



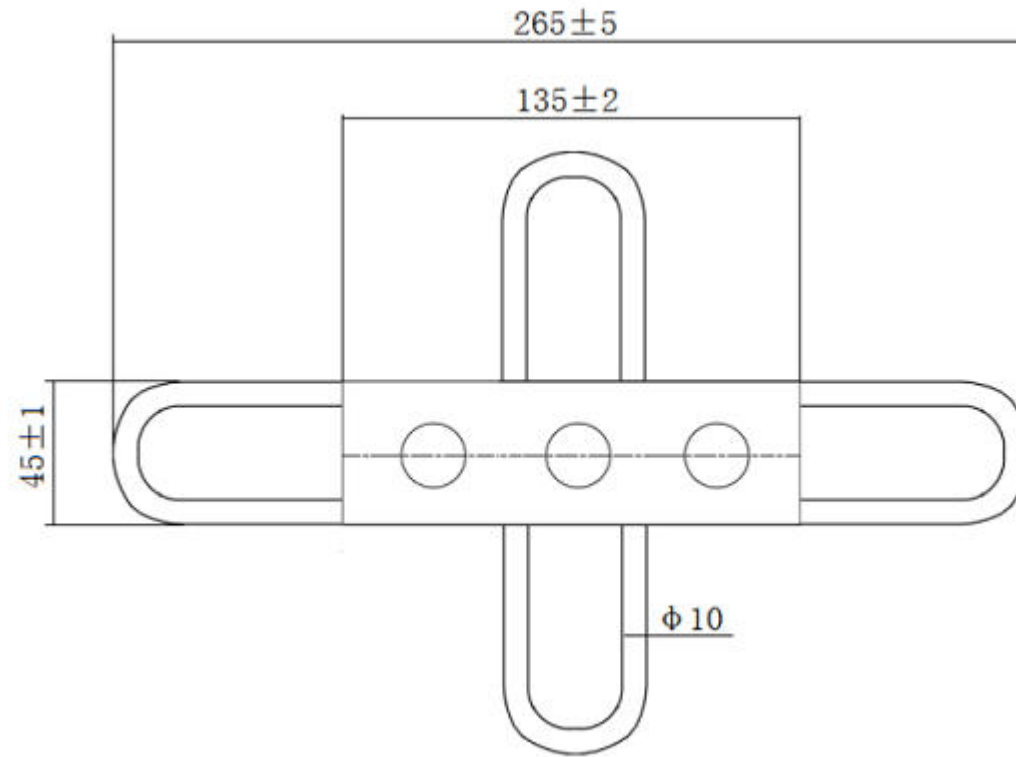
FROG ENGINEERING

CATALOGO DE HERRAJES



FROG ENGINEERING

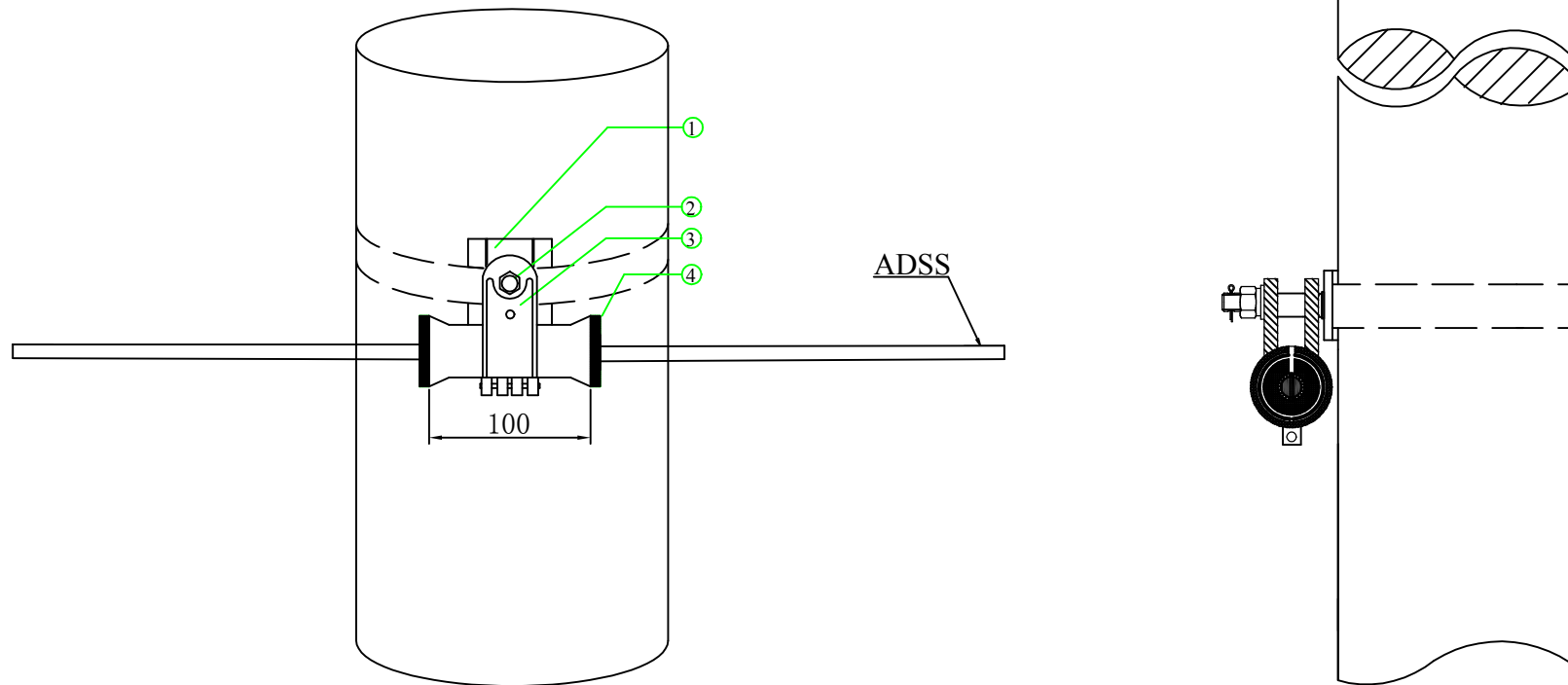
Anillos y ganchos de fijación



NOTE:

1. Unit of measurement in mm

American Cross		FE-AM
Tolerance		American cross(with 4 rings)
$\leq 35\text{mm}$	$\pm 1.5\text{mm}$	
$> 35\text{mm}$	$\pm 5\%$	
MAX.	$\pm 10\text{mm}$	
DRAWING	W. C. F	FROG ENGINEERING
VERIFY	ZH.J	
RATIFICATION	ZH.J	



NOTE:
1.All dimensions are in millimeters.

ITEM	Q'TY	DESCRIPTION	TYPE	MATERIAL
4	2	Rubber insert	XJ	RUBBER
3	1	Aluminum plate	XGT-25	AL ALLOY
2	1	Bolt	M12	GALV.STEEL
1	1	POLE BRACKET	DZ	STAINLESS STEEL

FE-ALSUP-TYPE4		
Tolerance		ADSS Suspension clamps
≤30mm	±1.5mm	
>30mm	±5%	
MAX.	±10mm	
DRAWING		W. C. F
VERIFY		ZH.J
RATIFICATION		ZH.J

ALUMINUM SUSPENSION CLAMP FOR ADSS FIBERS FE-ALSUP-TYPEX



This hardware is widely used to secure ADSS cable. It has an interlocking hinge mechanism for easy insertion and securing of the cables. The clamp is secured to the pole either with a 5/8 inch through bolt (M16, not included) or with a steel band (3/4 to 1 1/4 inch). Depending on the cable diameter, there will be different dielectric pad inserts. See chart to decide appropriate part number.

This clamp is designed for short span applications with vertical loads of no more than 4.4 kN. As a general rule of thumb, it should not be used for spans longer than 175 meters for cables of up to 1 inch in diameter or 90 meters if the fiber diameter is larger than 1 inch. If these parameters are exceeded, there are better alternatives such as our suspension kits.

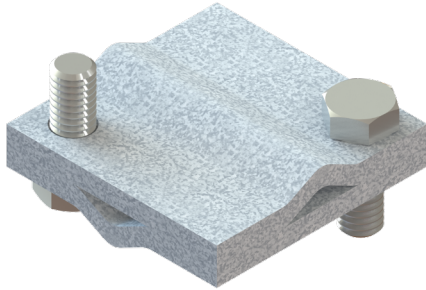
Once the fiber has been accommodated between the pads, make sure to securely lock the clamp by torquing the bolt to 10 foot-pounds of force. **Do not over-torque.**

PART NUMBER	Supported Cable Diameters			
	Min(in)	Max(in)	Min(mm)	Max(mm)
TYPE 1	0.351	0.36	8.9	9.1
TYPE 2	0.375	0.414	9.5	10.5
TYPE 3	0.415	0.459	10.6	11.6
TYPE 4	0.46	0.505	11.7	12.8
TYPE 5	0.507	0.555	12.9	14.1
TYPE 6	0.558	0.615	14.2	15.6
TYPE 7	0.616	0.68	15.7	17.3
TYPE 8	0.681	0.75	17.4	19.1

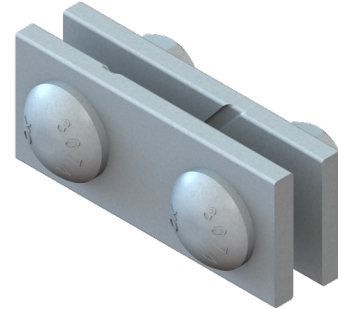


\ HERRAJE DE CRUCE

FE-CA2P-HCR-AG-CP
FE-CA2P-HCR-AG



HCR-AG-CP



HCR-AG

\ GENERAL

\ DESCRIPCIÓN

Herraje diseñado para la protección de los cables de acero cuando estos se cruzan entre sí, esto elimina el galopeo entre ellos lo cual implica una reducción sustancial en la fricción entre las superficies.

Además brindan un excelente agarre el cual es proporcionado por las placas de acero y los tornillos, los cuales aseguran la fijación de los cables sujetos.

\ CARACTERÍSTICAS

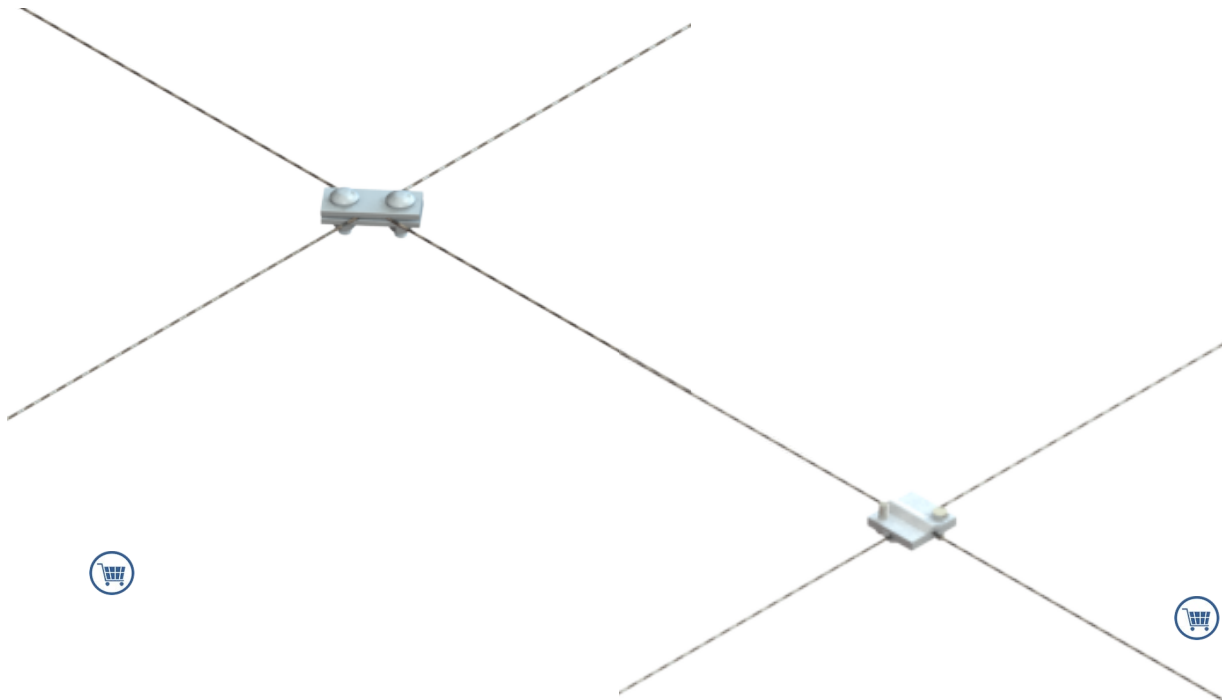
El herraje de cruce HCR-AG-CP proporciona:

- Herraje que se auto suspende al tener al menos dos puntas contrarias ingresadas.
- Fabricado de acero galvanizado ofrece un excelente agarre de hasta 1000N.
- En caso de recibir más tensión simplemente suelta el cable y puede ser reutilizado.

El herraje de cruce HCR-AG proporciona:

- Instalación en punto flotante, no requiere sujeción a poste, muro, etc.
- Gran resistencia mecánica.
- Estupendo desempeño contra la corrosión (galvanizado por inmersión en caliente) GIC.
- Los componentes cumplen con la norma NMX-H-004-SCFI-2008-Centrifugado.

