



KENYA ELECTRICITY TRANSMISSION CO.

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Email: info@ketraco.co.ke

Our Ref: KETRACO-PT-020-2025

20th May 2025

Notice to all Bidders

RE: TENDER ADDENDUM AND CLARIFICATION 2 FOR REPLACEMENT OF THE EXISTING EMERGENCY RESTORATION TOWER (ERT) AT LOCATION C181 ALONG THE 220KV LESSOS-KIBOS LINE WITH A PERMANENT TOWER.

The following amendments are made to the specified provisions of Replacement of The Existing Emergency Restoration Tower (ERT) At Location C181 Along The 220kv Lessos-Kibos Line with A Permanent Tower (KETRACO-PT-020-2025). Save where expressly amended by the terms of this clarification, the Principal Tender Document shall continue to be in full force and effect.

Find herein an ADDENDUM AND CLARIFICATION No. 2. This document should be returned along with the duly filled Form of Tender.

No	Clarification	KETRACO Response
1	The line from Kibos to Lessos comprises of two circuit. Will the temporary bypass comprises of two circuit?	Temporary bypass will comprises of one(1) circuit which currently energized.
2	Tower drawings, Insulator strings, conductor specification and spacer dampers not attached in the Tender document	Tower drawings, Insulator strings, conductor specification and spacer dampers attached.
3	Tender closing date	Tender closing dates is extended to Tuesday 10 th June 2025

All other terms and conditions of the tender document remain the same.

USER REPRESENTATIVE: Francis Mutinda

SIGNATURE:

APPROVED BY:



Ag. SENIOR MANAGER, SUPPLY CHAIN

Tender Addendum and Clarification No. 1 of Tender No. KETRACO-PT-020-2025 has been received and incorporated in the Tender Documents.

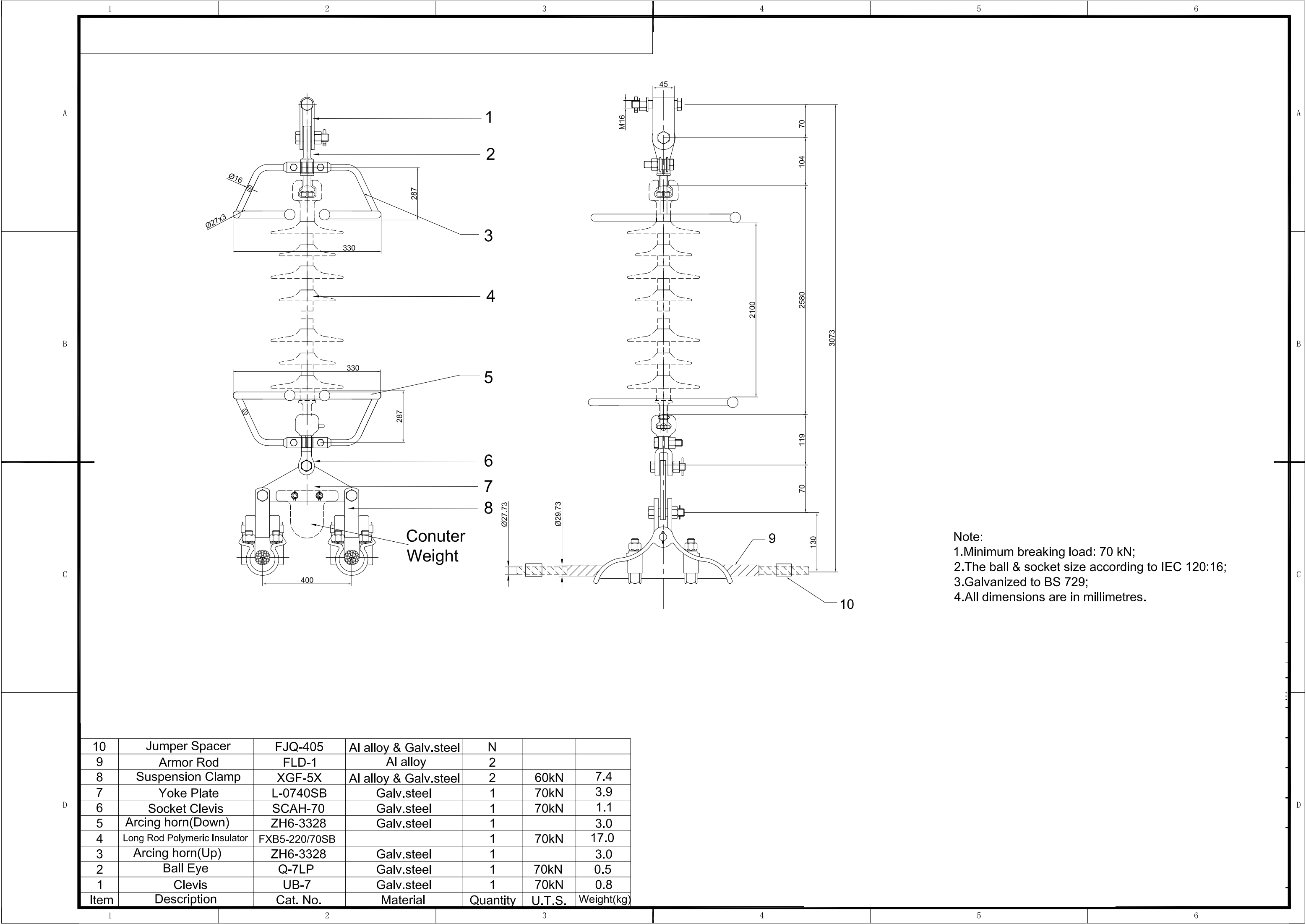
Name of Tenderer *(in block letters)*:

