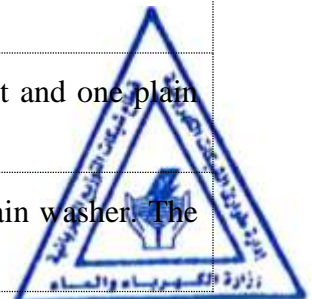


A-1	<u>STAY WIRE</u>	
	Galvanized mild steel wire with seven strand (each strand 4 mm dia) and grades 700 quality complying with BSS 183 or equivalent-in reels of 100 MTRs.	
	a)	Individual wire dimension : 7 Nos. 4 MM DIA
	b)	Overall dia : 12 MM
	c)	Minimum breaking load : 62.6 KN.
	Each reel shall be labeled in distinctive color and bold types – Vocab No. 0000237.	
	Tenderer shall supply full technical details.	
	The tenderer shall supply full technical details along with dimensional drawings of the stay wire. The successful tenderer shall carry out all necessary routine tests in the presence of the purchaser's inspector and the materials shall be dispatched only after inspector has released the materials.	
A-2	<u>SINGLE POLE ANGLE OR TERMINAL CROSS-ARM</u>	
	The angle or terminal cross-arm shall be fabricated from steel complying with BSS 4360 and amendments, grade 43 A or equivalent. All sections shall comply with BSS: 4848: part 4 and amendments or equivalent. All bolts, nuts and washers shall be to BSS 4190 or equivalent and amendments. After fabrication is completed, all steel work shall be hot-dip galvanized to BS 729 or equivalent. After galvanizing all steelworks shall be immediately dipped in a passivating solution to ensure protection against formation of stains during storage.	
	The angle or terminal cross-arm shall be drilled and dimensioned in accordance with (DRG. No. MC/1/104 A) and each set shall comprise of: -	
	1	No. Angle iron cross-arm 100 mm × 100 mm. × 10 mm. × 1828 mm.
	1	No. M 20 x 300 long eyebolt, complete with one full nut, one half locknut and two plain washers. The bolts shall be threaded to its full length.
	2	Nos. Tie straps 75 mm × 10 mm × 712 mm long.
	2	Nos. Line termination straps 75 mm × 12 mm × 254 mm and as shown in the drawing.
	1	No. M 20 × 280 long bolt complete with one full nut, one half nut and one plain washer. The bolts shall be threaded to 150 mm. at least.
	5	Nos. M 20 × 65 long bolts each complete with full nut, and one plain washer. The bolt shall be threaded to 50 mm at least.



	Additional (5%) of the total bolts, nuts and washer required for the total cross-arm, shall be supplied as loose items and the cost of these extra items shall be included in the unit price of cross arm sets.
	All threads shall be ISO metric and shall be cut from steel. Rolled or pressed threads will not be accepted. Each set of cross-arm shall be separately packed in an approved manner. The required bolts, nuts and washers shall be packaged separately in a strong bag, which shall be well secured to the cross-arm package assembly. In addition to all other required markings, each set of cross-arm package assembly shall be labeled in distinctive color and bold types - Vocab No. 0000215.
	The tenderer shall supply full technical details along with dimensional drawing of the cross-arm. The successful tenderer shall carry out all necessary routine tests in the presence of purchaser's inspector and materials shall be dispatched only after the inspector has released the materials.
A-3	<u>INTERMEDIATE CROSS-ARM</u>
	The intermediate cross-arm shall be fabricated from steel complying with BSS: 4360 and amendments, grade 43 A or equivalent. All sections shall comply with BSS: 4848: part 4 and amendments or equivalent. All bolts, nuts and washers shall be to BSS: 4190 and amendments or equivalent. After fabrication is completed, all steel works shall be hot dip galvanized. After galvanizing all steelworks shall be immediately dipped into a passivating solution to ensure protection against formation of stains during storage.
	The intermediate cross-arm shall be drilled and dimensioned exactly in accordance with (DRG. No. MC/1/82 B) and each shall comprise of :-
1	No. Angle iron cross-arm 100 mm × 75 mm x 10 mm × 1676 mm long.
2	Nos. M 20 × 260 long bolts, each completes with one full nut, one half locknut and two plain washers. The bolts shall be threaded for 150 mm length.
2	Nos. Tie straps 75 mm x 10 mm × 712 mm long.
2	Nos. M 20 × 50 long bolts with nuts and washers. The bolts shall be full threaded.
	Additional (5%) of the total bolts, nuts and washer required for the total cross-arm, shall be supplied as loose items and the cost of these extra items shall be included in the unit price of cross arm sets.
	All threads shall be ISO metric and shall be cut from steel. Rolled or pressed threads will not be accepted. Each set of intermediate cross-arm shall be separately packed in an approved manner. The required bolts, nuts and washers shall be packaged separately in a strong bag, which shall be well secured to the cross-arm package assembly. In addition to all other required markings, each set of intermediate cross-arm package assembly shall be labeled in distinctive color and bold types - Vocab No. 0000213.

	<p>The tenderer shall supply full technical details along with dimensional drawing of the cross-arm. The successful tenderer shall carry out all necessary routine tests, in the presence of purchaser's inspector and materials shall be dispatched only after the inspector has released the materials.</p>	
A-4	<u>TRANSFORMER H-POLE CROSS-ARM</u>	
	<p>The transformer H-pole cross-arms shall be fabricated from mild steel complying with BSS 4360 and amendments, grade 43 A or equivalent. All sections shall comply with BSS 4848 part 4 and amendments or equivalent. All bolts, nuts and washers shall be to BSS: 4190 and amendments or equivalent. After fabrication is completed, all steel works shall be hot dip galvanized to BSS: 729 or equivalent. All bolts and nuts shall also be galvanized. After galvanizing all steelworks shall be immediately dipped into a passivating solution to ensure protection against formation of stains during storage.</p>	
	<p>The cross-arm shall be drilled and dimensioned exactly in accordance with (DRG. No. MC/1/113 A) and each set shall comprise of the following: -</p>	
	2 Nos.	Channel iron cross-arm, 12 Kg/M, 100 mm × 50 mm × 1930 mm long.
	4 Nos.	M 20 × 330 long fixing bolts, each complete with one full nuts, one half nut and two plain washers. The bolts shall be threaded to its full length.
	4 Nos.	M 20 × 75 long fixing bolts with one full nuts, one half nut and two plain washers. The bolts shall be threaded to its full length.
	<p>Additional (5%) of the total bolts, nuts and washer required for the total cross-arm, shall be supplied as loose items and the cost of these extra items shall be included in the unit price of cross arm sets.</p>	
	<p>All threads shall be ISO metric and shall be cut from steel. Rolled or pressed threads will not be accepted. Each set of cross-arm shall be separately packed in an approved manner. The required bolts, nuts and washers shall be packaged separately in a strong bag, which shall be well secured to the cross-arm package assembly. In addition to all other required markings, each set of cross-arm package assembly shall be labeled in distinctive color and bold types the Vocab No. 0000233.</p>	
	<p>The tenderer shall supply full technical details along with dimensional drawing of the cross-arm. The successful tenderer shall carry out all necessary routine test in the presence of purchaser's inspector and materials shall be dispatched only after the inspector has released the materials.</p>	



A-5	TRUSSING TACKLE
	<p>The trussing tackle assembly shall be as shown on the attached drawing (DRG. No. MC/1/98 A) or equivalent. All the components shall be fabricated from steel complying with BSS 4360 and amendments, grade 43 A. After fabrication is complete, all steelworks shall be hot dip galvanized to BS 729 or equivalent. After galvanizing all steelworks shall be immediately dipped in a passivating solution to ensure protection against formation of stains during storage.</p>
	<p>The trussing tackle shall be supplied complete with all the required rods, spacing tubes, turn buckles, bolts, nuts and washers all as detailed in the attached (DRG. No. MC/1/98 A).</p>
	<p>Additional (5%) of the total bolts, nuts, turn buckles and washer required for the total quality shall be supplied as loose items and the cost of these extra items shall be included in the unit price of the trussing tackle.</p>
	<p>Each complete set of the trussing tackle assembly shall be separately packed in an approved manner. The required bolts, nuts, turnbuckles and washers shall be packaged separately in a strong bag which shall be well secured to trussing tackle package shall be labeled in distinctive color and bold types the Vocab No. 0000216.</p>
	<p>The tenderer shall supply full technical details along with dimensional drawing of the trussing tackle. The successful tenderer shall carry out all necessary routine tests in the presence of purchaser's inspector and materials shall be dispatched only after the inspector has released the materials.</p>

A-6	POLE BOX CROSS ARMS	
	<p>The cross-arm shall be drilled and dimensioned in accordance with (DRG. No. MC/1/121 A) and each set shall comprise of the following: -</p>	
	2 Nos.	100 mm × 50 mm. MS channel.
	3 Nos.	Cable saddle (MS flat of 4 mm thick as per the sketch)
	4 Nos.	M 20 × 330 long bolts, two lock nuts, two washers. the bolt shall be threaded for 150 mm.
	2 Nos.	M 10 × 70 long bolts each with lock nuts and washers fully threaded.
	4 Nos.	M 10 × 100 long coach screws for fixing cable saddle to wood pole.
	<p>Additional (5%) of the total bolts, nuts and washer required for the total cross-arm, shall be supplied as loose items and the cost of these extra items shall be included in the unit price of cross arm sets.</p>	