\ APLICACIÓN



\ DIMENSIONES TÉCNICAS

\ Cruce de Acero Galvanizado HCR-AG-CP AERIALGRIP

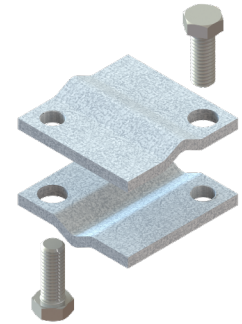
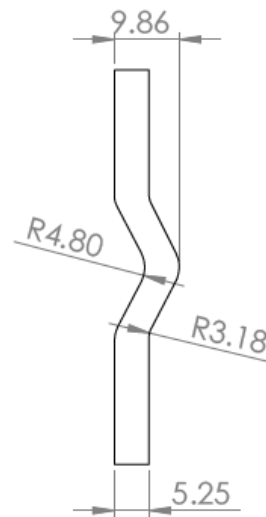
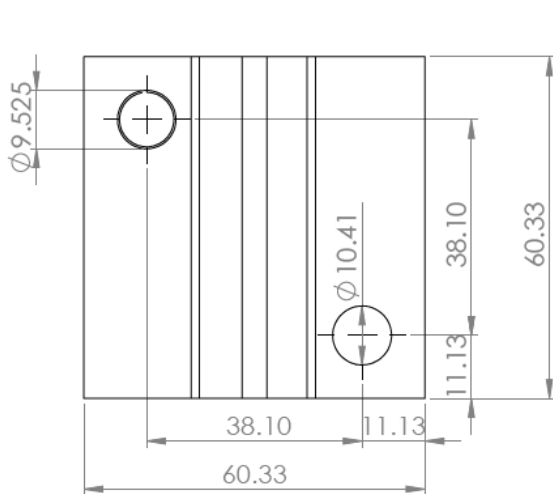


Fig 1 Dos placas de acero galvanizado y dos tornillos 3/8
Peso: 302 gramos

Nota: Dimensiones establecidas en mm.

Tolerancias: Tolerancias ± 5.0 mm

\ Cruce de Acero Galvanizado HCR-AG AERIALGRIP

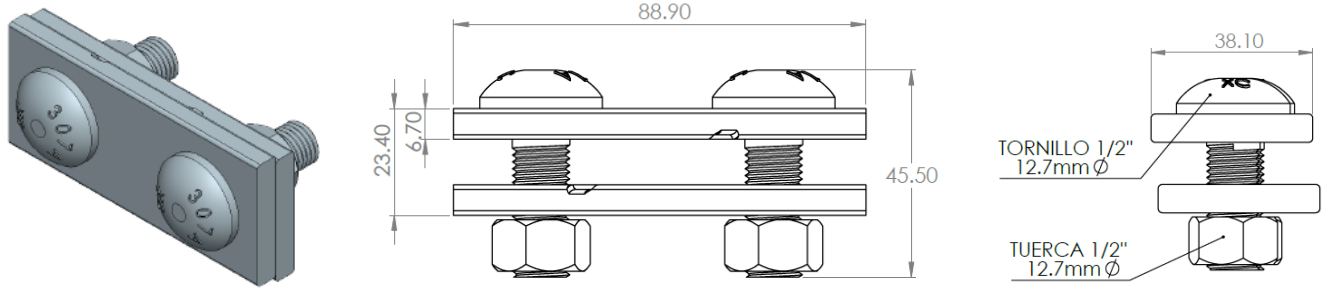
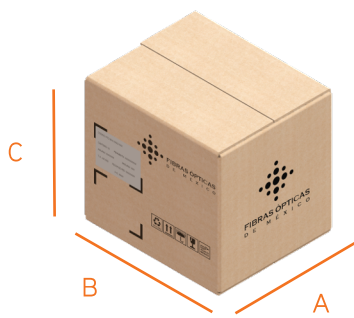


Fig 2 Vista y dimensiones de componentes del código HCR-AG

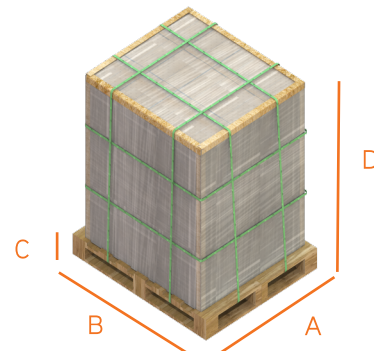
Nota: Dimensiones establecidas en mm.
Tolerancias: Tolerancias ± 5.0 mm

\ EMBALAJE



A) Caja con 50 piezas

CÓDIGO	A (mm)	B (mm)	C (mm)	PESO
HCR-AG	270	305	280	16.5 Kg
HCR-AG-CP	258	305	120	23.5 Kg



B) Pallet con 48 cajas (3x4x4 cajas)

	A (mm)	B (mm)	C (mm)	D (mm)
Tarima	1000	1200	145	1265

\ CONFIGURACIÓN

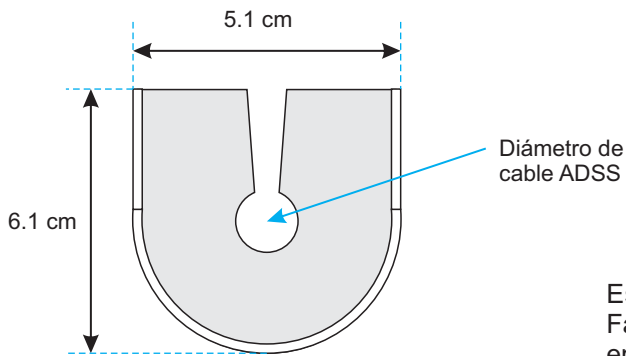
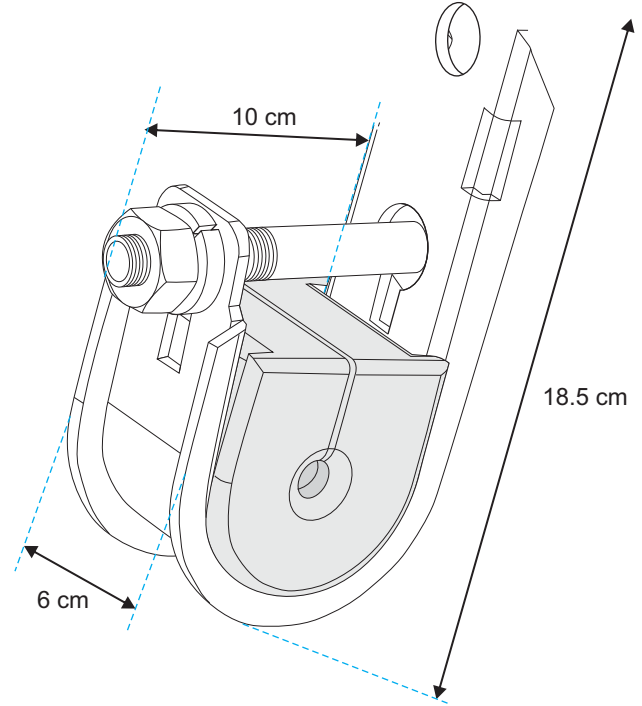
CÓDIGO	DESCRIPCIÓN
HCR-AG-CP	HERRAJE DE CRUCE DE ACERFO GALVANIZADO CUATRO PUNTAS
HCR-AG	HERRAJE DE CRUCE DE ACERO GALVANIZADO

HERRAJE TIPO "J"

FE-GB-TYPE J

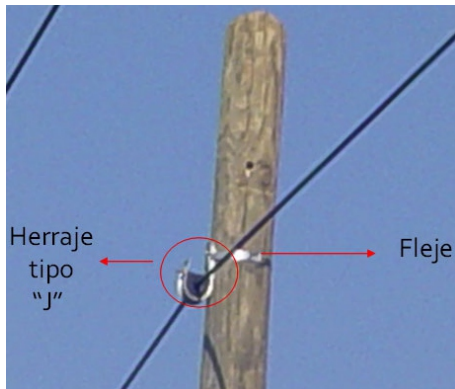


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Este herraje está diseñado para soportar cables tipo ADSS. Fabricado en lámina de acero estructural galvanizado por inmersión en caliente. Cumple con la Norma NMX-H-004-2008.

Neopreno resistente a rayos UV.



Catálogo	Lamina calibre AWG	Diametro de cable ADSS (mm)
TYPEJ1	10	9.5 - 10.7
TYPEJ1/12	12	9.5 - 13.0
TYPEJ1/12L	12	10.0 - 15.0



HERRAJE TIPO "D"

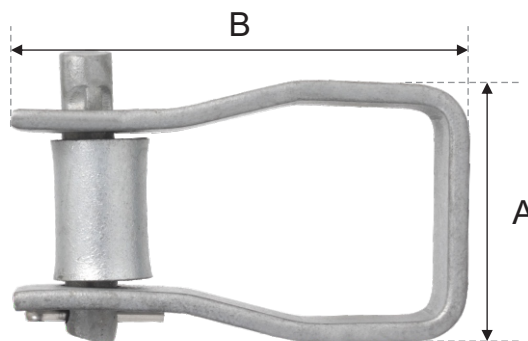
Características:

- Fabricado en acero estructural comercial de 3/16"
- Galvanizado por inmersión en caliente
- Cumple con la norma NMX-H-004-2008

FE-GB-TYPE D



Especificación	DCH	DM	DG
Herraje	Acero estructural de 3/16 x 1"	Acero estructural de 3/16 x 1 1/4"	
Perno	Acero estructural de 1/2"		
Chaveta	Acero inoxidable de 5/32 x 1"		
Tubo	Acero estructural de 1/2", cédula 30		



Catálogo	Descripción	Dimensiones (cm)		
		A	B	Longitud de perno
GB-TYPE DC	Herraje "D" chico	3.5	6	7
GB-TYPE DM	Herraje "D" mediano	5	8.5	
GB-TYPE DG	Herraje "D" grande	5.5	10	

HERRAJE DE TENSION

Abrazaderas hexagonales galvanizadas, que se sujetan alrededor del poste por medio de "espárragos"; equipadas con remates preformados para tensar cable de fibra óptica.

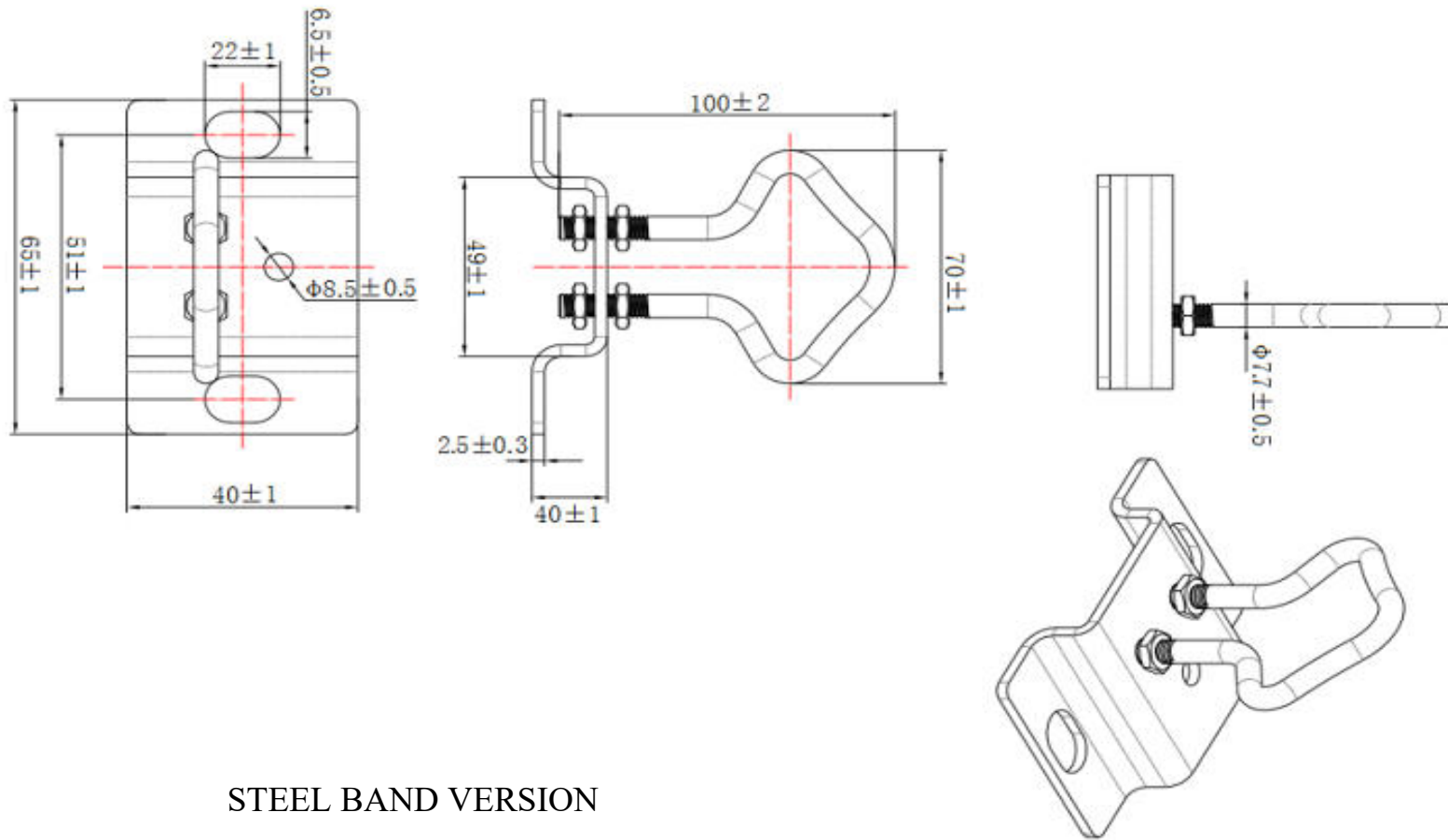
FE-HTX

- Fabricado en acero estructural comercial de 1/4" X 1 1/2"
- Galvanizado por inmersión en caliente
- Cumple con la Norma NMX-H-004-2008



Cantidad	Descripción
2	Abrazaderas hexagonales con orificio central
2	Espárragos de 1/2"
2	Ojillos de 5/8"
2	Remates preformado de 1/4"
2	Guardacabos
2	Tornillos hexagonales de 5/8" x 1 1/2"
4	Tuercas hexagonales de 1/2"
2	Roldanas de presión de 5/8"
2	Roldanas de presión de 1/2"

CATALOGO	DESCRIPCIÓN
HT4	Herraje de tensión de 4"
HT6	Herraje de tensión de 6"
HT8	Herraje de tensión de 8"



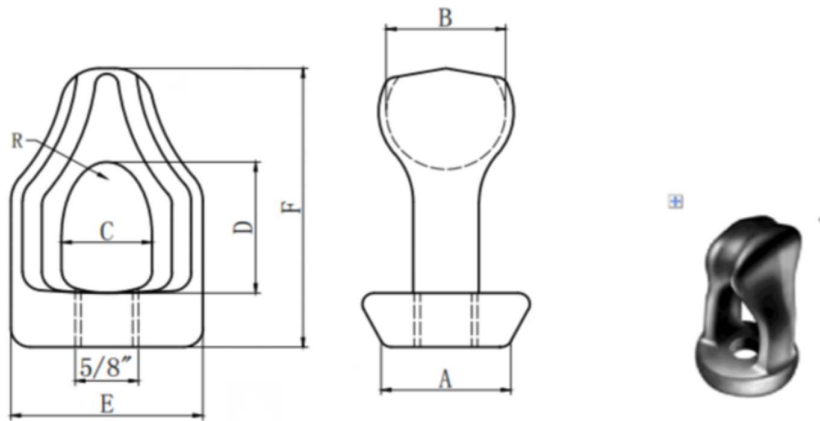
STEEL BAND VERSION



Support Hook		FE-SUPHOOK
Tolerance		Support hook for anchor clamp link
≤35mm	±1.5mm	
>35mm	±5%	
MAX.	±10mm	
DRAWING	W. C. F	FROG ENGINEERING
VERIFY	ZH.J	
RATIFICATION	ZH.J	

THIMBLE EYE SINGLE

THIMB-E-1



(Bolt Diameter)	A	B	C	D	E	F	R
5/8" (M16)	1 1/2" (38.1)	1 1/2" (38.1)	7/8" (22.22)	1 3/8" (34.92)	1 7/8" (47.62)	3 1/4" (82.55)	1/4" (6.35)

Used in conjunction with dead ends for the installation of ADSS fiber cables.
5/8 inches or 16M bolt and nut mount.