Signature:

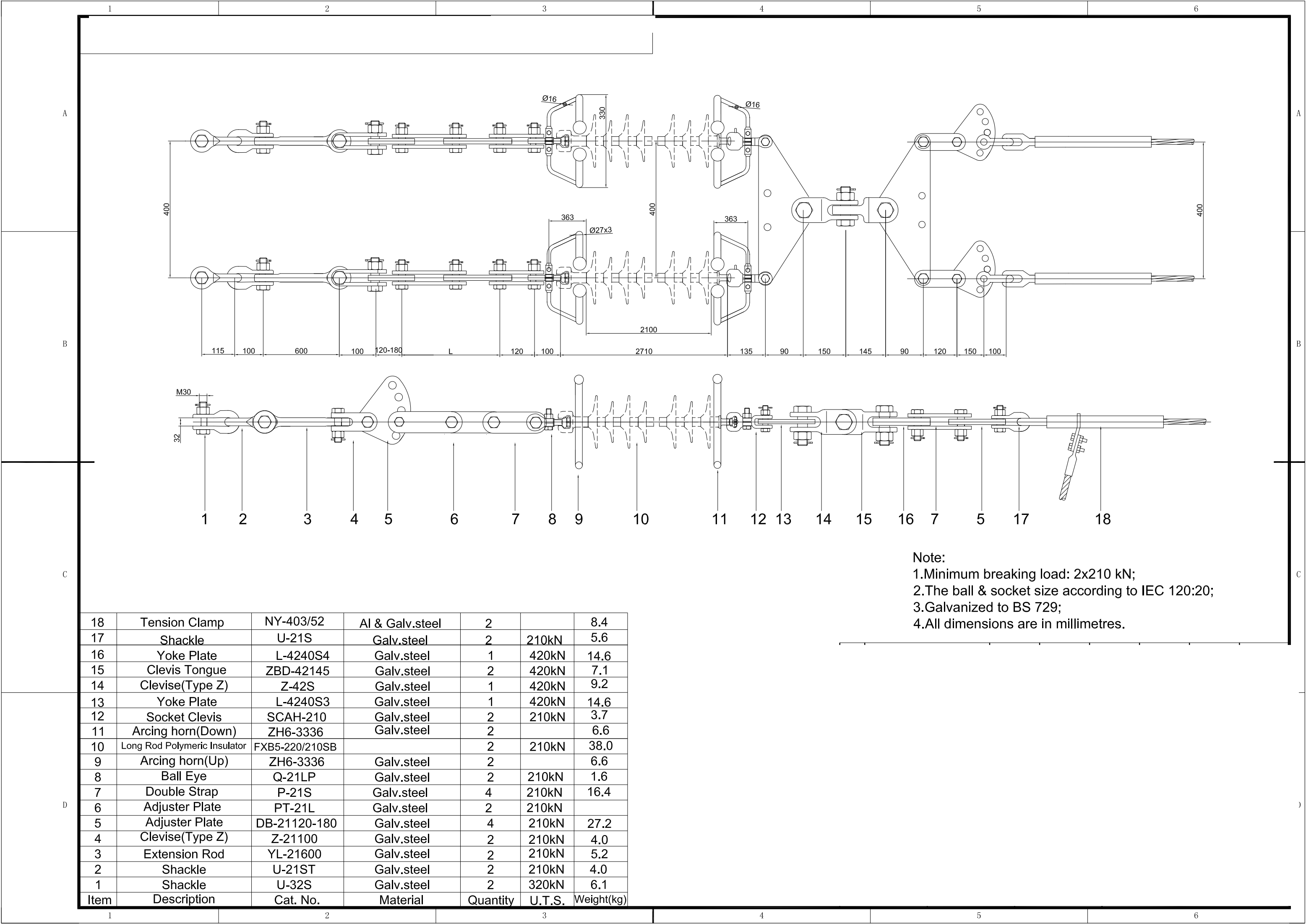
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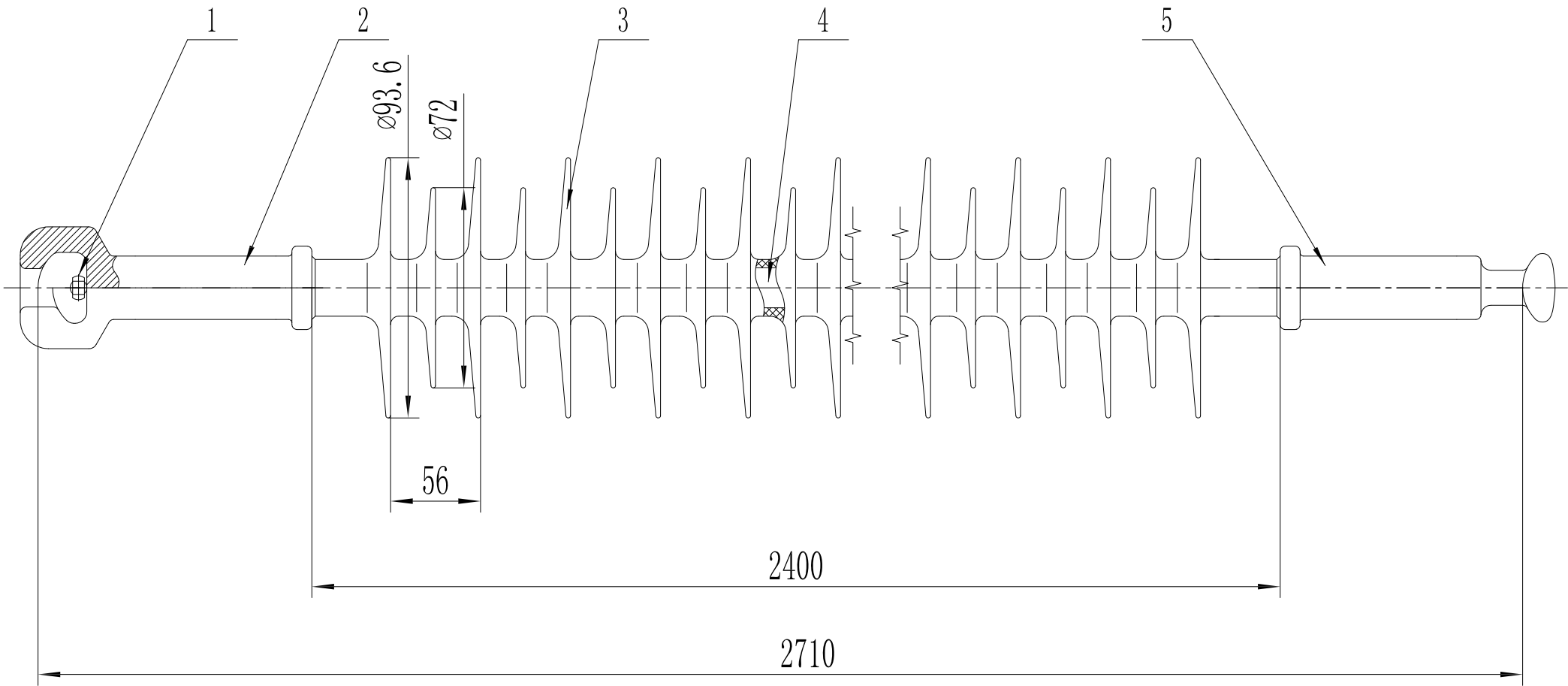
Signed for the Tenderer by
(Name in block letters):