	<p>All threads shall be ISO metric and shall be cut from steel. Rolled or pressed threads will not be accepted. Each set of cross-arm shall be separately packed in an approved manner. The required bolts, nuts and washers shall be packaged separately in a strong bag, which shall be well secured to the cross-arm package assembly. In addition to all other required markings, each set of cross-arm package assembly shall be labeled in distinctive color and bolt types the Vocab No. 0000232.</p>
	<p>The tenderer shall supply full technical details along with dimensional drawing of the cross-arm. The successful tenderer shall carry out all necessary routine tests in the presence of purchaser's inspector and materials shall be dispatched only after the inspector has released the materials.</p>

A-7	<u>TERMINAL OR ANGLE H-POLE CROSS-ARM</u>	
	<p>The terminal or angle H-pole cross-arm shall be fabricated from mild steel complying with BSS: 4360 and amendments, grade 43 A or equivalent. All sections shall comply with BSS: 4848 part 4 and amendment or equivalent, all bolts, nuts and washers shall be to BSS: 4190/1967 and amendments or equivalent. After fabrication is completed all steel work shall be hot dip galvanized to BSS: 729 or equivalent. All bolts and nuts shall also be galvanized. After galvanizing all steelwork shall be immediately dipped into a passivating solution to ensure protection against formation of stains during storage.</p>	
	<p>The cross-arm shall be drilled and dimensioned exactly in accordance with (DRG. No. MC/1/96 B) and each set shall comprise of :-</p>	
2	No s.	Angle iron cross-arm 100 mm. × 75 mm. × 10 mm. × 2900 mm.
3	No s.	M 20 × 330 long tie bolts each complete with one full nut, One half-lock nut and Two plain washers. The bolts shall be threaded for 80 mm. long at each end.
2	No s.	M 20 × 305 long fixing bolts with, one full nut, one half nut and two plain washers. The bolts shall be threaded to 100 mm.
3	No s.	Line terminating straps drilled and dimensioned exactly in accordance with (DRG.No.MC/1/97 A) , hot-dip galvanized and passivated and with two nos. M 20 hex headed bolts 65 mm long, with two nos. flat washer, one hex nut, one lock nut.
		<p>Additional (5%) of the total bolts, nuts and washer required for the total cross-arm, shall be supplied as loose items and the cost of these extra items shall be incorporated in the unit price of cross arm sets.</p>
		<p>All threads shall be ISO metric and shall be cut from steel. Rolled or pressed threads will not be accepted. Each set of cross-arm shall be separately packed in an approved manner. The required bolts, nuts and washers shall be packaged separately in a strong bag, which shall be well secured to the cross-arm package assembly. In addition to all other required markings, each set of H-pole cross-arm package assembly shall be labeled in distinctive color and bold types the Vocab No. 0000214.</p>

	<p>The tenderer shall supply full technical details along with dimensional drawing of the cross-arm. The successful tenderer shall carry out all necessary routine tests, in the presence of purchaser's inspector and materials shall be dispatched only after the inspector has released the materials.</p>
A-8	<u>STAY ROD ASSEMBLY</u>
	<p>Stay rod of mild steel hot dip galvanized to BSS 729 complete and as detailed in the attached (Drawing No. MC/7/120 B).</p>
	<p>Nominal bore tubular turn buckle must have tensile strength same as of stay rod. This tubular portion shall be from heavy gauge steel to BS 1387 table 5. All other parts shall be steel to BS 4360 grade 43A. Further all metal parts shall be hot dip galvanized to BS 729.</p>
	<p>The tubular portion shall be threaded inside as shown in the drawing. Separate piece of thread inserted in the tubular portion shall not be accepted.</p>
	<p>The ultimate strength of the stay rod must be as per relevant specification and necessary test certificate to this effect must be given.</p>
	<p>In addition to other requirements each stay rod package assembly complete shall be labeled in distinctive color and bold types - Vocab No. 0000236</p>
	<p>The tenderer shall supply full technical details along with dimensional drawings of the stay rod assembly. The successful tenderer shall carry out all necessary routine testes in the presence of the purchaser's inspector and the materials shall be dispatched only after inspector has released the materials.</p>
A-1	<u>LINE INSULATOR PIN (SPINDLE)</u>
	<p>Line insulator pin (spindle) shall comprise of hot dip galvanized steel superior quality and complying with BSS: 3288: part 2. The line insulator pin (spindle) shall have a large steel head in accordance with ref. No. 16, pin ref. no. 29 of the above BSS. The minimum failing load shall be 10 KN. The spindle shall be complete with one full nut, and half nut and two washers all as detailed in MEW (Drawing No. MC/1/88 C) attached herewith, and these shall be hot dip galvanized to relevant BSS.</p>
	<p>A minimum of (5%) of the total bolts, nuts and washer required for the total quantity on the inquiry shall be additionally supplied as loose spares and the cost of this shall be included in the unit price of the item. The line insulator pin shall be packed in cartons and each shall be labeled on the outside in addition to manufacturers marking MEW Vocab No. 0000218 in bold types.</p>
	<p>Each tenderer shall supply full technical details along with dimensional drawing of the line insulator pin and copies of type test certificates for failing load etc. offers without the above documents will be rejected. The successful tenderer shall carry out all routine tests in the presence of the purchaser's inspectors and materials shall be dispatched only after the inspector has released the materials.</p> <p>IT shall be coated with silicone coating this shall be subjected to approval of MEW Engineer.</p>
A-2	<u>PILOT PIN INSULATOR SPINDLE</u>

	The spindle shall be fabricated and packed generally, as per item no. 1 above. The spindle shall be as follows.		
	a)	Pin ref. No.	: 45
	b)	Length of pin	: 400 mm.
	c)	Type of head	: Large steel head.
	d)	Ref. No. of head	: 16
	The spindle shall be according to attached (DRG No. MC/1/139).		Vocab No. 0000240
	IT shall be coated with silicone coating this shall be subjected to approval of MEW Engineer.		
A-3	<u>11-KV PIN INSULATORS</u>		
	The insulators shall be of the porcelain type and shall fully comply with BSS: 137: part 1 & 2. They shall be suitable for a minimum failing load of 10 KN. The insulator shall be suitable for fixing on spindle of large steelhead ref. 16 and pin ref. No. 29. The insulator shall be designed for low radio noise level and shall meet the requirements of grade I, table 3 of BSS 137: part 2. The insulators shall also be generally, in accordance with the attached MEW (Drawing No. MC/1/84 C) and suitable for assembling on spindles as per attached MEW (Drawing No. MC/1/88 C).		
	The pin insulators shall be packed in strong wooden crates to avoid breakage during transit. Each crate shall contain not more than 24 nos. pin insulators and each crate shall be labeled on the outside, in addition to the manufacturer's standard marking, in bold types MEW Vocab No. 0000235 .		
	Each tenderer shall supply full technical details along with dimensional drawings of insulators and copies of type test certificates in accordance with BSS: 137 part 1. Offers without the above documents will be rejected.		
	The successful tenderer shall carry out all samples and routine tests in the presence of the purchaser's inspectors and materials shall be dispatched only after the inspector has released the materials.		
A-4	<u>FULL SNAIL CLAMP, TENSION TYPE</u>		
	Full snail type tension clamps shall be suitable for 32 sq. mm. to 100 sq. mm. hard drawn copper conductors and shall be complete with standard ball socket fixing complying with BSS: 3288: part 2. The socket shall be complete with all bolts and nuts. The body, cover plate and all bolts and nuts shall be hot-dip galvanized to the appropriate BSS the minimum failing load shall be 70 KN. (Ref. MEW DRG. No. MC/1/128 A).		
	A minimum of (5%) of the total bolts, nuts and washer required for the total quantity on the tender shall be additionally supplied as loose spares and the cost of this shall be included in the unit price of the item. the snail clamps shall be packed in cartons and each carton shall contain no more than 24 snail clamps. each carton shall be labeled on the outside in addition to manufacturers marking mew vocab No. 0000223 in bold types .		
	Each tenderer shall supply full technical details along with dimensional drawing of the full snail clamps. And copies of type test certificates for failing load etc. Offers without the above documents will be rejected. The successful tenderer shall carry out all routine tests in the presence of the purchaser's inspectors and materials shall be dispatched only after the inspector has released the materials.		
A-5	<u>DISC (STRING) INSULATORS, TENSION TYPE</u>		