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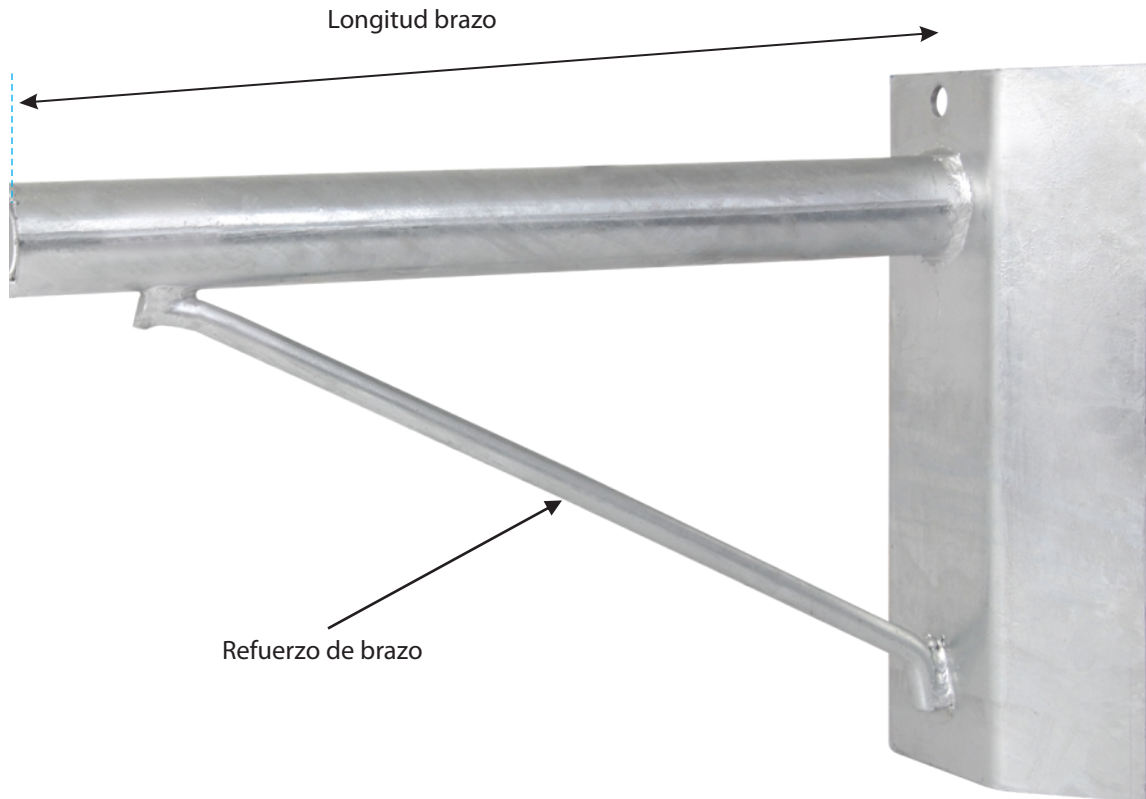
Extensiones y almacenaje

BRAZO DE EXTENSIÓN



FROG ENGINEERING

FE-APT



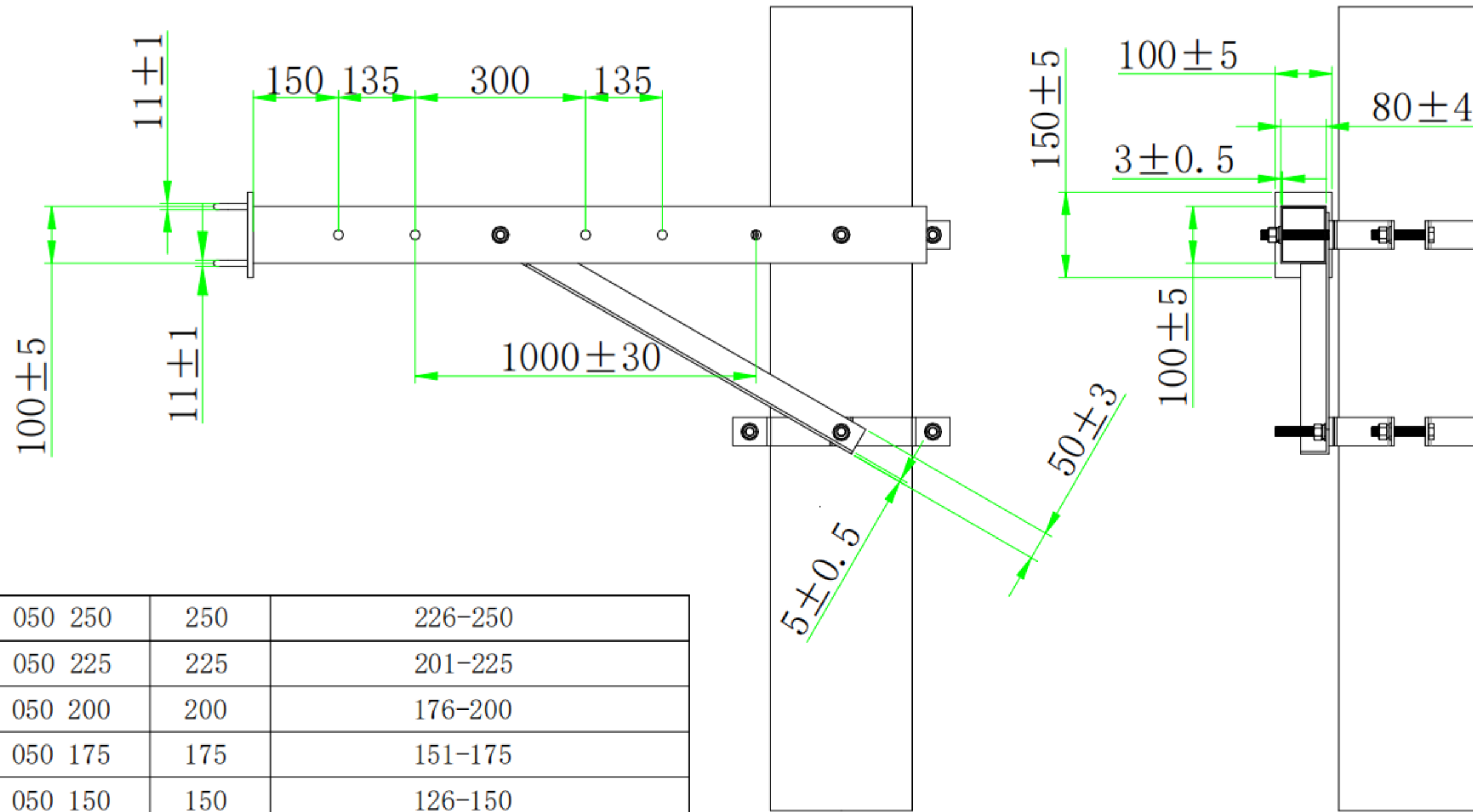
Brazo de extensión con herraje tipo, diseñado especialmente para separar el cable de fibra óptica del poste, brindando una mejor organización del cableado.

- Base de placa calibre 10
- Brazo de tubo de 1 ¼", cédula 40
- Varilla de refuerzo de ½"
- Galvanizado por inmersión en caliente

Cumple con la norma NMX-H-004-2008

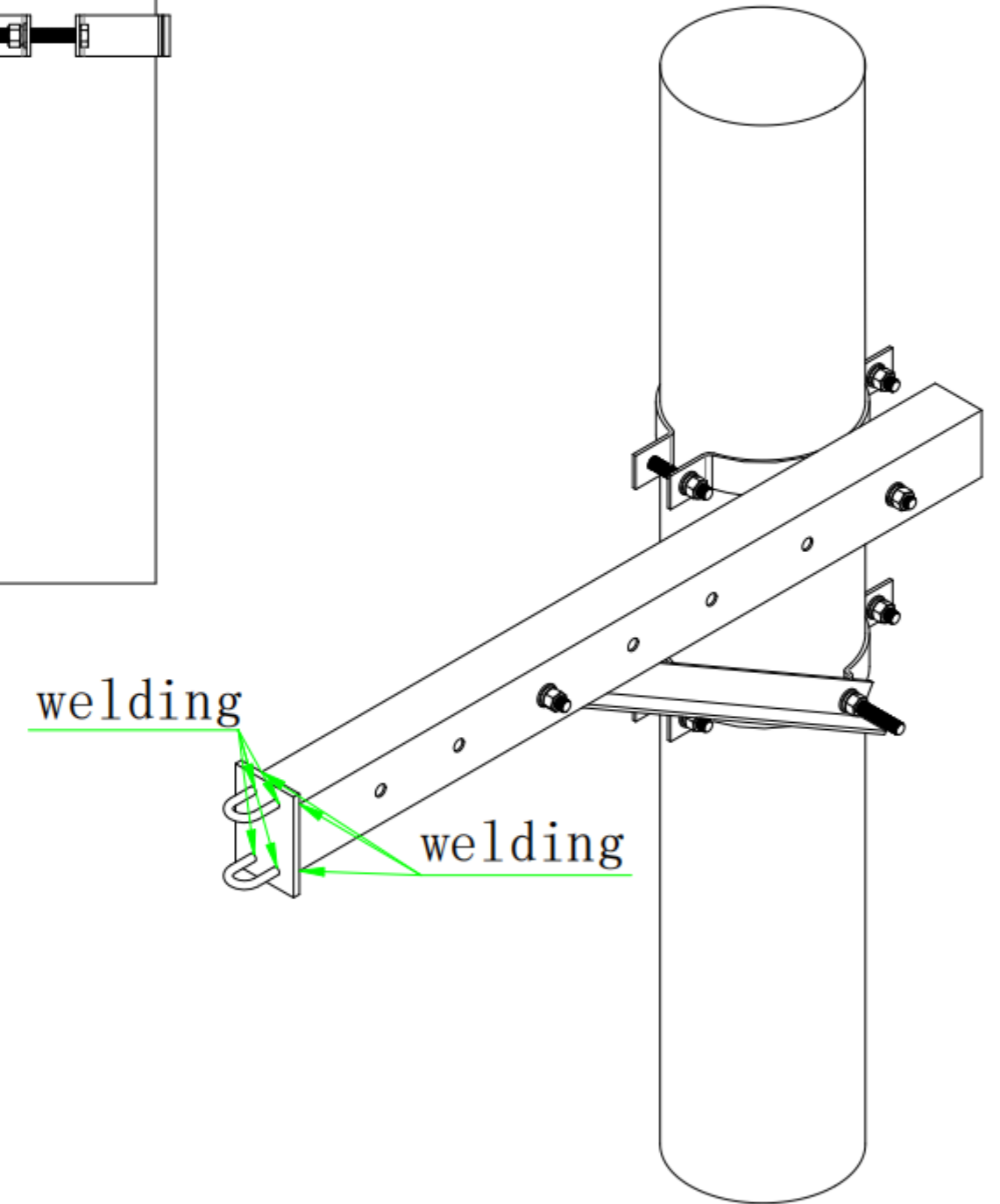
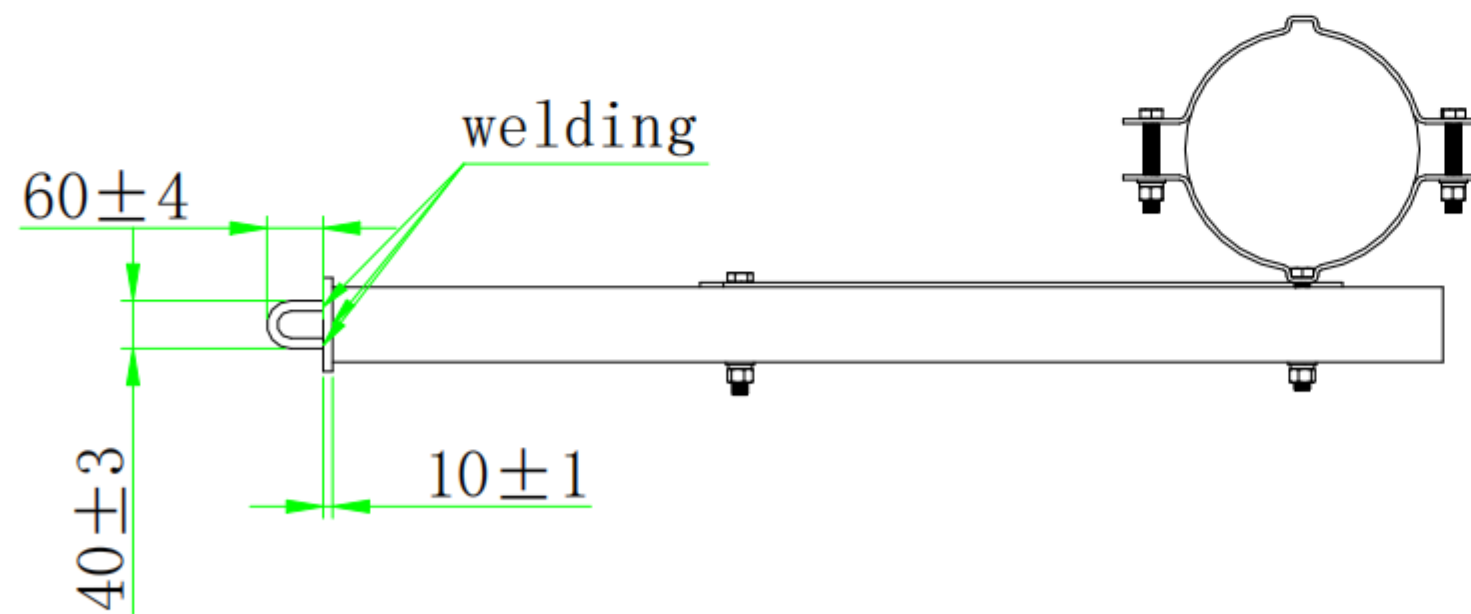
Catálogo	Longitud de brazo (cm)
APT040	40
APT060	60
APT100	100