In the office bearer capacity
of:



Note:
1.Minimum breaking load: 70 kN;
2.The ball & socket size according to IEC 120:16;
3.Galvanized to BS 729;
4.All dimensions are in millimetres.





TECHNICAL DATA:

Description	Unit	Value
Power frequency withstand voltage, dry	kV	823
Power frequency withstand voltage, wet	kV	621
Lightning impulse withstand voltage, pos.	kV	1323
Lightning impulse withstand voltage, neg.	kV	1323
Specified mechanical Load (SML)	kN	210
Routine test load (RTL)	kN	105
Min. creepage distance	mm	10160
Colour		Grey
Approx. weight	kg	19

Note:Test according to IEC61109

Tolerance on all dimensions according to IEC61109

5	Ball	Acc.to IEC60120 size 20	1	Forged steel with H.D.G	
4	Core	$\varnothing 24$	1	ECR Fiberglass rod	
3	Weathersheds	$\varnothing 156/\varnothing 120$	42/41	HTV Silicone rubber	
2	Socket	Acc.to IEC60120 size 20	1	Forged steel with H.D.G	
1	Split Pin	Acc.to IEC60372	1	Stainless Steel	
SR. No.	Description	Specification	Qty.	Material	Remarks



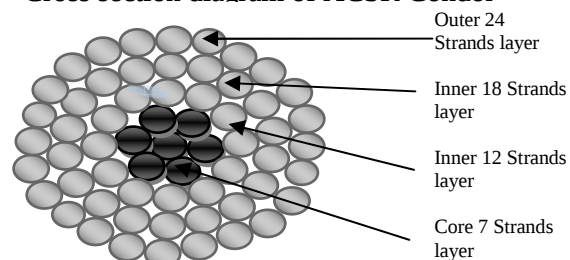
TECHNICAL DATA SHEET

Concentric Lay Stranded Aluminum Conductors steel Reinforced –ACSR Condor

Conductor Type & Code	ACSR Condor
General Specification Standard	ASTM B232
Cross Sectional area - Aluminum	402.30 sq.mm
Cross Sectional area – Steel Core	52.15 sq.mm
Total Area of cross Section	454.5 sq.mm
No. & Diameter of Aluminum	54 x 3.08 mm
No. & Diameter of Steel core	7 x 3.08 mm
Overall Diameter of Conductor	27.72 mm
Mass Per Unit Length-Aluminum	1116 kg/km
Mass Per Unit Length-Steel Core	407 kg/km
Mass Per Unit Length -Conductor	1523 kg/km
Minimum Braking Strength of the conductor	127.90 kN
Maximum DC Resistance at 20°C	0.0718 ohm/km