	Each set shall comprise of two nos. porcelain disc type insulators, having a diameter of 255 mm. They shall have a minimum electromechanical failing load of 70 KN. and shall be to designation U7OBL of table 4 of BS 137 part 2 and amendment no.1. The insulator shall be suitable for operation at a system's highest voltage of 12 KV. and shall have insulation level 3, according to table 2 of BS 137, part 2. The insulators shall be suitable for connection in series with standard ball and socket coupling which shall form an integral part of the insulator. The dimensions of pinball's shall be to designation 16 table 3 of BSS: 3288 part 2. The dimensions of the socket shall be to designation 16 A of table 4 of BSS: 3288 part 2. The insulators shall be as detailed on MEW (Drawing No. MC/1/127 B) .
	All metal fittings shall be hot dip galvanized in accordance with the relevant BSS. The string insulators shall be packed in storage wooden crates to avoid breakage during transit. Each crate shall contain not more than 12 Nos. (6 set) of insulators. Each crate shall be labelled on the outside in addition to manufacturer's standard marking in bold letters MEW Vocab no. 0000239 .
	Each tenderer shall supply full technical details along with dimensional drawings of insulators and copies of type test certificates in accordance with BSS: 137 part 1, offers without the above documents will be rejected.
	The successful tenderer shall carry out routine test in the presence of purchaser's inspectors and materials shall be dispatched only after the inspector has released the materials. IT shall be coated with silicone coating this shall be subjected to approval of MEW Engineer.
A-6	<u>INSULATOR HOOK BALL-ENDED</u>
	This shall meet the requirements as per BS: 3288: part 2 table 3: figure 8, in all respects, with 16 mm. ball and shank.
	The minimum failing load shall be 70 KN. The ball-ended hooks shall be fabricated as per our attached standard (DRG. No. MC/1/126 B) . Vocab No. 0000219 .
A-7	<u>SURGE DIVERTERS</u>
	Surge arresters with the following specifications.
a)	1000 Amps class 2 to IEC 99-4.
b)	12 KV max. Rated voltage.
c)	M 12 stud bracket mounted.
d)	M 12 stud terminal.
	This must be suitable for the highly polluted atmosphere of Kuwait.
	Each offer must be accompanied with comprehensive technical information about the proposed surge diverters such as manufacturer's catalogues, technical literature, scaled dimensional drawing, and type test certificate from internationally recognized testing authorities etc. Offer without the above will be rejected.
A-8	<u>COMPRESSION CONNECTORS</u>
	Copper lugs for OHL jumper terminals suitable for HDDB conductors fabricated as per relevant standard. Lugs shall be drilled as mentioned below.
	The tools and dies in use with us are BICC. and cembre make only. Hence the offered lugs must be suitable for use with the above-mentioned tools and dies and confirming to BICC. catalogue ref. as mentioned below: -
a)	Compression connectors for use on HDDB conductor size 32 sq.mm. Drilled to suite a stud size of m16 (B.I.C.C. Cat. Ref. L 4 C 16) .
b)	Compression connectors for use on HDDB conductor size 32 sq.mm. Drilled to suite a stud size of m10 (B.I.C.C. Cat. Ref. L 4 C 10) .



c)	Compression connectors for use on HDDB conductor size 70 sq.mm. Drilled to suite a stud size of m16 (B.I.C.C. Cat. Ref. L 7 C 16).
e)	Compression connectors for use on HDDB conductor size 100 sq.mm. Drilled to suite a stud size of m16 (B.I.C.C. Cat. Ref. L 8 C 16).

A-1 11 KV STAY INSULATOR – Permali

The permali stay insulators shall be fully in accordance with (DRG. No. MC/1/93 B) and each set shall comprise of :

- 4 Nos. End straps, hot dip galvanized 225 mm × 45 mm × 8 mm.
- 2 Nos. M 20 × 60 bolts with two full nuts and washers.
- 2 Nos. M 12 × 60 bolts with two full nuts and washers.
- 2 Nos. 12 mm dia. arcing horns.
- 1 Nos. 1570 mm × 45 mm × 23 mm permali insulator approved resin impregnated densified laminated wood to BSS: 2572, type UWI.

The end satraps shall be fabricated from steel flats complying with BSS: 4360 and amendment. All bolts, nuts and washers shall be BSS: 4190 and amendments. After fabrication is completed, all steel works shall be hot dip galvanized to BSS: 729. All bolts, nuts and washers shall also be galvanized. All threads shall be ISO metric and shall be cut from steel.

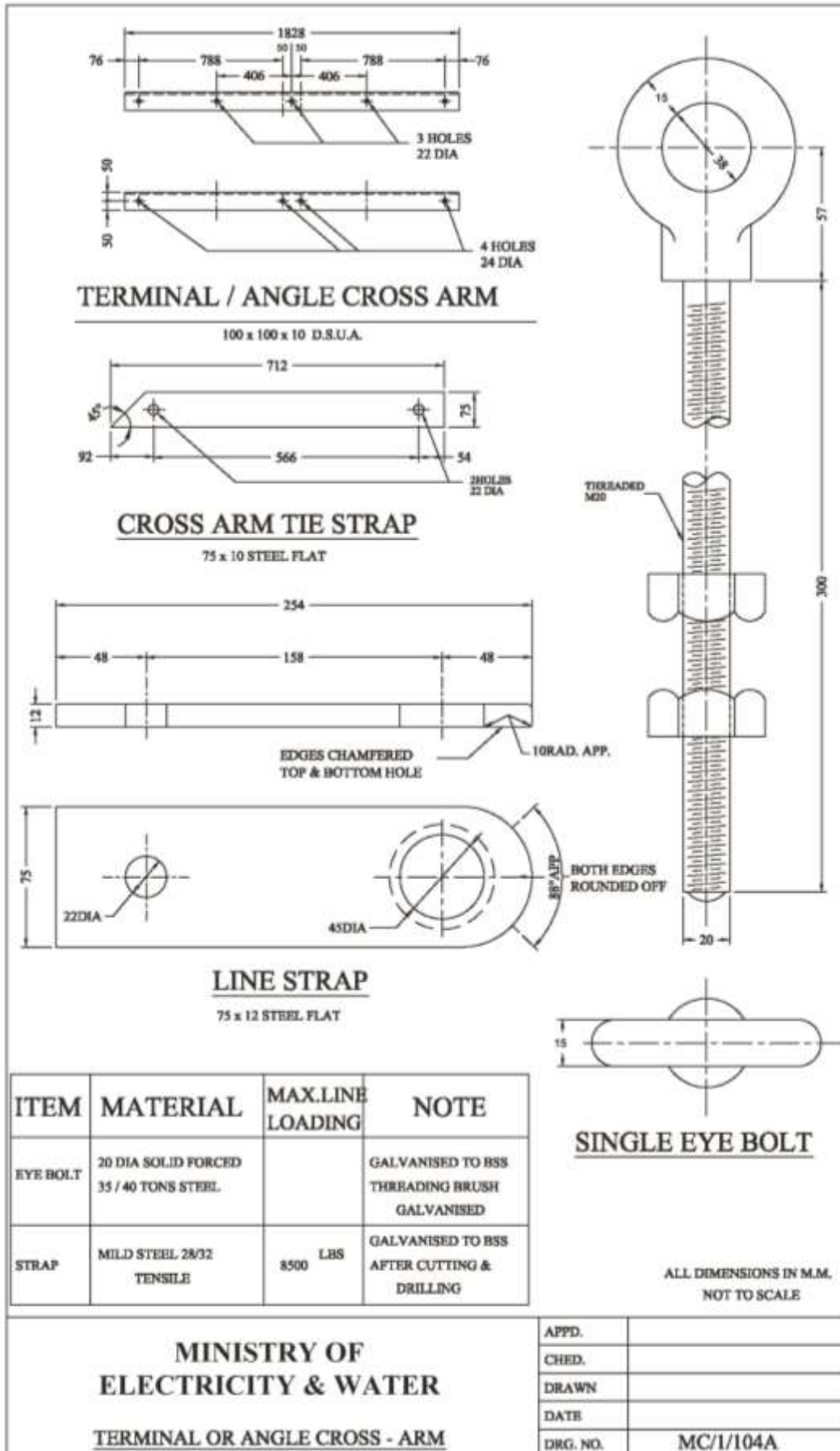
Permali insulator approved resin impregnated densified laminated wood to BSS: 2572 types UWI shall only be employed and full details be submitted with the offer. The stay insulators shall be complete with thimbles for 12 mm (7/8 SWG) stay wire. Thimbles must be fabricated as per ESI standard 43-91 (DRG. No. 439109, type 1). The breaking strength of the insulator assembly shall be 6800 KGS. And test certificates shall be submitted with the offer to substantiate this. Dry and wet flashover and impulse flashover test results of the stay insulators shall also be submitted with the offer and the successful tenderer shall carry out all these tests in the presence of purchaser's inspector and the stay insulator shall be dispatched only after the inspector has released the materials.