*Otras medidas disponibles



5	HBG 050 250	250	226-250
4	HBG 050 225	225	201-225
3	HBG 050 200	200	176-200
2	HBG 050 175	175	151-175
1	HBG 050 150	150	126-150
ITEM	TYPE	ØD (mm)	Range of diameter of pole (mm)

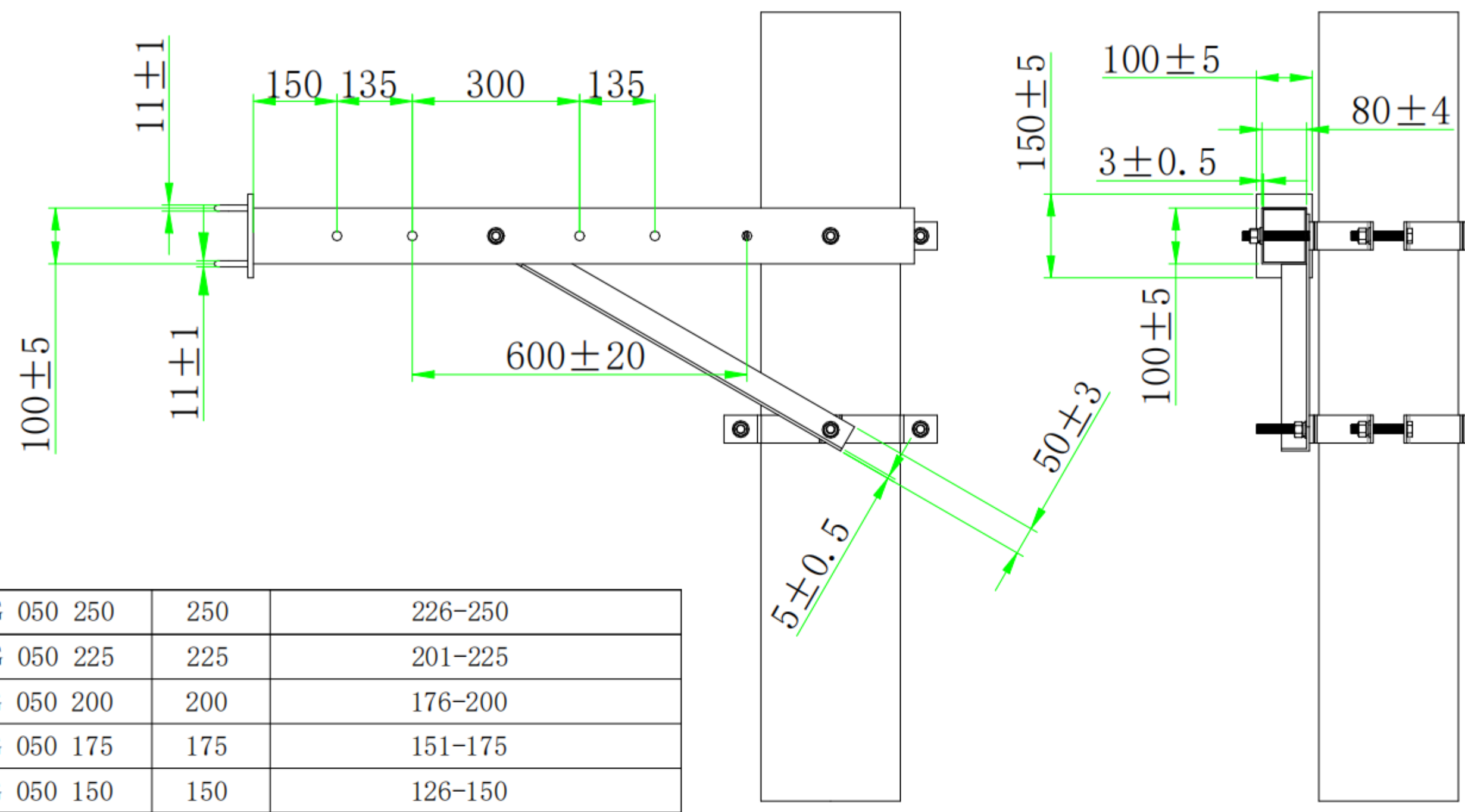
Table 1



NOTE

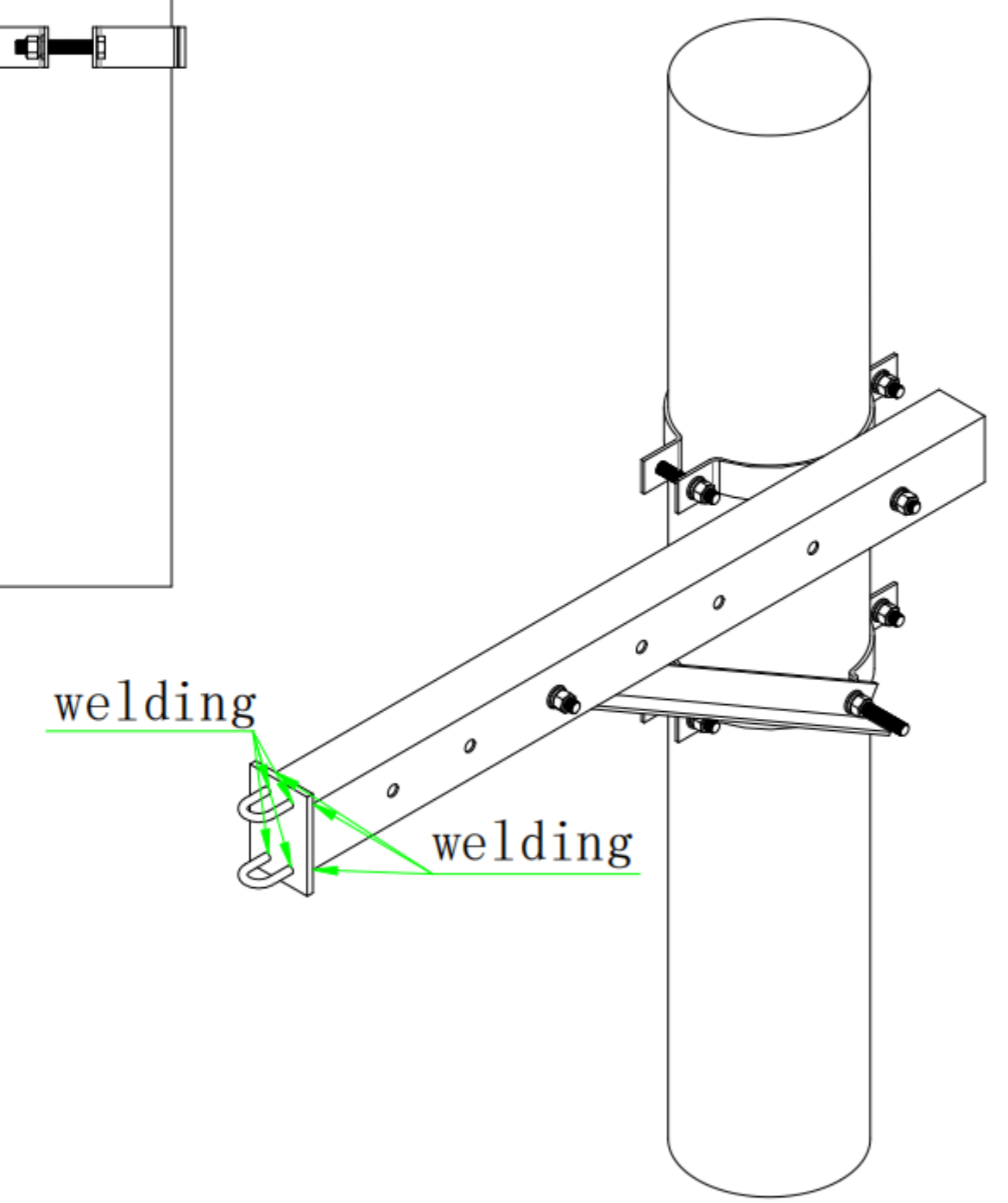
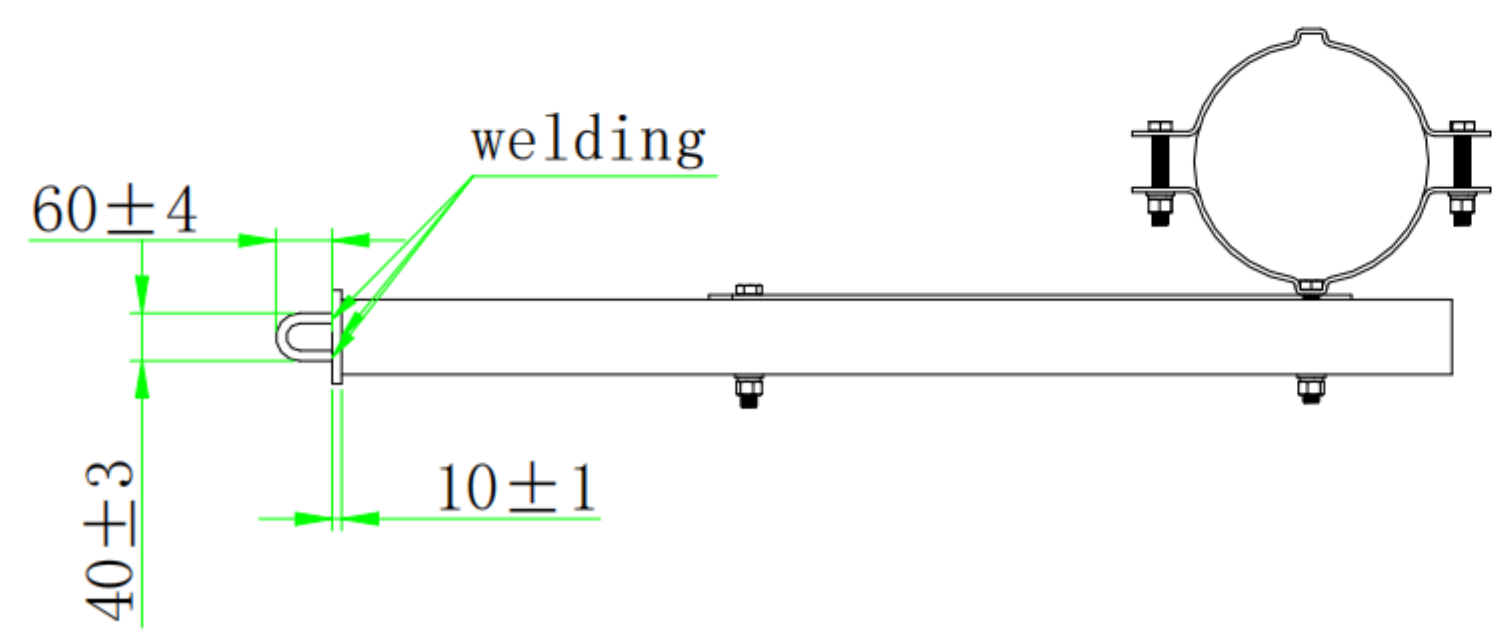
1. Material: hot-dip galvanized steel.
2. Range of diameter of pole: Refer to Table 1.
3. All dimensions are in millimeters.