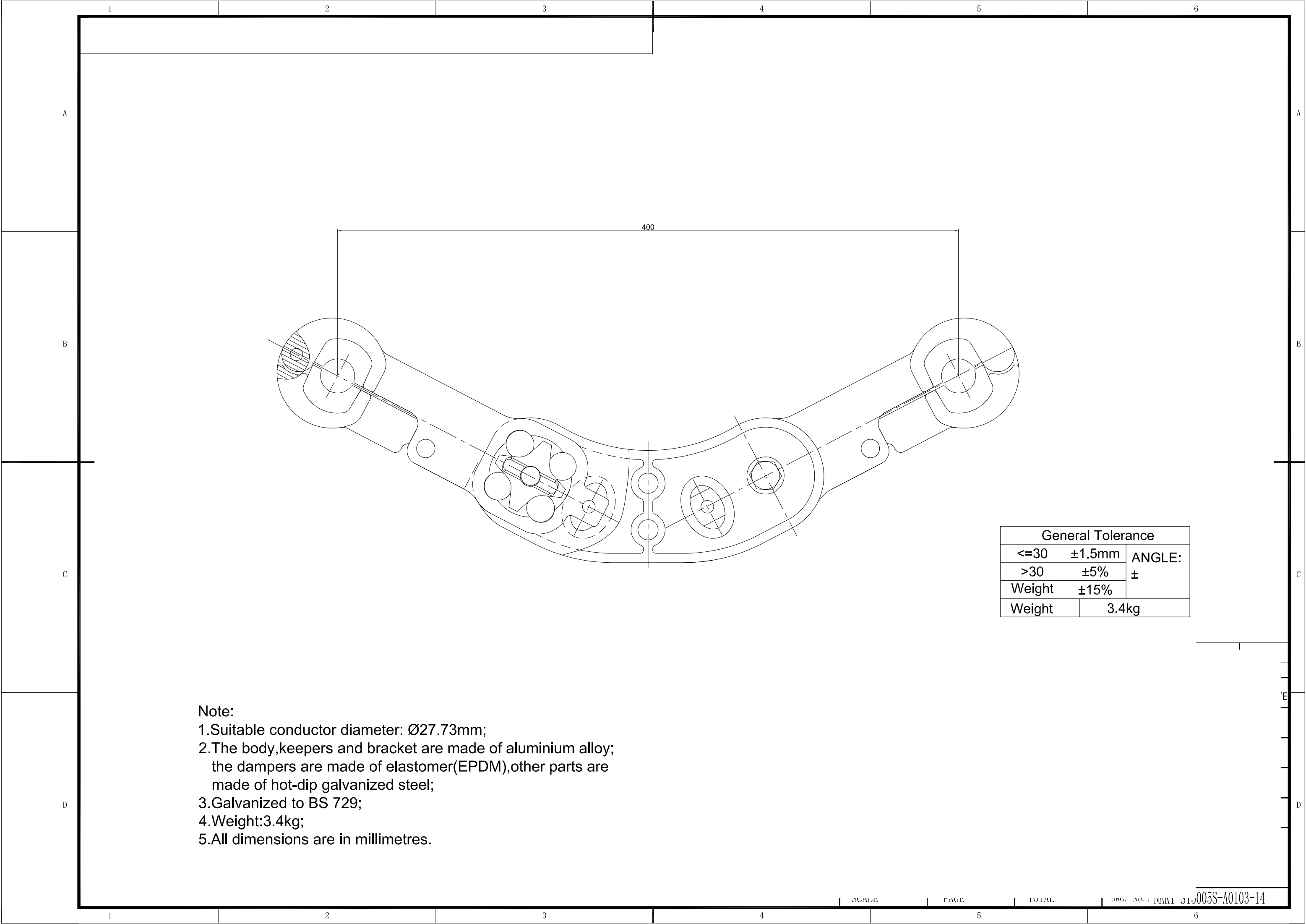
Lay Direction of outer layer	Right hand
Lay ratio	
Outer Layer of Aluminum Wire	Min.10 Max.13
Inner Layer of Aluminum Wire	Min.10 Max.16
Inner most layer of Aluminum Wire	Min.10 Max.17
Inner layer of Steel Core	Min.18 Max.30

Cross section diagram of ACSR Condor



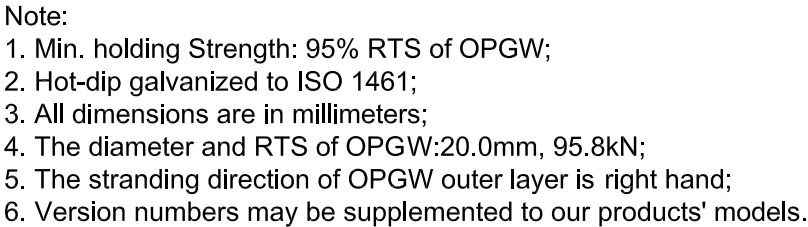
Individual Aluminum Wires (Before standing)		Individual Steel Wire (Before standing)	
Maximum Resistivity	28.265 Ohm mm ² /m	Minimum Tensile Strength	1410 Mpa
Minimum Tensile Strength	160 Mpa	Minimum Stress at 1 %	1240 Mpa
		Minimum mass Of Zinc Coating	240 g/m ²

Coefficient of thermal expansion	19.3 x10-6/°C	Final modulus elasticity	68646 N/sq.mm
Standard length /Drum	3000 +/- 5% Meter		
Mass of Grease (all inner layers Greased)	54.45 kg/km +/- (20%)		