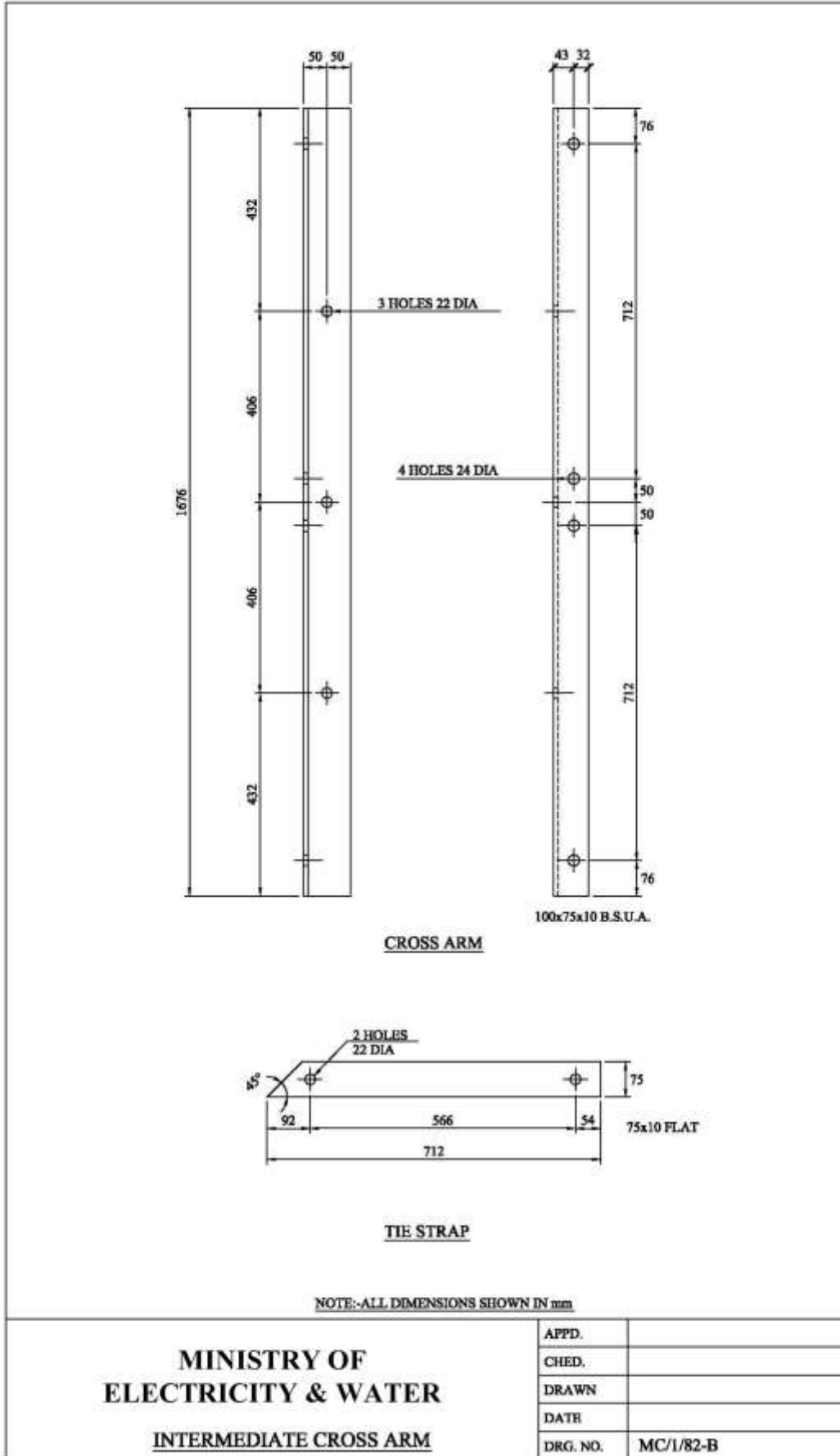
The stay insulators shall be suitably packed and in addition to all other required markings, each set shall be labeled in distinctive color and bold type Vocab No. 0000217.

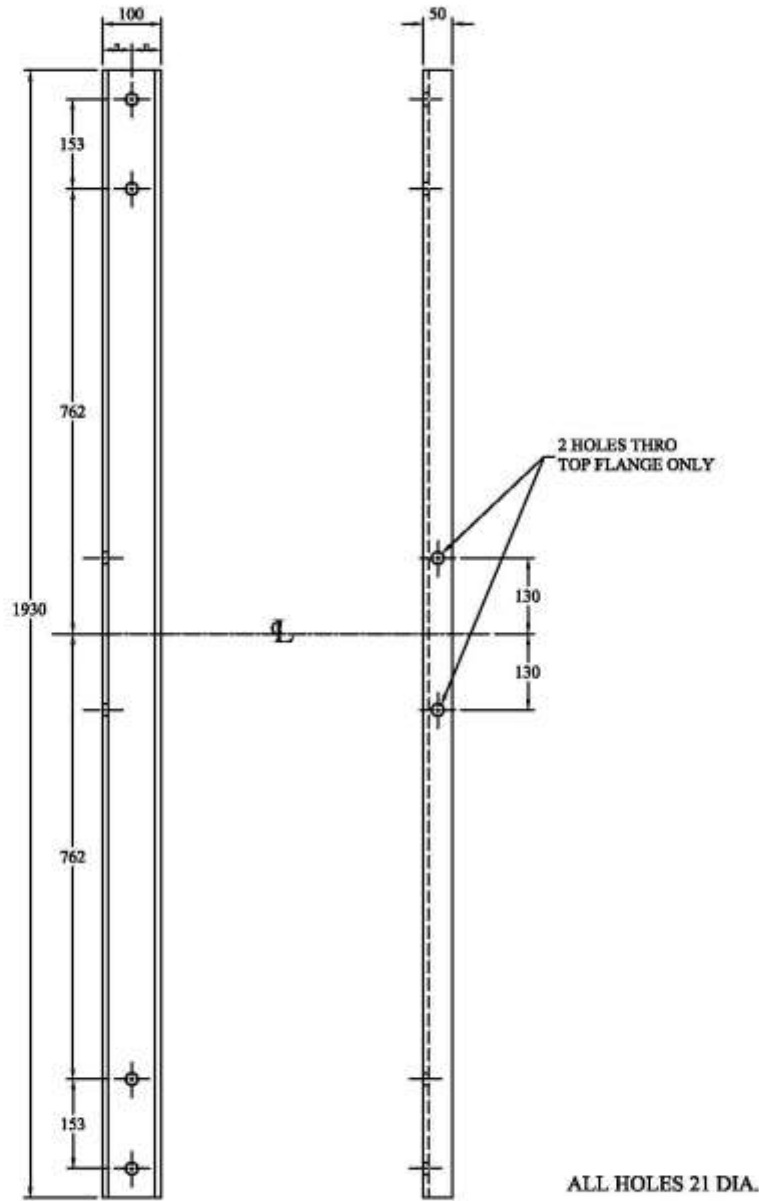
A minimum (5%) of the total bolts, nuts and washer and arcing horns required for the total quantity of wood stay insulator shall be supplied as loose items and the cost of these extra items shall be included in the unit price of the wood stay insulator.

IT shall be coated with silicone coating this shall be subjected to approval of MEW Engineer.









100x50, 1930 LONG, 12KG/M. CHANNEL - 2 NOS.
HOT DIP GALVANIZED TO BS 729. AFTER CUTTING & DRILLING.
COMPLETE TRANSFORMER CROSS ARM CONSISTS:-

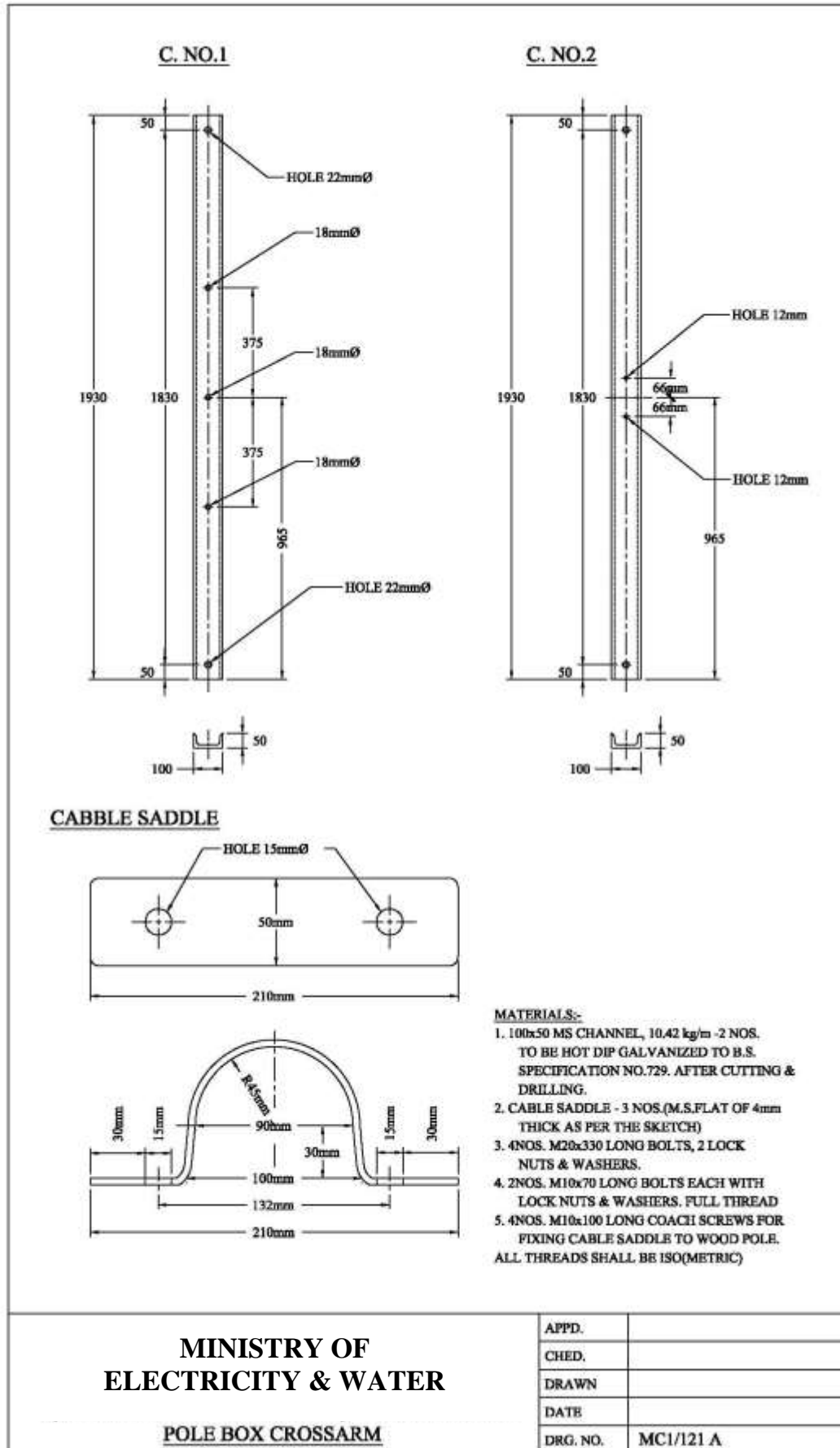
- 1) 2 NOS. CHANNELS AS SPECIFIED & COMPLETE WITH ALL DRILLINGS AS SHOWN.
- 2) 4 NOS. M20, 330 LONG HRH BOLTS, 2 LOCKNUTS & 2 PLAIN WASHERS.
- 3) 4 NOS. M20, 75 LONG HRH BOLTS, 2 LOCK NUTS & 2 PLAIN WASHERS.