FE-ZTE-EXTARM-100		
Tolerance		Metalic Extension Arms 100cm
≤30mm	±1.5mm	
>30mm	±5%	
MAX.	±10mm	
DRAWING	DENG.W.G	FROG ENGINEERING
VERIFY	ZH.J	
RATIFICATION	ZH.J	



5	HBG 050 250	250	226-250
4	HBG 050 225	225	201-225
3	HBG 050 200	200	176-200
2	HBG 050 175	175	151-175
1	HBG 050 150	150	126-150
ITEM	TYPE	ØD (mm)	Range of diameter of pole (mm)

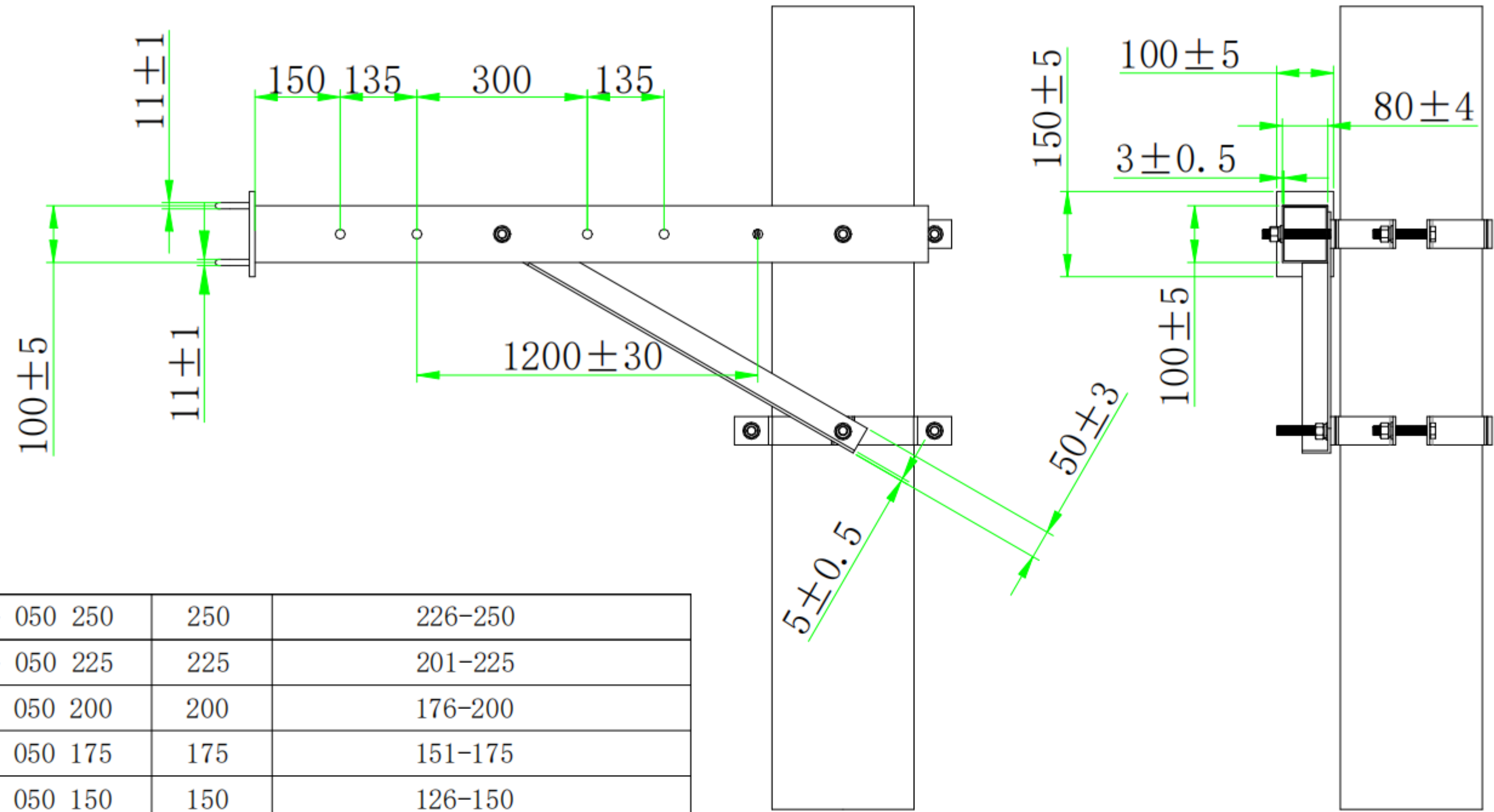
Table 1



NOTE

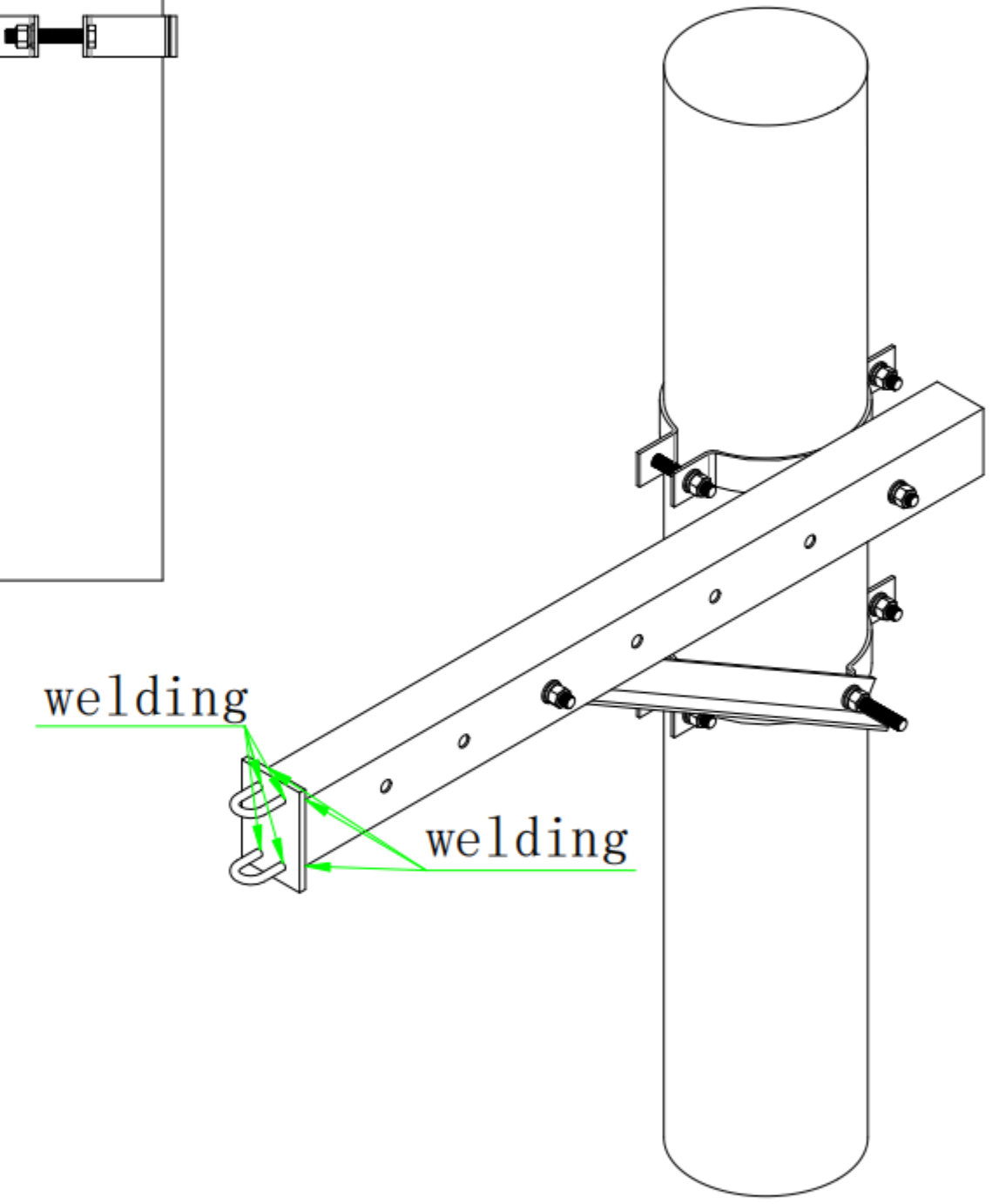
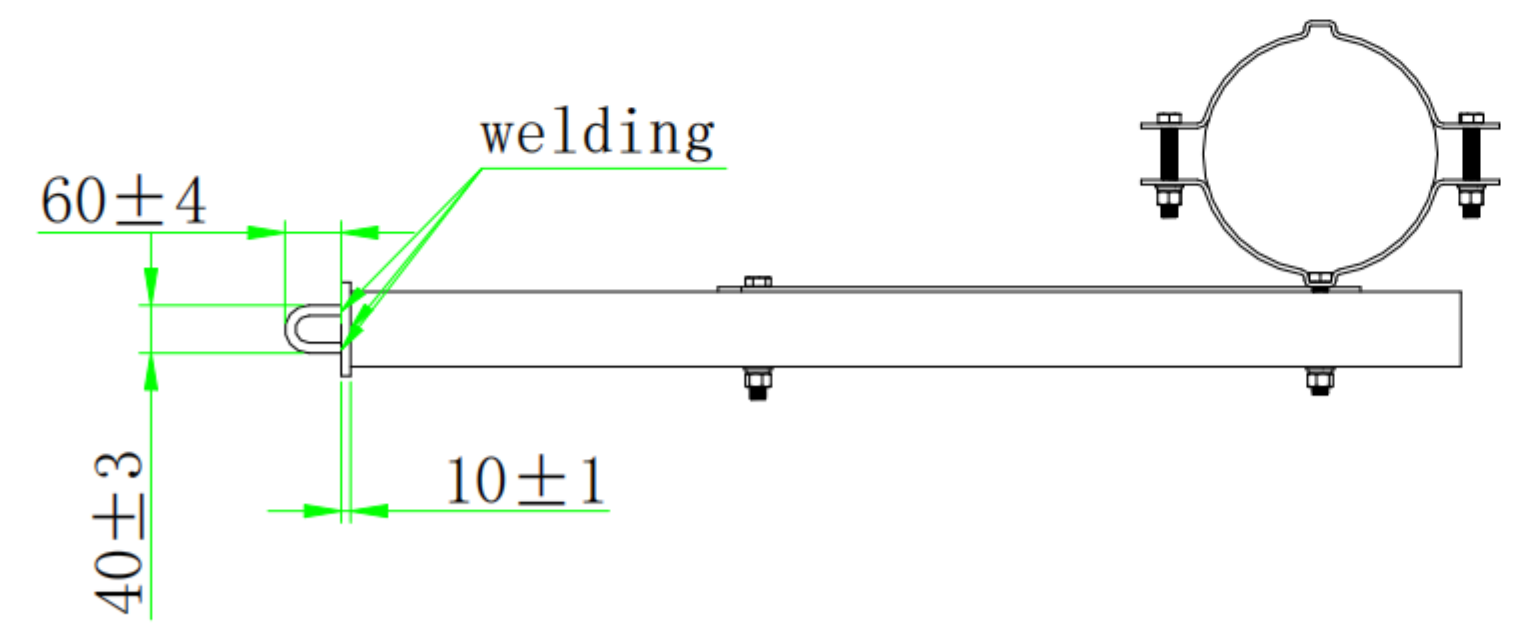
1. Material: hot-dip galvanized steel.
2. Range of diameter of pole: Refer to Table 1.
3. All dimensions are in millimeters.

FE-ZTE-EXTARM-60		
Tolerance		Metalic Extension Arms 60cm
≤30mm	±1.5mm	
>30mm	±5%	
MAX.	±10mm	
DRAWING	DENG.W.G	FROG ENGINEERING
VERIFY	ZH.J	
RATIFICATION	ZH.J	



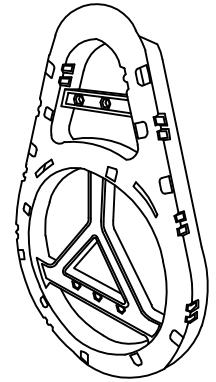
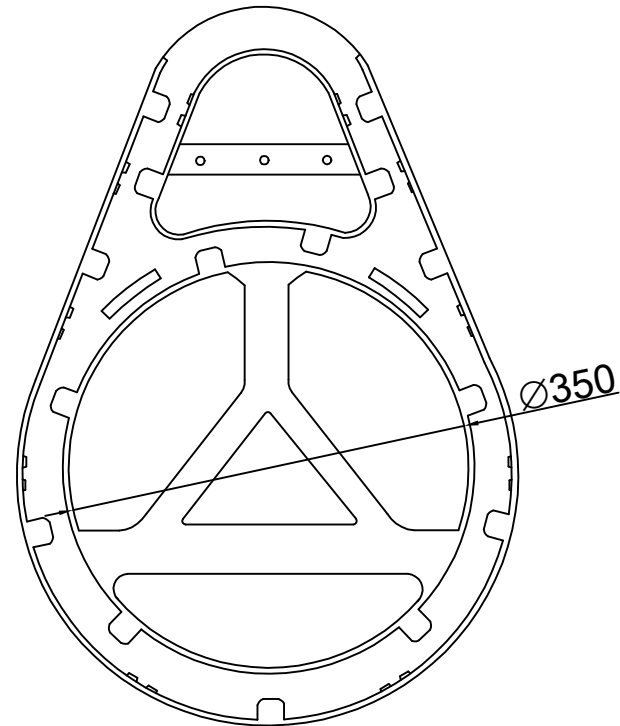
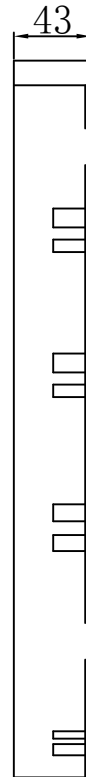
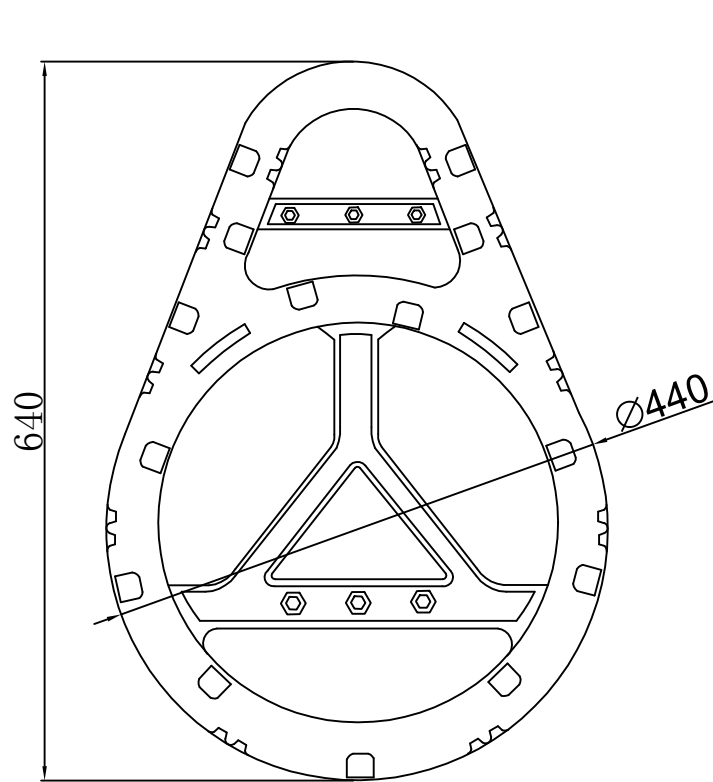
5	HBG 050 250	250	226-250
4	HBG 050 225	225	201-225
3	HBG 050 200	200	176-200
2	HBG 050 175	175	151-175
1	HBG 050 150	150	126-150
ITEM	TYPE	ØD (mm)	Range of diameter of pole(mm)

Table 1



- NOTE
1. Material: hot-dip galvanized steel.
 2. Range of diameter of pole: Refer to Table 1.
 3. All dimensions are in millimeters.