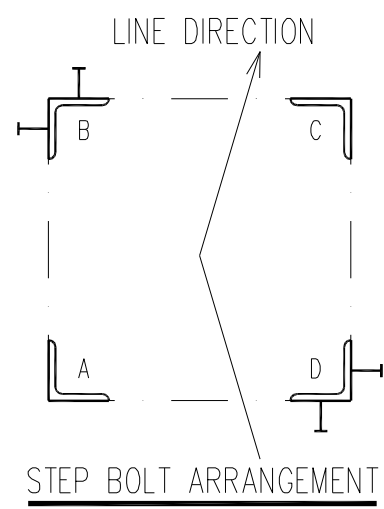
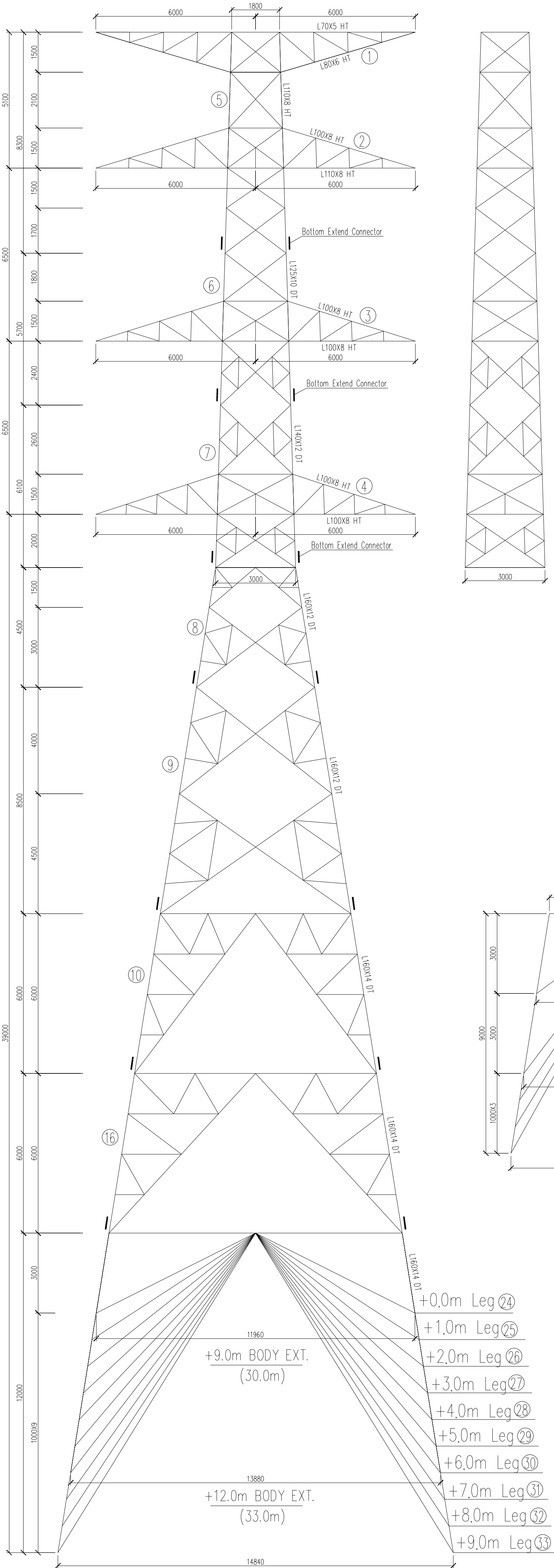
Note:
1.Suitable conductor diameter: Ø27.73mm;
2.The body,keepers and bracket are made of aluminium alloy;
the dampers are made of elastomer(EPDM),other parts are
made of hot-dip galvanized steel;
3.Galvanized to BS 729;
4.Weight:3.4kg;
5.All dimensions are in millimetres.