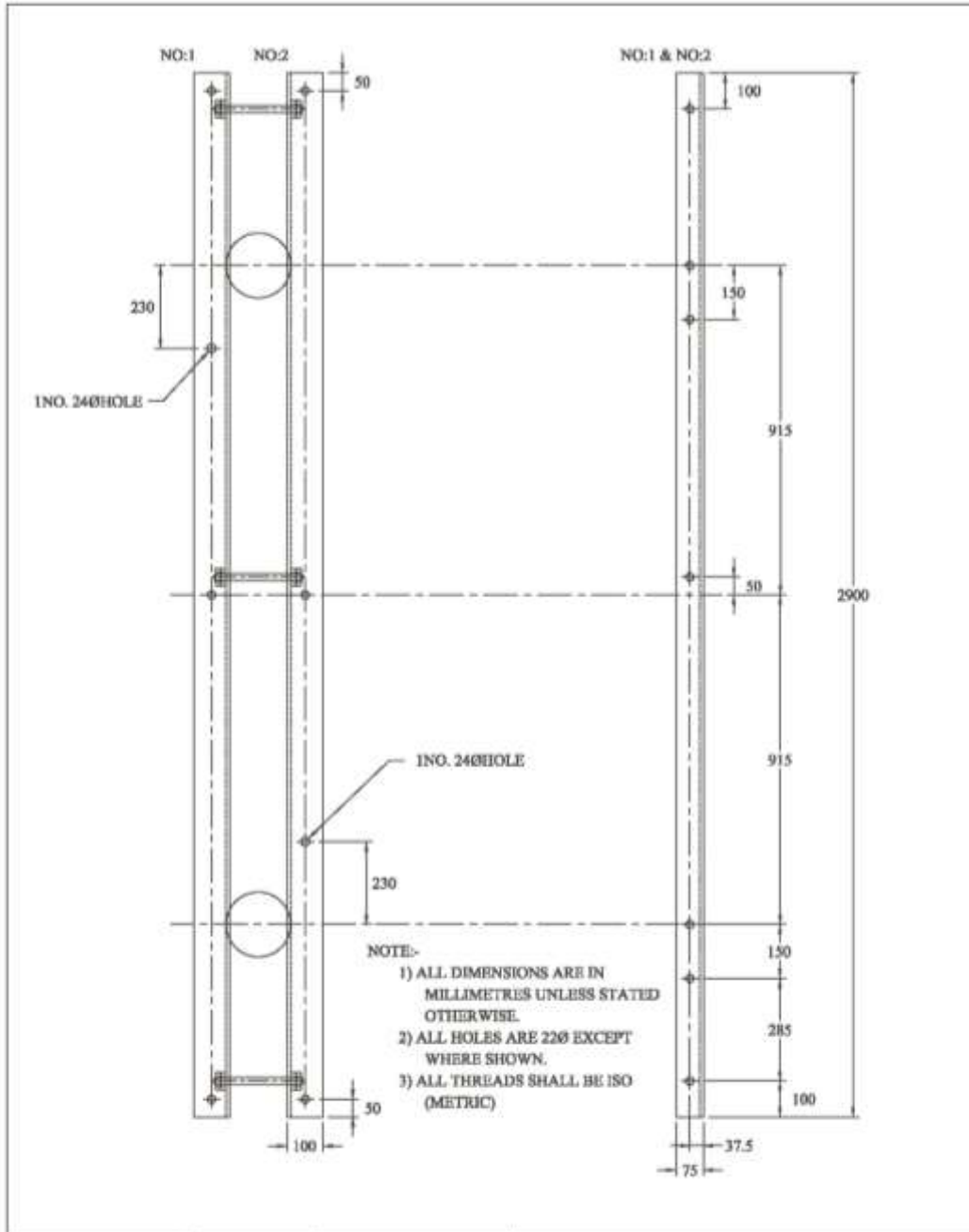
NOTE:-

- 1) MATERIAL TO BE MILD STEEL TO BS 4360. GRADE 43A.
- 2) ALL DIMENSIONS ARE IN MILLIMETRES.
- 3) ALL THREADS SHALL BE ISO (METRIC).

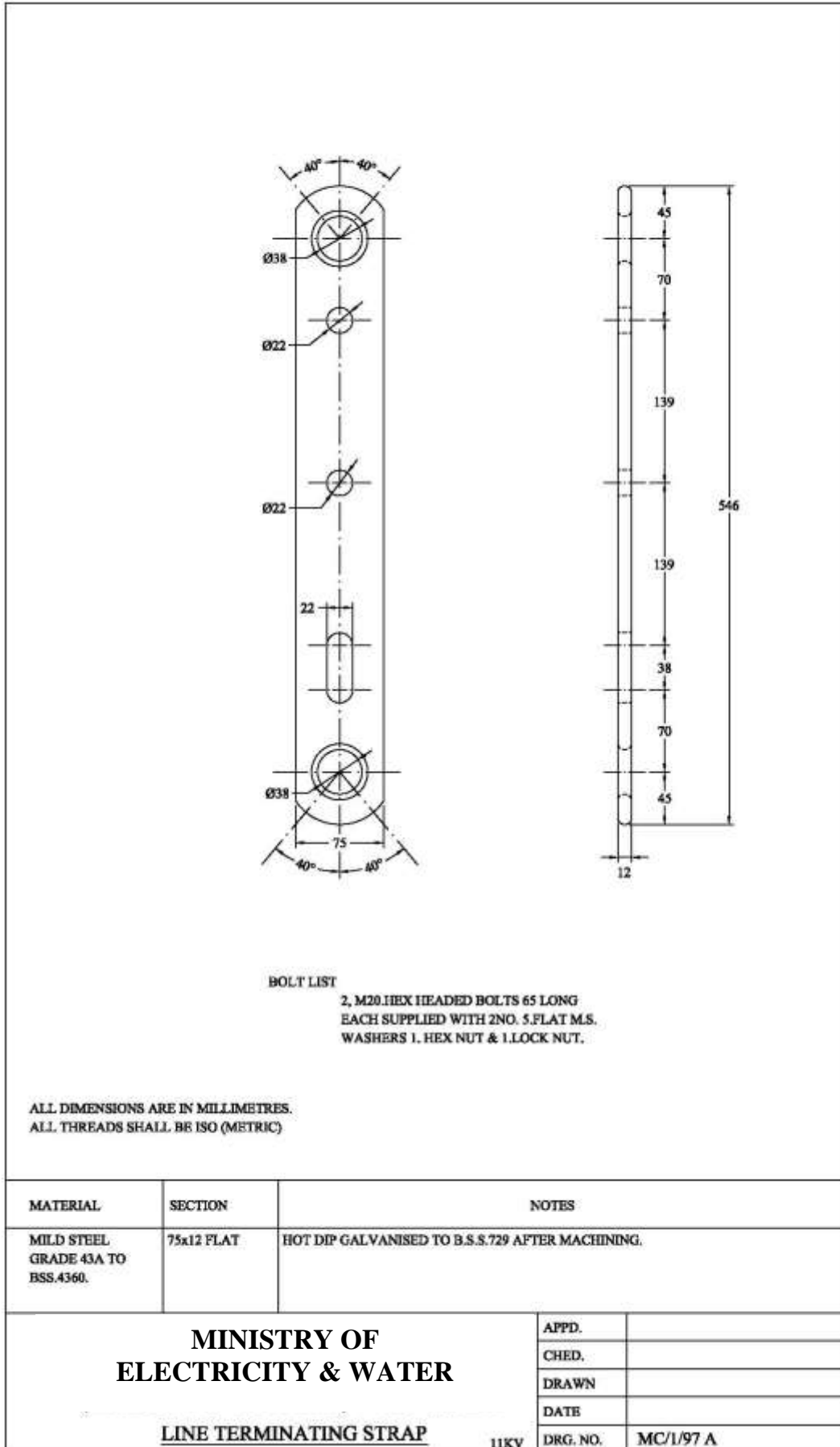
**MINISTRY OF
ELECTRICITY & WATER**
TRANSFORMER CROSS ARM FOR
POLES SET AT 1830 CENTRES