FE-ZTE-EXTARM-120		
Tolerance		Metalic Extension Arms 120cm
≤30mm	±1.5mm	
>30mm	±5%	
MAX.	±10mm	
DRAWING	DENG.W.G	FROG ENGINEERING
VERIFY	ZH.J	
RATIFICATION	ZH.J	



NOTE:
 1. Material: PVC.
 2. All dimensions are in millimeters.

Tolerance		Cable Tray TYPE:HCU-D640
≤30mm	±1.5mm	
>30mm	±5%	
DRAWING	W. C. F	FROG ENGINEERING
VERIFY	ZH.J	
RATIFICATION	ZH.J	



FROG ENGINEERING

Preformadas

ADSS GUY GRIPS

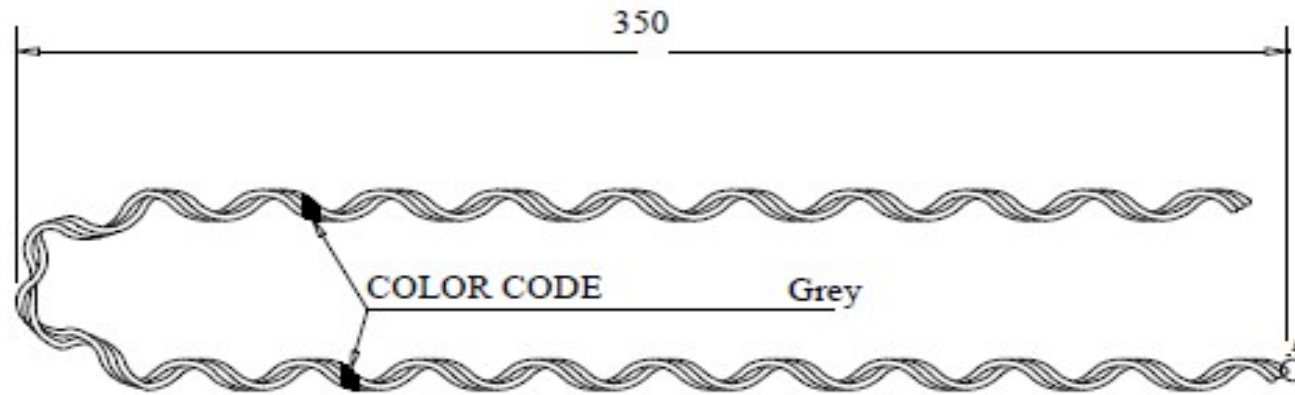


Our aluminum clad galvanized steel grips are specially design to work with delicate ADSS cables. These light tension dead-ends are designed for short spans (no more than 100 meters) and maximum initial tension of 2.7 kN with maximum loaded tension of 3.5 kN. The legs of these grips are either latex or neoprene coated to protect the delicate jackets of the ADSS cables. Our grips can be ordered following these guidelines:

ANY- TYPE _-N*

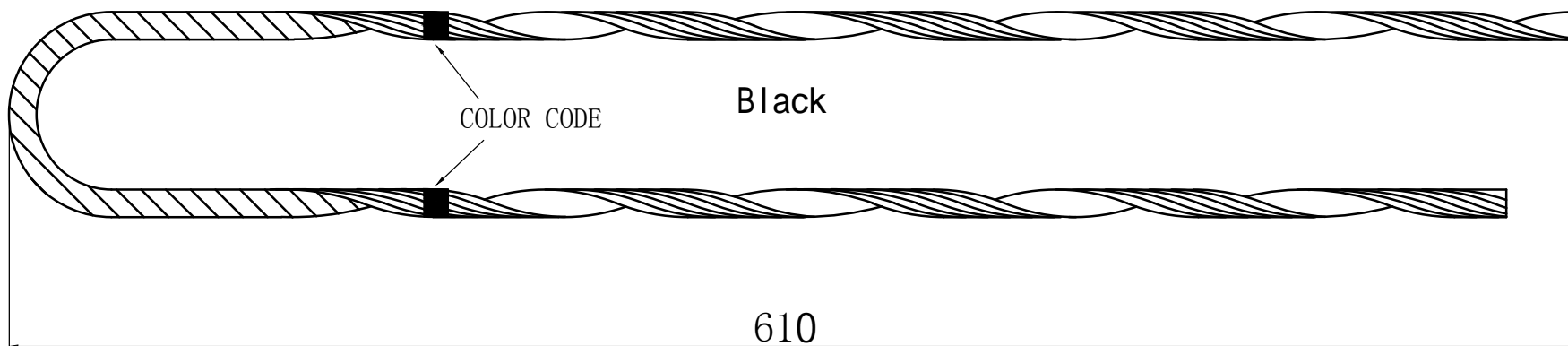
PART NUMBER	Supported Cable Diameters				Length(L)		Color Mark
	Min(in)	Max(in)	Min(mm)	Max(mm)	in	M	
TYPE 1	0.351	0.36	8.9	9.1	24	0.61	Black
TYPE 2	0.375	0.414	9.5	10.5	28	0.71	Red
TYPE 3	0.415	0.459	10.6	11.6	31	0.79	Orange
TYPE 4	0.46	0.505	11.7	12.8	33	0.84	Green
TYPE 5	0.507	0.555	12.9	14.1	37	0.94	Pink
TYPE 6	0.559	0.614	14.2	15.6	42	1.07	Yellow
TYPE 7	0.616	0.68	15.7	17.3	45	1.14	Blue
TYPE 8	0.685	0.751	17.4	19.1	49	1.24	Brown

*The final **N** is optional and indicates the guy grip is **neoprene** coated.



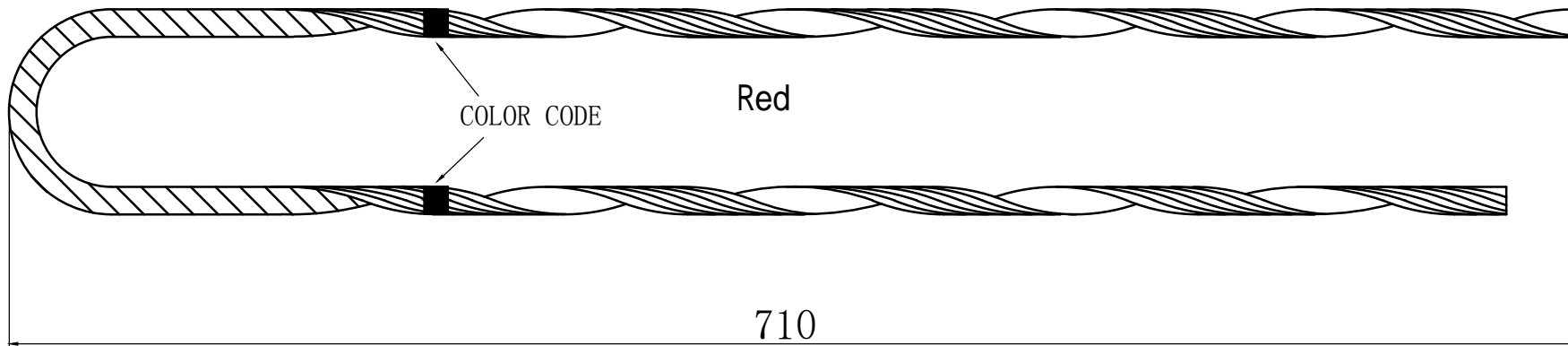
PREFORMED FOR 4.5 - 5.5 mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio
2	para cable ADSS de 4.5-5.5 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 4.5-5.5 mm
GUY WIRE, 3 strands



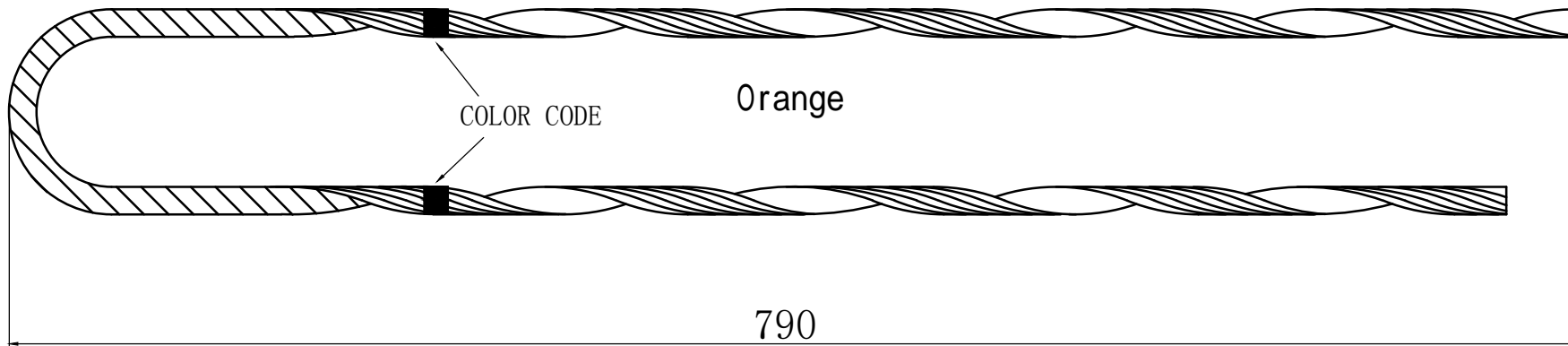
<p>PREFORMED FOR 8.9 - 9.1 mm GUY WIRE</p>	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 8.9-9.1 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 8.9-9.1 mm
GUY WIRE, 4 strands



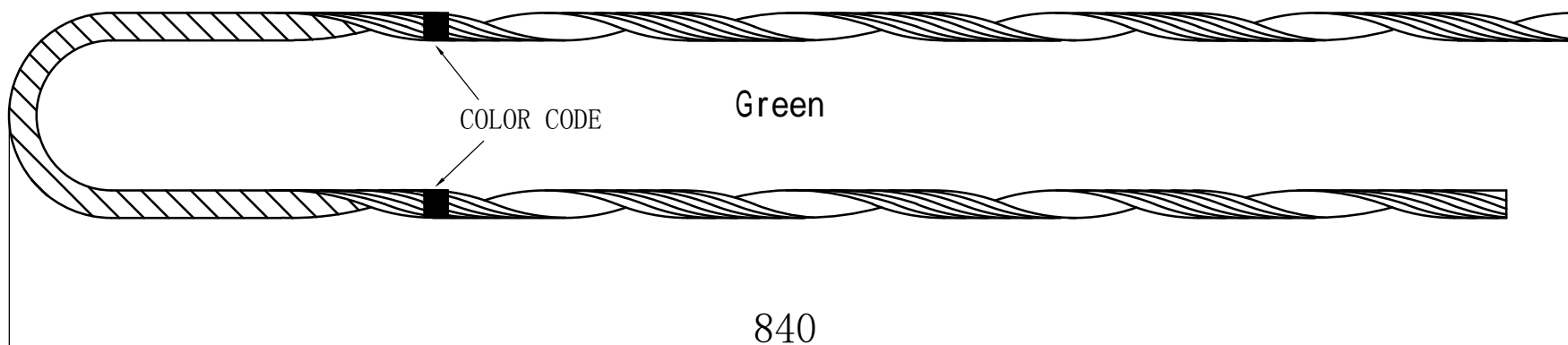
PREFORMED FOR 9.5 -10.5 mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 9.5-10.5 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 9.5-10.5 mm
GUY WIRE, 4 strands



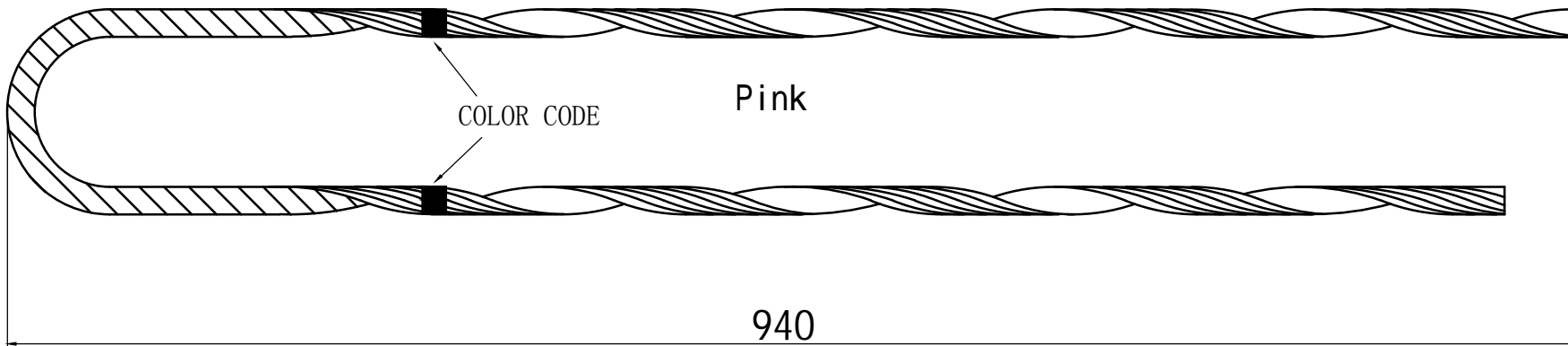
PREFORMED FOR 10.6 - 11.6 mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 10.6-11.6 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 10.6-11.6 mm
GUY WIRE, 4 strands