General Tolerance		
<=30	±1.5mm	ANGLE: ±
>30	±5%	
Weight	±15%	
Weight	3.4kg	



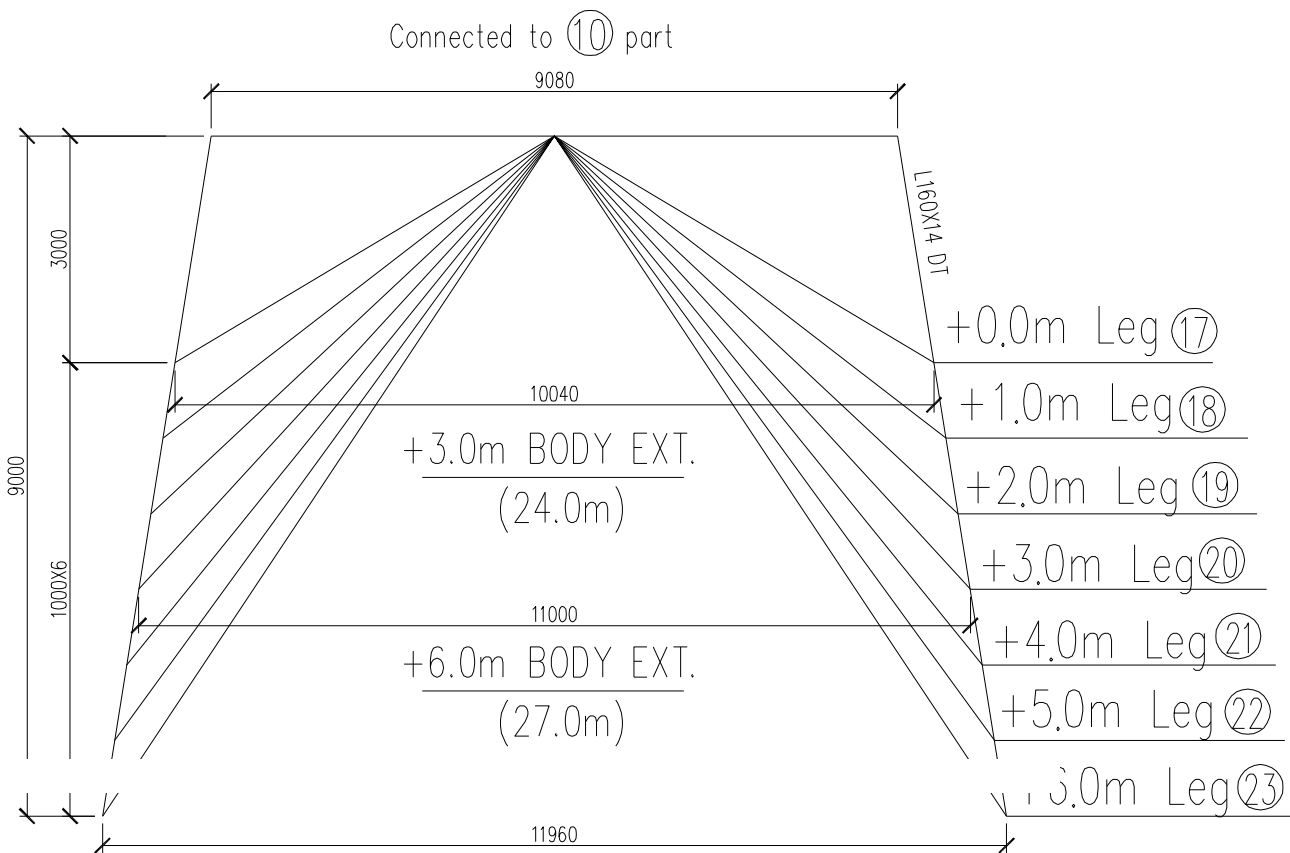
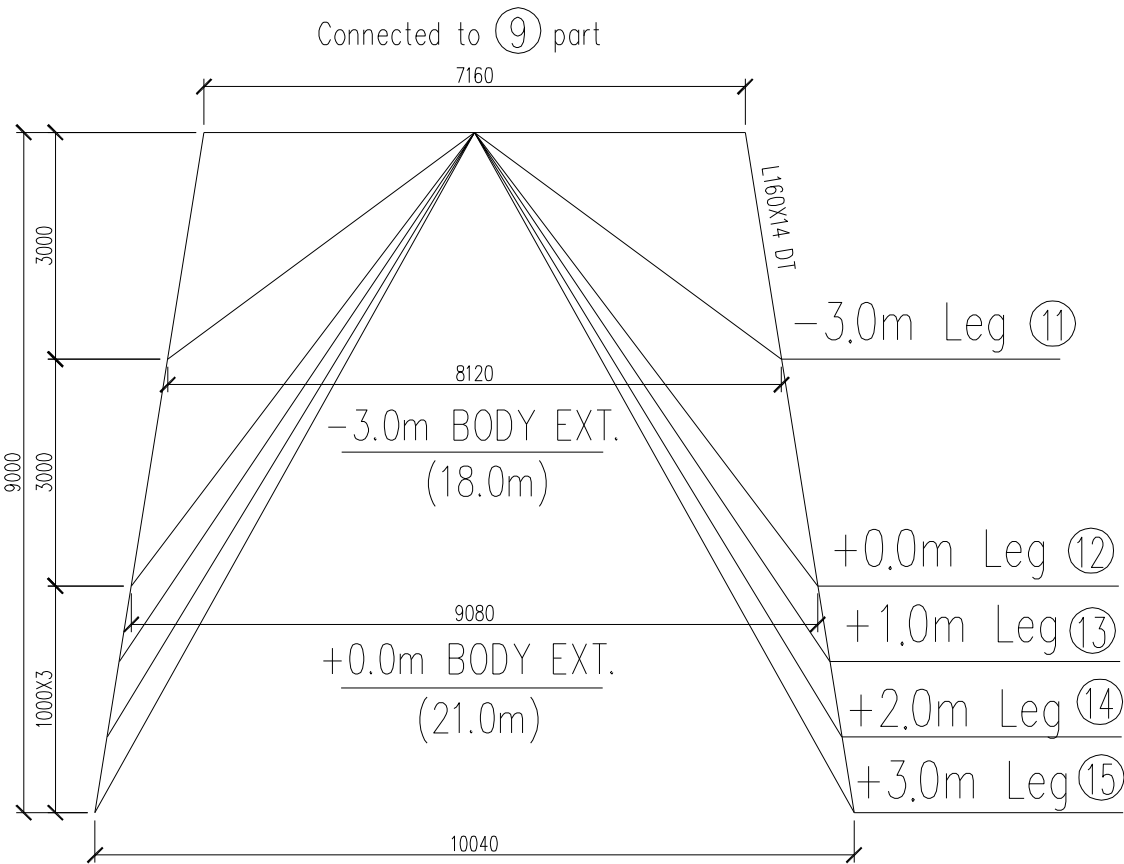
General Tolerance		
<=30	±1.5mm	ANGLE: ±
>30	±5%	
Weight	±15%	
Weight	16.0kg	

10	Earth Bonding Lead	JDX-150-2000	Aluminum	1		1.1
9	Parallel Groove Clamp	JBL-50-240B	Aluminum Alloy	1		0.34
8	Structural Reinforcing Rods	ONN	Al.-Clad Steel	1		2
7	Dead-End Component	ONW	Al.-Clad Steel	1		4.1
6	Thimble Clevis	TC-12	Galv. Steel	1	120kN	1.4
5	Strap	PD-10	Galv. Steel	1	100kN	0.6
4	Double Straps	P-10	Galv. Steel	1	100kN	0.9
3	Adjuster Plate	DB-10	Galv. Steel	1	100kN	2.6
2	Shackle	U-10	Galv. Steel	2	100kN	0.7
1	Clevis Hings	GD-12S	Galv. Steel	1	120kN	1.6
Item	Description	Cat. No.	Material	QTY	RFL	Weight(kg)