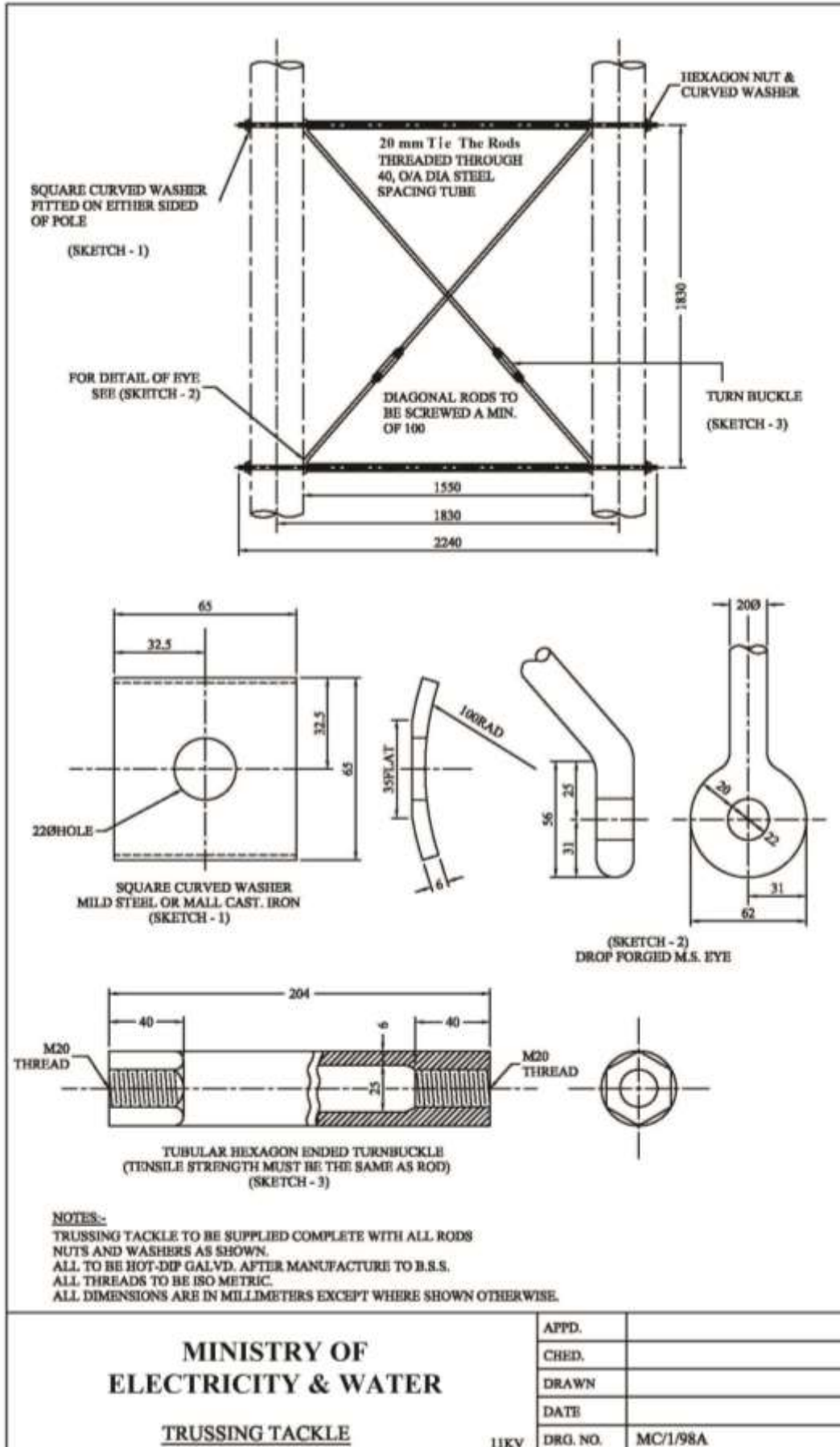
APPD.	
CHED.	
DRAWN	GUPTA
DATE	
DRG. NO.	MC/1/113A

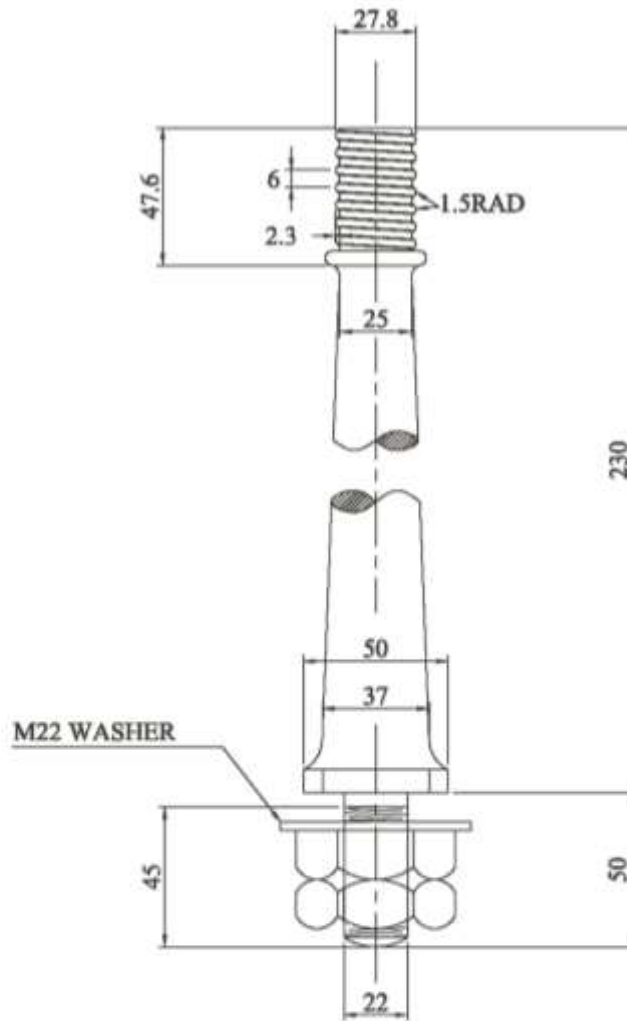




MATERIAL	SECTION	MAX. LINE LOADING F.O.S.25		NOTES:-
MILD STEEL GRADE 43A TO BS4360. HOT DIP GALVANISED TO BS729 AFTER CUTTING & DRILLING	100x75x10.MS ANGLE 2900 LONG.	HORIZONTAL TWO XARMS 15KN	VERTICAL 5.5KN	COMPLETE CROSS ARM COMPRISES. 1) 3NOS. LINE TERMINATING STRAP WITH BOLTS & NUTS FOR FIXING ON THE CROSS ARM (MEW.D.NO:MC/1/97A) 2) TWO ANGLES, NO.1 & NO.2 BOTH DRILLED AS SHOWN 3) 3NOS. M20, 330 LONG TIE BOLTS, THREADED TO 80MM ON EACH END. 4) 2 NOS, M20, 305 LONG FIXING BOLTS, THREADED TO 80MM WITH 1 FULL NUT, 1 HALF NUT & 2 PLAIN WASHERS
MINISTRY OF ELECTRICITY & WATER TERMINAL OR ANGLE H - Pole Cross Arm				APPD.
				CHEC.
				DRAWN
				DATE
				DRG. NO. MC/1/96 B
11KV				







ALL METAL PARTS TO BE HOT DIP GALVANISED

NOTE

ALL DIMENSIONS IN mm.

PIN DIMENSIONS TO BS - 3288 PART 2

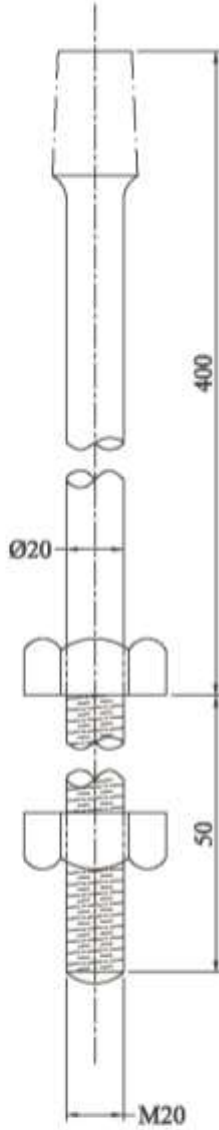
(LARGE STEEL HD. REF. 16 PIN REF.29)

MIN FAILING LOAD 10 KN

MINISTRY OF
ELECTRICITY & WATER

LINE INSULATOR PIN (SPINDLE)

APPD.	
CHED.	
DRAWN	
DATE	
DRG. NO.	MC/1/88C



**TECHNICAL DETAILS FOR
INSULATOR PIN (PILOT) B.S.3288
PART - 2**

HEAD - LARGE STEEL
REF. NO. - 16
DRG. NO. - FIG. 2
STALK LENGTH - 400 mm
SHANK DIA - 20 mm
SHANK LENGTH - 50 mm
MINIMUM FAILING LOAD - 0.7 KN
PIN REF. NO. - 45