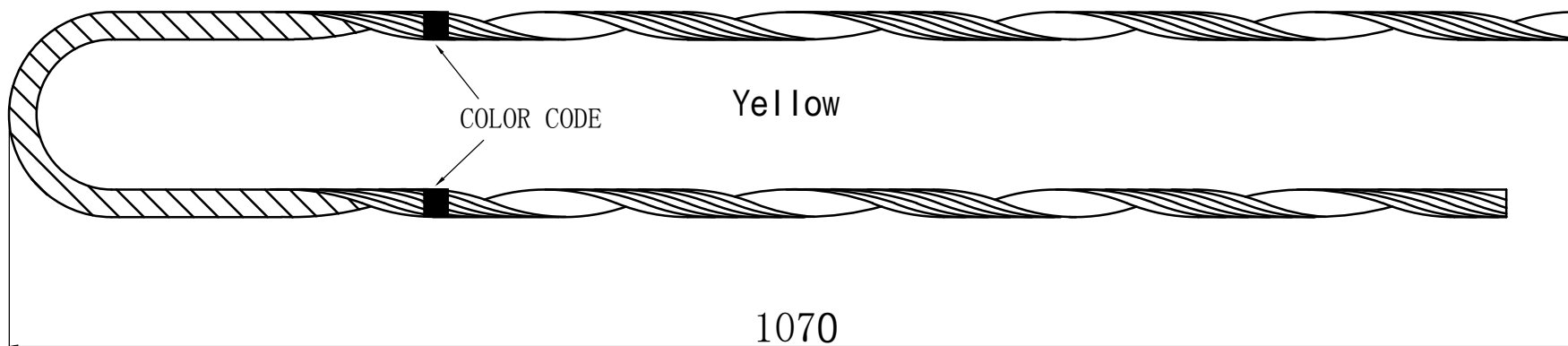
PREFORMED FOR 11.7 - 12.8mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 11.7 - 12.8 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 11.7-12.8 mm
GUY WIRE, 5 strands



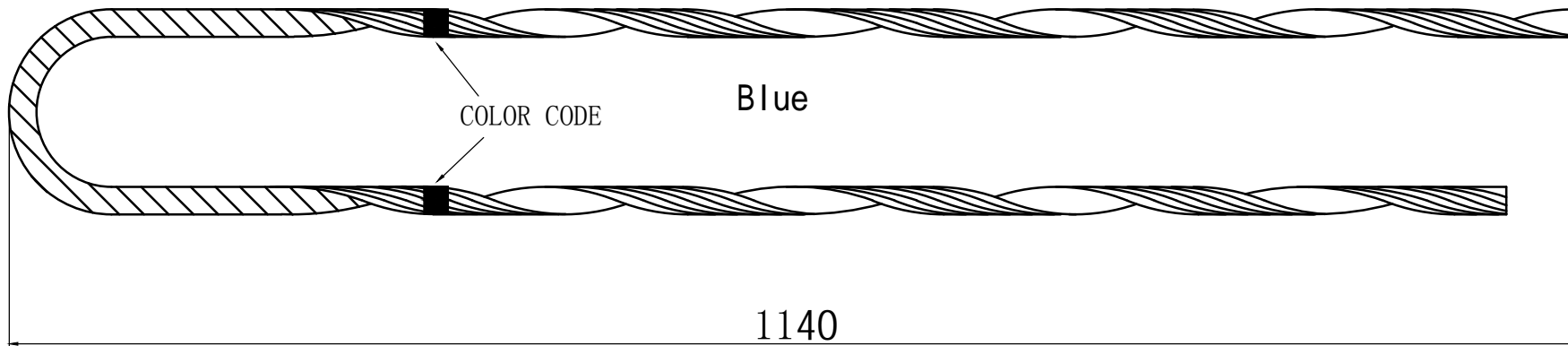
PREFORMED FOR 12.9 - 14mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 12.9 - 14.1 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 12.9-14.1 mm
GUY WIRE



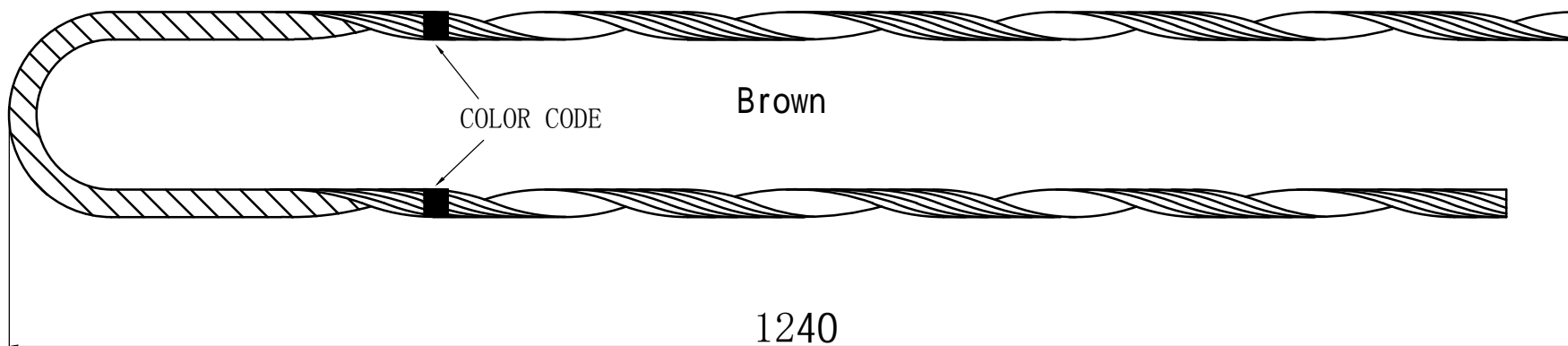
PREFORMED FOR 14.2 - 15.6mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 14.2 - 15.6 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 14.2-15.6 mm
GUY WIRE, 6 rods



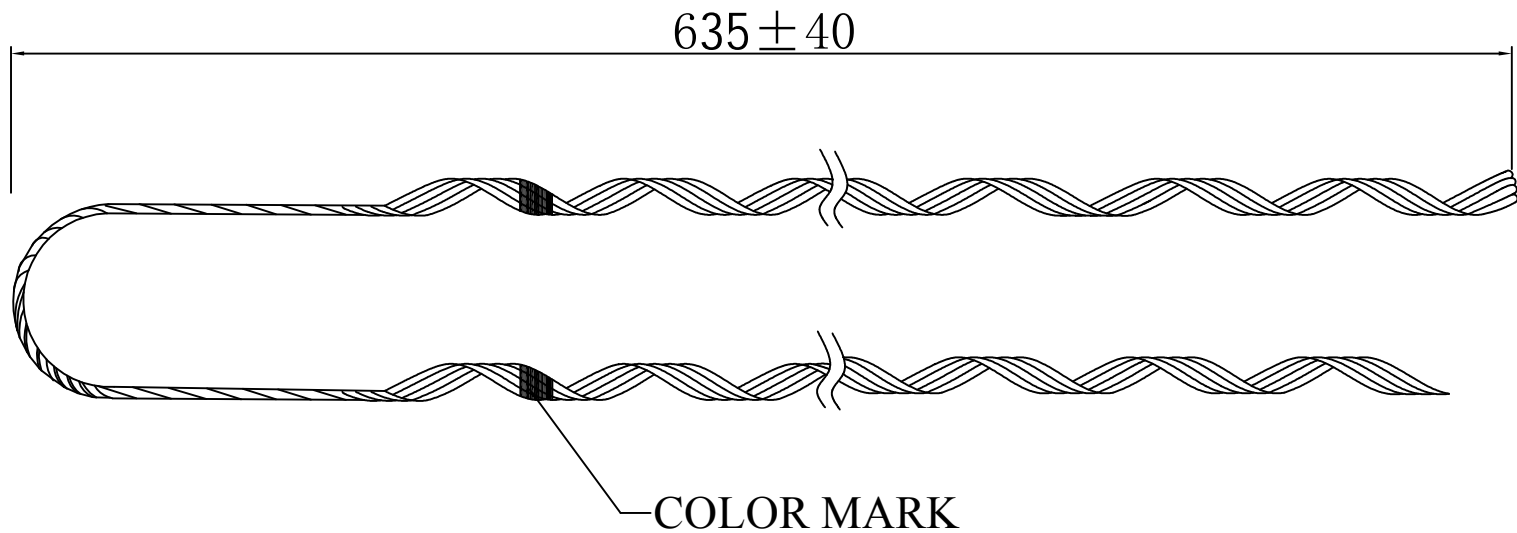
PREFORMED FOR 15.7 - 17.3 mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 15.7- 17.3 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 15.7-17.3 mm
GUY WIRE, 6 strands



PREFORMED FOR 17.4 - 19.1 mm GUY WIRE	
1	Remate preformado doble "lite Tension" de aleacion de aluminio con recubrimiento de neopreno
2	para cable ADSS de 17.4- 19.1 mm
3	Tension nominal de trabajo 2.7Kn
4	Tension maxima permisible 3.5Kn por periodos cortos de tiempo

PREFORMED DEAD END GUY ADSS for 17.4-19.1 mm
GUY WIRE, 6 strands



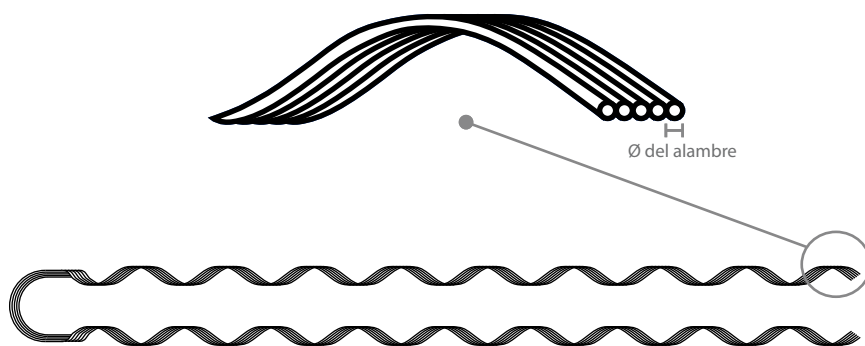
NOTE:

1. Tension Rods MATERIAL: GALVANIZED STEEL.
2. All dimensions are in millimeters.
3. STRAND DIA. (d) 2.18mm, NUMBER OF STRAND 5.

ANY-TYPE-MW1/4		
Tolerance		DEAD END FOR MESSENGER WIRE 1/4"
≤35mm	± 1.5mm	
>35mm	± 5%	
MAX.	±10mm	
DRAWING	W. C. F	
VERIFY	ZH.J	
RATIFICATION	ZH.J	

REMATES PREFORMADOS PARA CABLE MENSAJERO

FE-RM 3/16x21



(imágenes ilustrativas)

CATÁLOGO	DIÁMETRO (mm)	LONGITUD (mm)	NO. DE ALAMBRES	DIÁMETRO DEL ALAMBRE (in)	CÓDIGO DE COLOR	RESISTENCIA (kg)
RM1/16*	1/16" (1.6)	300	2	0.072	Café	200
RM1/8	1/8" (3.17)	350	3	0.072	Verde	800
RM3/16	3/16" (4.76)	558	4	0.086	Rojo	1,650
RM1/4	1/4" (6.35)	660	4	0.086	Amarillo	2,600
RM5/16	5/16" (7.94)	780	4	0.105	Negro	3,900
RM3/8	3/8" (9.52)	890	4	0.105	Naranja	5,100
RM1/2	1/2" (12.7)	1010	4	0.165	Azul	9,000

*Solo para uso en mensajero metálico.



FROG ENGINEERING

Anclajes automáticos

AUTOMATIC FASTENING FOR MESSENGER

The product is primarily used by telephone, CATV and electric utilities to terminate strand or rod at the pole and at the anchor eye. They can be fixed easily and fast.

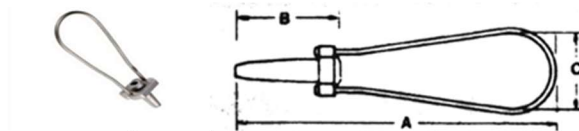
Features:

- The minimum holding strength is 90% RBS of wire specified

Application:

- Designed to support both ends of self-supporting multi-pair drop wire that uses a solid galvanized steel messenger wire that is integrated into the jacket in a figure 8 configuration
- Used to splice galvanized steel messenger mid-span of a service drop

Technical specs



Item No.	Bail ϕ (mm)	Dimensions(mm)			Wire Range		Weight(g)
		A	B	C	inches	mm	
Fastvise -1/23L	3	140	39	43	0.043-0.059	1.1-1.5	37
Fastvise -1/16L	3	140	39	43	0.055-0.078	1.3-1.9	37
Fastvise-3/32L	3	140	39	43	0.071-0.100	1.8-2.5	37
Fastvise-7/64L	3	140	39	43	0.102-0.114	2.3-3.0	37
Fastvise-supper 1/8L	3	140	39	43	0.102-0.125	2.6-3.2	37
Fastvise-1/8L	4	182	70	43	0.118-0.157	3.0-4.0	70
Fastvise -1/23LL	3	180	39	43	0.043-0.059	1.1-1.5	40
Fastvise -1/16LL	3	180	39	43	0.055-0.078	1.3-1.9	40
Fastvise-3/32LL	3	180	39	43	0.071-0.100	1.8-2.5	40
Fastvise-7/64LL	3	180	39	43	0.102-0.114	2.3-3.0	40
Fastvise-Supper 1/8LL	3	180	39	43	0.102-0.125	2.3-3.2	40



Item No.	Bail ϕ (mm)	Dimensions(mm)			Wire Range		Weight(g)
		A	B	C	inches	mm	
FASTLINK 1/23	link	80.5	11.5	null	0.043-0.059	1.1-1.5	14
FASTLINK 1/16	link	80.5	11.5	null	0.055-0.078	1.3-1.9	14
FASTLINK 3/32	link	80.5	11.5	null	0.071-0.100	1.8-2.5	14
FASTLINK 7/64	link	80.5	11.5	null	0.102-0.114	2.3-3.0	14
FASTLINK -Supper-1/8	link	80.5	11.5	null	0.102-0.125	2.3-3.2	14
FASTLINK 1/8	link	117	16.5	null	0.118-0.157	3.0-4.0	41

AUTOMATIC STRAND DEADENDS

The Automatic strand dead-end &Splice is used primarily by telephone and electric utilities to terminate strand or rod at the pole top and at the anchor eye. For Suspension Strand, Guy Strand and Static Wire. Used to terminate aerial support strand messenger, and at the top and bottom ends of down guys. All-Grades Automatic strand dead-end is for those 7-wire strands and solid wires identified by name brands, coatings, types of steel, and within diameter ranges listed, but not 3-wire strand and not Alumoweld. Recommended use on Galvanized zinc coated, Aluminized, and Bethalume. Note: Can be used with all breaking strengths for galvanized guy strand messenger.