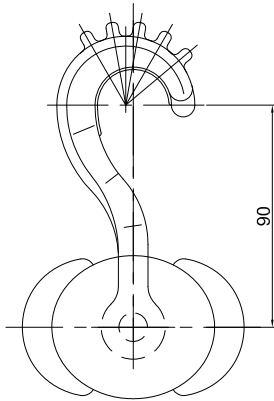
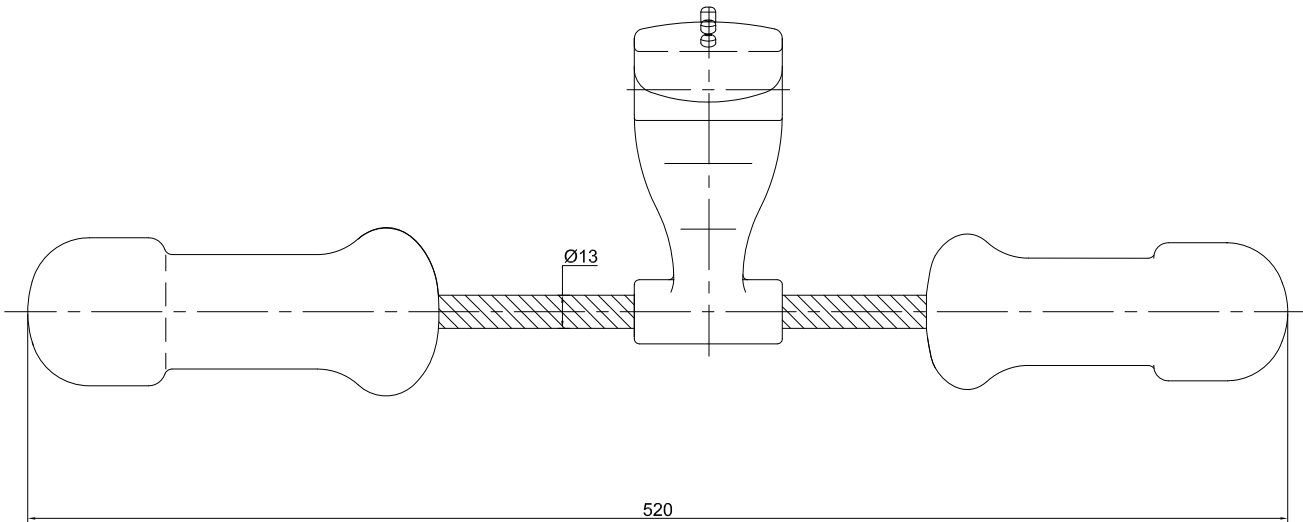
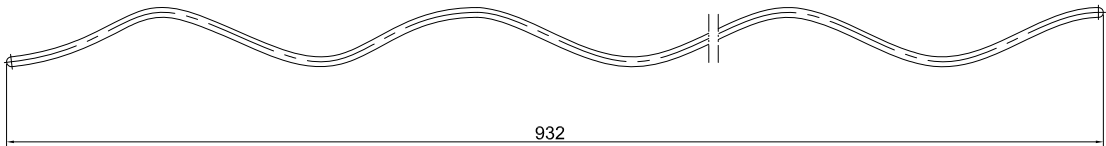


Half Distance Between Angle Gauge (Lt) & Half Distance Between Centerlines of Footings (Lj)					
Tower Nominal Height (m)	Leg Number	Lt		Lj	
		Front	Side	Front	Side
18	⑪	4060	4060	4100	4100
21	⑫	4540	4540	4580	4580
22	⑬	4700	4700	4740	4740
23	⑭	4860	4860	4900	4900
24	⑮	5020	5020	5060	5060
24	⑰	5020	5020	5060	5060
25	⑱	5180	5180	5220	5220
26	⑲	5340	5340	5380	5380
27	⑳	5500	5500	5540	5540
28	㉑	5660	5660	5700	5700
29	㉒	5820	5820	5860	5860
30	㉓	5980	5980	6020	6020
30	㉔	5980	5980	6020	6020
31	㉕	6140	6140	6180	6180
32	㉖	6300	6300	6340	6340
33	㉗	6460	6460	6500	6500
34	㉘	6620	6620	6660	6660
35	㉙	6780	6780	6820	6820
36	㉚	6940	6940	6980	6980
37	㉛	7100	7100	7140	7140
38	㉜	7260	7260	7300	7300
39	㉝	7420	7420	7460	7460

Tower Nominal Height (m)	Tower Body and Leg Extensions	Common Section Number	Leg Number
18	-3m BE.	①~⑨	⑪
21	0m BODY EXT.		⑫
22	+1m LE. + 0m BE.		⑬
23	+2m LE. + 0m BE.		⑭
24	+3m LE. + 0m BE.		⑮
24	+3m BE.	①~⑨+⑩	⑰
25	+1m LE. TO +3m BE.&+4m LE. TO 0m BE.		⑱
26	+2m LE. TO +3m BE.&+5m LE. TO 0m BE.		⑲
27	+3m LE. TO +3m BE.&+6m LE. TO 0m BE.		㉑
28	+4m LE. TO +3m BE. & +1m LE. TO +6m BE.		㉒
29	+5m LE. TO +3m BE. & +2m LE. TO +6m BE.		㉓
30	+6m LE. TO +3m BE. & +3m LE. TO +6m BE.		㉔
30	+3m BE.	①~⑨+⑩+⑯	㉕
31	+1m LE. TO +9m BE.&+4m LE. TO +6m BE.		㉖
32	+2m LE. TO +9m BE.&+5m LE. TO +6m BE.		㉗
33	+3m LE. TO +9m BE.&+6m LE. TO +6m BE.		㉘
34	+4m LE. TO +9m BE. & +1m LE. TO +12m BE.		㉙
35	+5m LE. TO +9m BE. & +2m LE. TO +12m BE.		㉚
36	+6m LE. TO +9m BE. & +3m LE. TO +12m BE.		㉛
37	+4m LE. TO +12m BE.		㉜
38	+5m LE. TO +12m BE.		㉝
39	+6m LE. TO +12m BE.		㉞