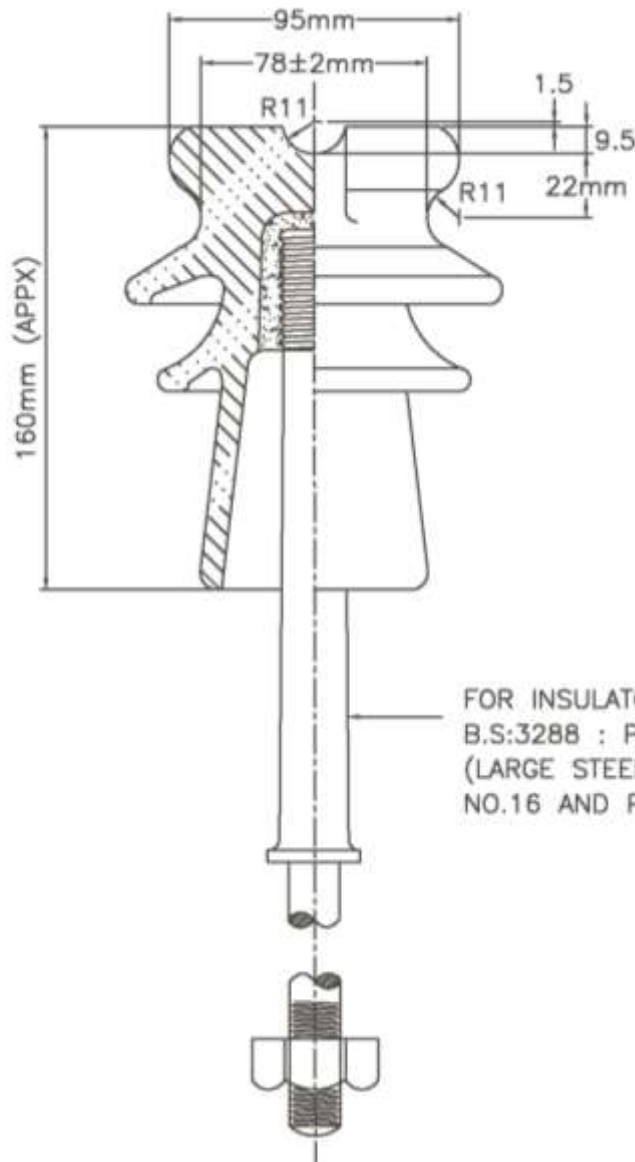
NOTES.

1. ALL DIMENSIONS IN mm
2. ALL THE METAL PARTS TO BE
HOT DIP GALVANISED TO BSS.

**MINISTRY OF
ELECTRICITY & WATER**

INSULATOR PIN (PILOT)

APPD.	
CHED.	
DRAWN	
DATE	
DRG. NO.	MC/1/139



FOR INSULATOR PINS SEE
B.S:3288 : PART 2
(LARGE STEEL HEAD REFERENCE
NO.16 AND PIN REF. NO.29)

ELECTRICAL CHARACTERISTICS.

(REF.B.S. - 137. PART.2

DRY LIGHTNING IMPULSE
WITHSTAND VOLTAGE.

} - 95KV

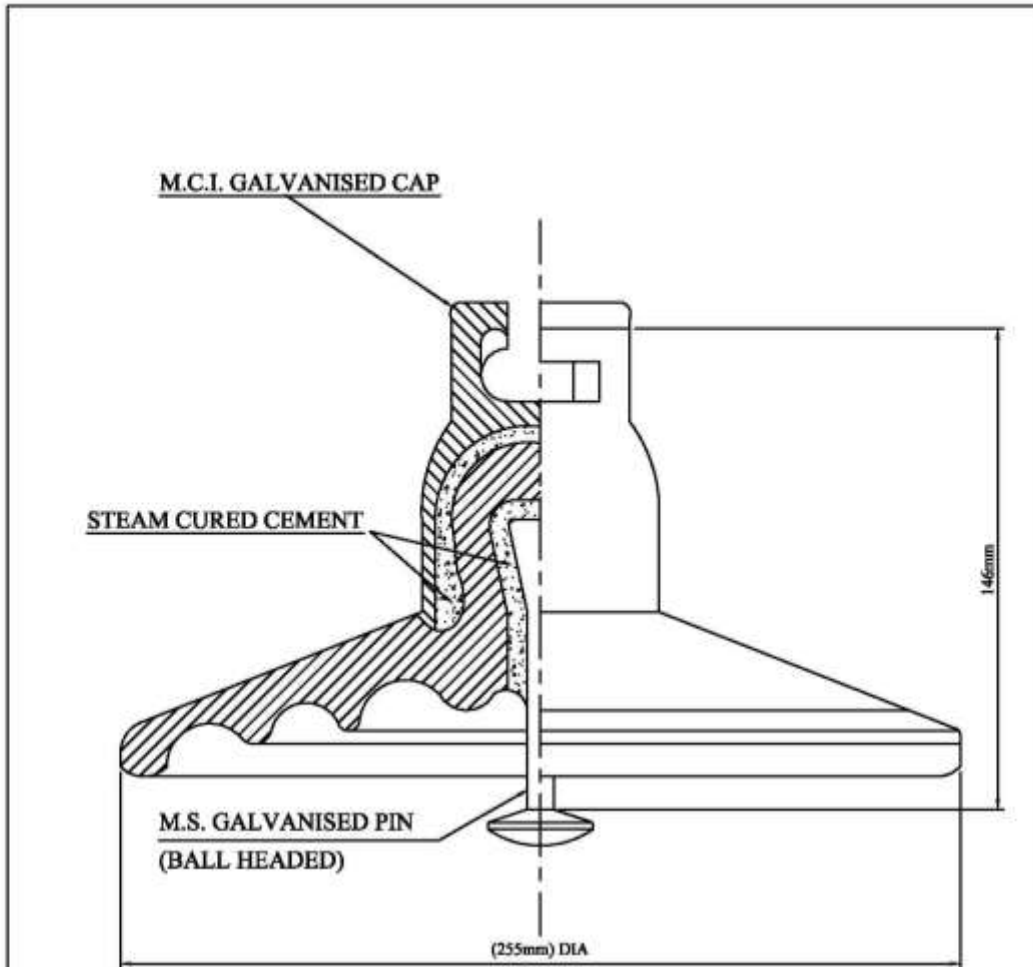
1 MIN. WET WITHSTAND VOLTAGE - 50KV.

MINIMUM CREEPAGE DISTANCE - 330mm.

NOT TO SCALE

MINISTRY OF
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11KV PIN INSULATOR

APPD.	
CHED.	
DRAWN	
DATE	
DRG. NO.	MC/1/84C



ELECTRICAL CHARACTERISTICS

(REF. BS-137 - PART 2 - 1973)

DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE = 95 KV

WET ONE MINUTE POWER FREQUENCY WITHSTAND VOLTAGE = 40 KV

MINIMUM CREEPAGE DISTANCE = 280 mm

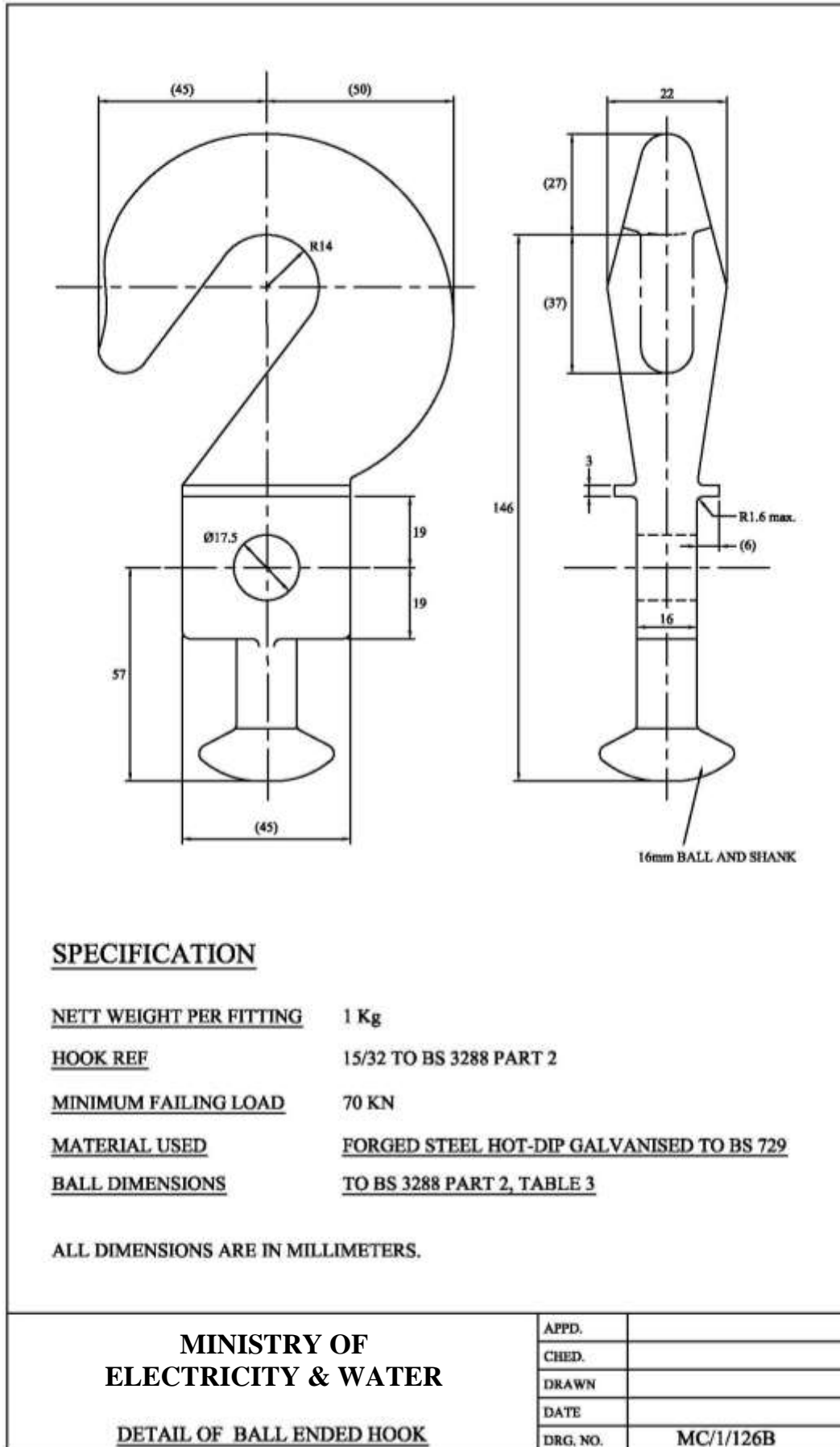
NOTE

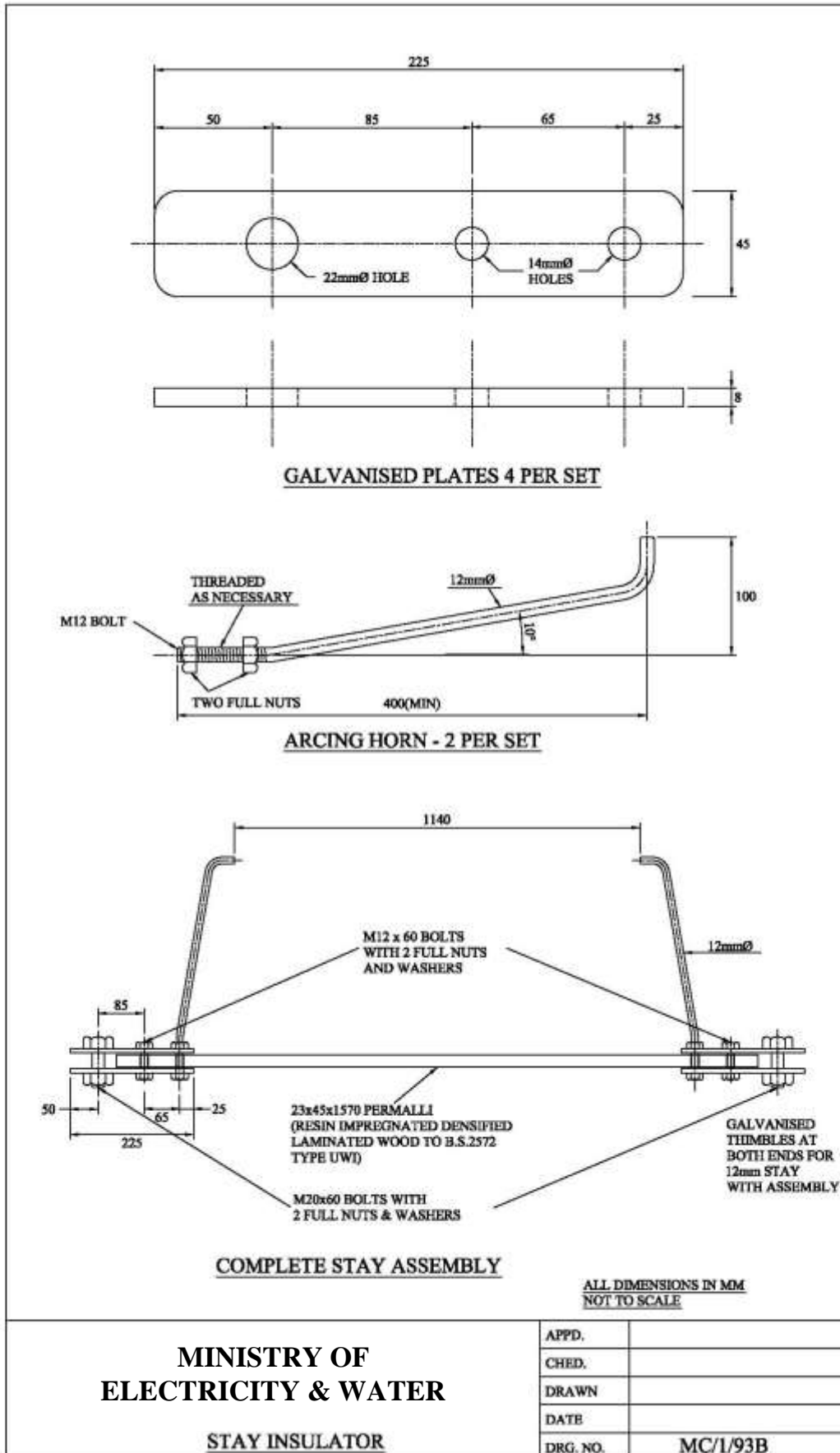
ALL METAL PARTS TO BE OF HOT DIP GALVANISED TO B.S. SPECIFICATION
RESILIENT PADS FOR THERMAL STRESSES TO BE PROVIDED

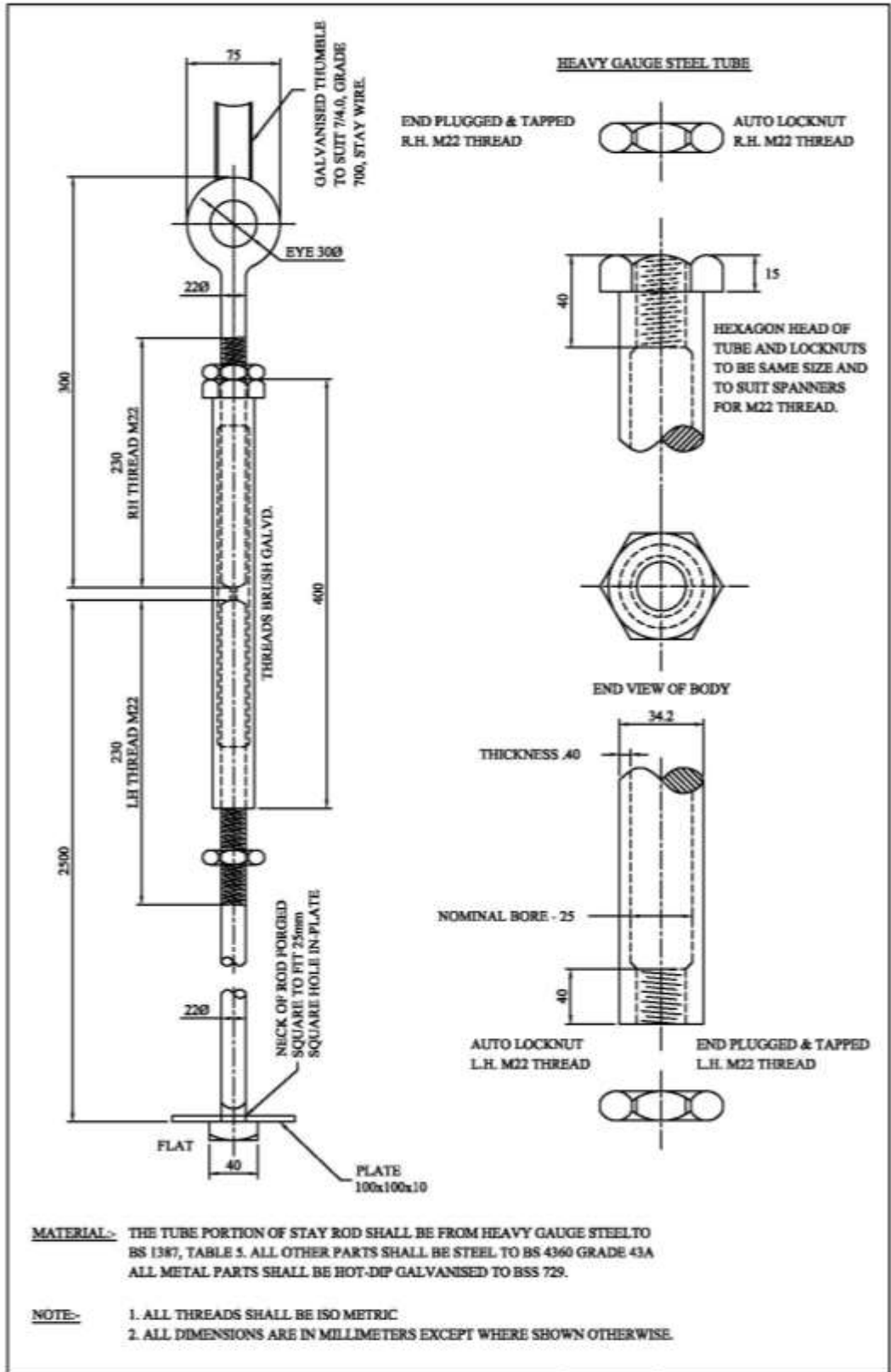
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DETAILS OF 'DISC INSULATORS'

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STANDARD-OVERHEAD CONSTRUCTION TUBULAR STAY RODS

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DATE	
DRG. NO.	MC/7/120B