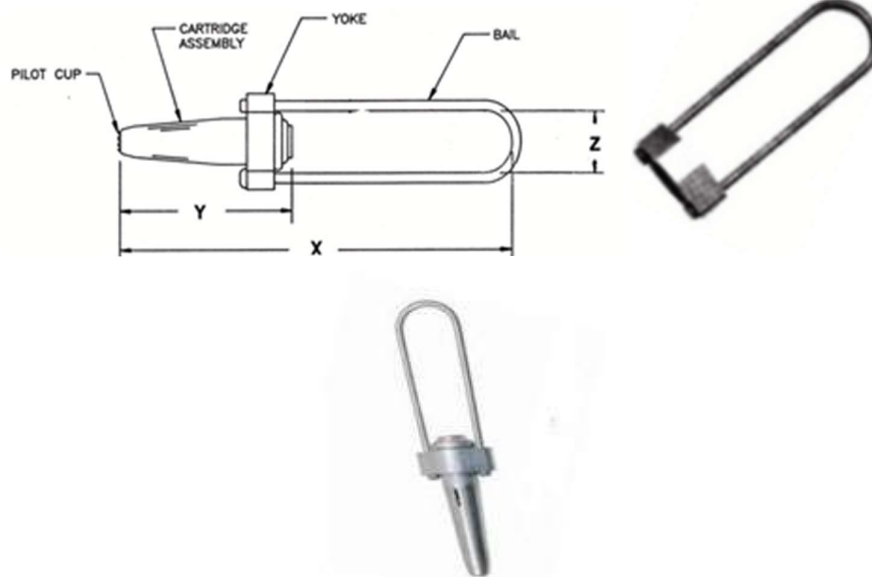
Features:

- Rated to hold a minimum of 90% of RBS of the strand used

Application:

- For dead-end applications with overhead or down guy wire
- "Universal Grade" are recommended for use with Alumoweld, Aluminized, EHS and Galvanized Steel
- "All Grades" are recommended for use on Common Grade, Siemens-Martin, High Strength Utility Grade, Galvanized and Aluminized steel strand

Technical parameters:



Item No.	Bail \varnothing (mm)	Dimensions(mm)			Wire Range		Weight(g)
		X	Y	Z	inches	mm	
Automatic Strand Deadend 3/16"	4.5	244	121	40	.138-.217	3.5-5.5	180
Automatic Strand Deadend 1/4"	5.2	233	101	41	.240-.272	6.0-6.8	162
Automatic Strand Deadend 1/4"L	5.2	326	101	41	.240-.272	6.0-6.8	221
Automatic Strand Deadend 1/4"EHS	5.8	251	121	41	.215-.270	5.46-6.86	250
Automatic Strand Deadend 1/4"EHS- L	5.8	344	121	41	.215-.270	5.46-6.86	293
Automatic Strand Deadend 5/16"	6.8	234	113	37.6	.307-.343	7.8-8.7	300
Automatic Strand Deadend 5/16" L	6.8	343	113	37.6	.307-.343	7.8-8.7	357
Automatic Strand Deadend 5/16"EHS	7	265	136	44	.270-.315	6.85-8.0	380
Automatic Strand Deadend 5/16"EHS-L	7	399	136	44	.270-.315	6.85-8.0	480
Automatic Strand Deadend 3/8"	8	294	132	41	.354-.378	9.0-9.6	480
Automatic Strand Deadend 3/8"L	8	432	132	41	.354-.378	9.0-9.6	591
Automatic Strand Deadend 3/8"EHS	8	338	163	50.8	.325-.392	8.2-9.96	620
Automatic Strand Deadend 3/8"EHS-L	8	431	163	53.8	.325-.392	8.2-9.96	700
Automatic Strand Deadend 7/16"EHS	10	375	170	55	.413-.449	10.5-11.4	874
Automatic Strand Deadend 7/16"EHS-L	10	463	170	55	.413-.449	10.5-11.4	977
Automatic Strand Deadend 1/2"	10.3	414	180	52	.455-.520	11.55-13.2	970



FROG ENGINEERING

Cables y guardacabos

FE-CA-XX_XKm GALVANIZED STEEL CABLE

FE-CA-XX Steel cable is manufactured using a hot-dip galvanized process with a zinc coating, which provides a high degree of corrosion resistance and allows its use in a variety of environments. It achieves diameter uniformity in its 1X7 helical counterclockwise braiding to a center core.

Meets the requirements of ASTM A475, NTC 2145: tensile strength, elongation, ductility, weight, zinc coating, coating adhesion and diameter.



APPLICATIONS

- It is generally used for static Works, electrical sector, construction and telecommunications.
- Retention cable.
- Lashing cable.
- Messenger core for conductor cable.

TECHNICAL SPECS

Nominal cable diameter 1x7		Nominal wire diameter (mm)	Pitch máx. (mm)	Minimum Breaking Cable Load (Lbf) - [KN]		Minimum Zinc weight	Approx. net weight	
(Inches)	(mm)			Extra High Resistencia (EHS)	High Resistencia (HS)		Kg/Km	Lb/1K ft
1/8"	3.18	1.04 ±	50,88	1830	1330	122	96	64.5
3/16"	4.76	1.57 ±	76,16	3990	2850	153	218	146.5
1/4"	6.35	2.03 ±	101,60	6650	4750	183	180	121
5/16"	7.94	2.64 ±	127,04	11200	8000	244	305	205
3/8"	9.52	3.05 ±	152,32	15400	10800	259	407	273.5
7/16"	11.11	3.68 ±	177,76	20800	14500	275	595	400
1/2"	12.70	4.19 ±	203,20	26900	18800	275	770	517

- Class A zinc coating according to ASTM A475.
- Minimum elongation in 24" (610 mm): EHS 4%, HS 5%.

CARE AND HANDLING

- Do not drop the cable reel on the ground. Unload gently, preferably with a forklift.
- To pass the reel from one rail to another, it must be passed over or under and received in the same way.

Never do it crosswise.

- Check the good condition of the pulleys, drums and recommended diameters to work the cable.
- Depending on the application, it is important that the cable have good lubrication.
- It is important to know the breaking strengths, safety factors and workload.

PACKAGING

Reference	Meters per reel
1/8" y 3/16"	2000
1/4" y 5/16"	1000, 2000, 3000
3/8"	1000, 2000
7/16" y 1/2"	1000

- Length tolerance: -0 to +10%.
- The number of meters per reel can be customized at the client's request.

CABLE MENSAJERO TIPO RETENIDA

Cable de guarda de acero alta resistencia, galvanizado tipo "A" de construcción 1x7 (6/1).

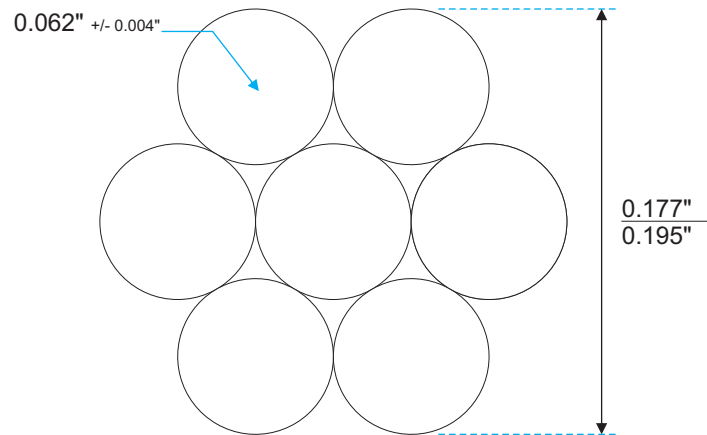


FROG ENGINEERING



FE-CA3/16-A

Mensajero 3/16"



Características:

- Cable de acero galvanizado clase A
- Grado alta resistencia galvanizado
- Norma de fabricación: ASTM-A475
- Norma de galvanizado: ASTM-A90

Especificaciones	
Diámetro	3/16"
Construcción	1x7 (6/1)
Tipo de torcido	Torcido izquierdo
Masa mínima de capa de zinc	153 g/mm ²
Paso de la hélice	51.97 mm
Carga de ruptura mínima	1293 kg
Lubricación	Sin lubricación
Límite elástico	581.85 kg
Área de sección transversal	13.55 mm ²
Esfuerzo último de tensión	936 N/mm ²
Módulo de elasticidad inicial	147,105 N/mm ²
Módulo de elasticidad final	156,912 N/mm ²
Coefficiente de expansión térmica	12.5X10 ⁻⁶ X°CXLong (mm)
Peso aproximado	0.108 kg/m

Catálogo	Descripción
FE-CA 3/16-A	Cable galvanizado tipo "A" (mensajero) de 3/16"

* (2000) Bobina de 2,000 metros, (1000) Bobina de 1,000 metros

CABLE MENSAJERO TIPO RETENIDA



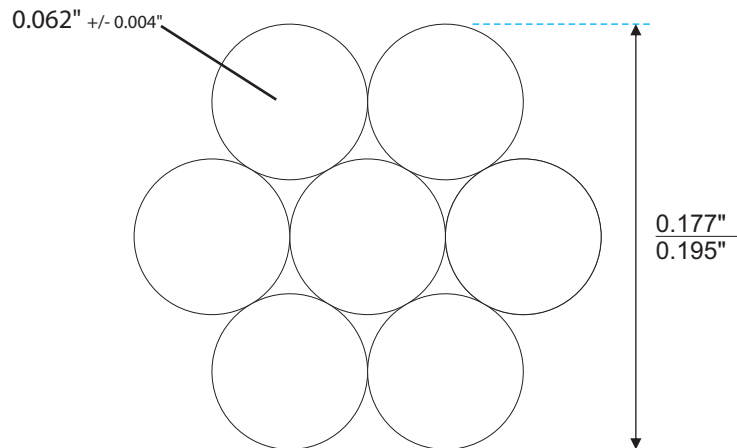
FROG ENGINEERING

Cable de guarda de acero alta resistencia, galvanizado tipo "B" de construcción 1x7 (6/1).

FE-CA3/16-B



Mensajero 3/16"



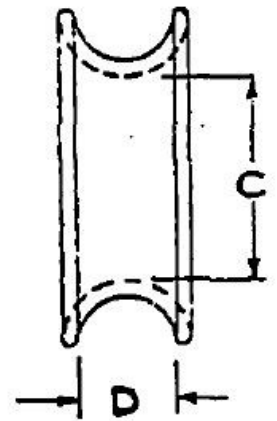
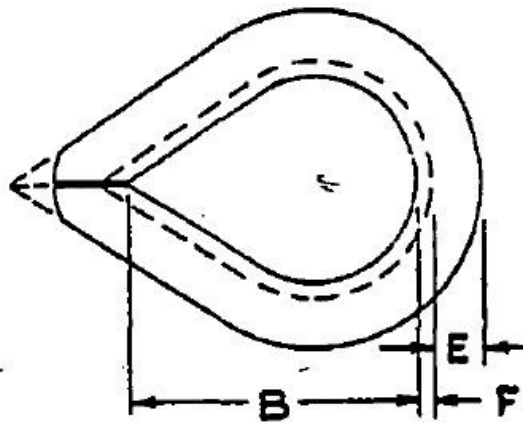
Características:

- Cable de acero galvanizado clase B
- Grado alta resistencia galvanizado
- Norma de fabricación: ASTM-A475
- Norma de galvanizado: ASTM-A90

Especificaciones	
Diámetro	3/16"
Construcción	1x7 (6/1)
Tipo de torcido	Torcido izquierdo
Masa mínima de capa de zinc	305 g/mm ²
Paso de la hélice	51.97 mm
Carga de ruptura mínima	1293 kg
Lubricación	Sin lubricación
Límite elástico	581.85 kg
Área de sección transversal	13.55 mm ²
Esfuerzo último de tensión	936 N/mm ²
Módulo de elasticidad inicial	147,105 N/mm ²
Módulo de elasticidad final	156,912 N/mm ²
Coefficiente de expansión térmica	12.5X10 ⁻⁶ X°CXLong (mm)
Peso aproximado	0.108 kg/m

Catálogo	Descripción
FE-CA-3/16-B	Cable galvanizado tipo "B" (mensajero) de 3/16"

* (2000) Bobina de 2,000 metros, (1000) Bobina de 1,000 metros



Los guardacabos están diseñados para acomodar cables mensajeros tipo retenida. Las piezas están terminadas en acero galvanizado por inmersión en caliente.

Especificaciones			
Catalogo	FE-GC-1/8	FE-GC-3/8	FE-GC-1/2
Grosor cable	1/8"	3/8"	1/2"
B Min.	1-1/4	1-9/16	1-7/8
C Min.	11/16	15/16	1-1/8
D Min.	6/32	13/32	17/32
E Min.	1/8	3/16	3/16
F Min.	3/64	1/16	1/16
Peso 100 pcs (libras)	3.25	7.40	13.75