		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33					
		MATERIAL LIST																																					
Name	Grade	Size	PART NO.																																	WEIGHT=Common Section(kg)			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	①~⑨	①~⑨+⑩	①~⑨+⑩+⑬	
STEEL ANGLE	Q420	L160X14										828.0	87.2	191.8	453.2	261.4	296.2	841.6	88.9	123.7	158.6	193.4	228.3	263.1	298.0	87.2	122.0	156.9	191.8	226.6	261.4	296.3	331.1	365.6	400.4	828.0	1669.6		
		L160X12								568.2	1011.6																								1579.8	1579.8	1579.8		
		L140X12							645.6				14.0	14.0	14.0	14.0	14.0	58.2	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	43.1	43.1		645.6	645.6	703.8	
		L140X10								49.0	49.0	12.2	12.2	12.2	12.2	12.2																			49.0	98.0	98.0		
		L125X10						457.6																											457.6	457.6	457.6		
		SUM						457.6	645.6	568.2	1060.6	877.0	113.4	218.0	479.4	287.6	322.4	899.8	117.5	152.3	187.2	222.0	256.9	291.7	326.6	115.8	150.6	185.5	220.4	255.2	290.0	324.9	359.7	408.7	443.5	2732.0	3609.0	4508.8	
	Q345	L110X8			3.4	3.4	496.1	68.9	79.4																											651.2	651.2	651.2	
		L100X8			507.6	494.4	50.9	173.0	229.2																											1455.1	1455.1	1455.1	
		L100X7					475.6	611.7	324.6		1250.0																									2661.9	2661.9	2661.9	
		L90X8	17.2						154.4																											171.6	171.6	171.6	
L90X7							109.6	177.9	509.0		16.6	88.8		156.4	173.8	191.6	426.8	107.6		135.8		168.0	184.8	202.6		136.6	149.8		180.6	8.3	8.3	8.3	8.3	267.2	796.5	813.1	1239.9		
L80X7						84.8	96.2	156.6			506.8		123.2				548.2		107.0		130.1								146.0		174.0	188.8	204.2	220.2		337.6	844.4	1392.6	
L80X6		126.1				28.8	36.3			213.0	269.4				5.6	5.6	11.2							5.6	5.6					5.6				5.6	404.2	673.6	684.8		
L75X6						76.8																													76.8	76.8	76.8		
L75X5						100.0		48.0																											148.0	148.0	148.0		
L70X6								37.6																											37.6	37.6	37.6		
L70X5					76.6	38.4										345.0						30.0	30.0	30.2				104.7	107.7	77.9	108.7	110.5	123.5	124.9	115.0	115.0	460.0		
L63X5	142.4	20.3	20.0	145.0	89.6	24.6		41.4	201.4	293.8				24.5	25.6	500.1	22.4			113.1	142.3	95.7	121.4	88.2	99.7	100.5		104.7	107.7	77.9	89.4	80.4	143.6	134.2	162.4	684.7	978.5	1478.6	
Q235	SUM	285.7	20.3	531.0	642.8	1479.2	985.7	1151.5	779.6	1664.4	1086.6	88.8	123.2	156.4	203.9	222.8	1831.3	130.0	107.0	135.8	243.2	310.3	316.1	359.6	256.8	236.3	250.3	290.9	361.6	349.6	386.2	466.6	486.2	560.1	7540.2	8626.8	10458.1		
	L110X8			303.4																															303.4	303.4	303.4		
	L100X8			248.4																															248.4	248.4	248.4		
	L56X5	31.4	70.9	97.6	40.7	111.8				103.6	74.6		42.0	105.7	75.5	125.9	167.6	65.9	26.2	26.2	42.7	38.5	56.7	54.7		16.0	16.0	21.6	21.2	101.6	155.0	120.7	166.9	163.7	456.0	530.6	698.2		
	L50X5	91.1	77.8	85.7	11.2				12.3	226.6	339.6	30.2	64.8	13.8	40.0	27.2	53.0			41.4	58.5	13.7	16.9	80.7	69.8		16.3	34.9	81.2	66.7	14.2	52.4	40.6	77.1	64.8	504.7	844.3	897.3	
	L45X5			15.8		37.2				41.3		131.5	28.4	25.8	53.0	37.2	40.7	171.6			23.4	38.0	34.4	48.5	13.4	27.9		43.5	44.5	9.6	37.6	48.2	27.9	28.2	35.0	35.9	94.3	225.8	397.4
	L45X4									10.6			6.0	15.7	15.8	14.4	14.4		6.0	20.7	20.7	17.7	17.7	15.9	15.9	6.0	6.0	23.0	19.6	19.6	17.4	16.0	16.0	18.0	15.0	10.6	10.6	10.6	
	L40X5	68.2	55.9	56.5	57.2	4.9	76.5	174.4	127.3	171.5	208.7	8.3	50.2	31.3	67.7	48.4	147.5	9.3	67.7	51.6	34.1	18.1	69.6	44.1	10.4	37.5	30.5	39.5	17.7	70.0	64.7	67.8	60.0	92.0	792.4	1001.1	1148.6		
	L40X3											5.3	5.0	5.2	5.2	5.6		6.6	4.3	5.0	5.2	5.2	5.1	5.4	4.9	4.9	4.9	4.5	5.4	6.2	5.6	4.8	5.1	4.8	5.2				
	SUM	190.7	772.2	239.8	146.3	116.7	76.5	174.4	191.5	501.7	754.4	78.2	203.5	224.8	240.0	262.2	539.7	87.8	183.7	200.0</																			



Numbers of Vibration dampers for ACSR-Condor			
Number	1	2	3
Span (m)	L≤450	450<L≤800	800<L≤1200

Note;
1.The clamp is aluminium alloy,damper weights are grey iron(Galvanized).The other parts are hot-dip galvanized steel;
2.Galvanized to BS 729;
3.Weight:5.0kg;
4.This type can also prevent corrosion;
5.All dimensions are in millimetres.

General Tolerance		
<=30	±1.5mm	ANGLE: ±
>30	±5%	
Weight	±15%	
Weight	5.0kg	