taiwan	PC	23	Loose tube stripper	China	PC
11	Kelvar scissor	America	PC	24	Container box	China	/
12	Band tape	China	PC	25	Heat shrink tube	China	/
13	Knife	America	PC				



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