MANIPUR STATE POWER DISTRIBUTION COMPANY LIMITED
(Regd. Office: Electricity Complex, Patta No. 1293 under 87(2), Khwai Bazar, Keishampat, District – Imphal West, Manipur – 795001)

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NOTICE INVITING TENDER

Imphal, the 23rd March, 2015

No. 2/24/O&M/Ts-14/2014-MSPDCL/Pt: Manipur State Power Distribution Company Limited (MSPDCL), a Government of Manipur Enterprises invites Sealed Tender from the manufacturers/authorised dealers for submission of tender (hard copy) for procurement of Insulators and Hardware Fittings required for Operation & Maintenance of MSPDCL.

Last date & time of submission:-07/04/2015 upto 2.00 P. M.
For details kindly visit the website **www. manipur. gov.in**

-Sd-
(R. Sudhan)
Managing Director
MSPDCL

Copy to:
1. The Secretary to the Hon'ble Chief Minister, Manipur, for kind information of the Hon'ble Chief Minister.
2. The Commissioner (Power), Govt. of Manipur for favour of information.
3. The Executive Director(Tech), MSPDCL for information.
4. The General Manager, Electrical Circle No. – I/II/III MSPDCL for information.
5 The General Manager(Finance & Accounts), MSPDCL, for information. He/She is advised to arrange required amount for publication of the NIT.
6. The SIO, NIC, Imphal. He is requested to upload the above NIT in the website www.manipurtenders.gov.in.
7. The Advertisement Managers, i) Sangai Express (E), ii) The Imphal Free Press (E) iii) Sanaleibak(M) & iv) Hueiyen Lanpao(M) News Papers, Manipur. They are requested to arrange for publication of this NOTICE as a single insertion in the Daily Newspapers under intimation to this Office. The concerned Editors may be requested to send 2(Two) copies of the Paper Cuttings with bills in which the advertisement/NIT appeared immediately to the Managing Director, MSPDCL, Manipur.
8. The PMU SP/DW.

MANIPUR STATE POWER DISTRIBUTION COMPANY LIMITED
(Regd. Office: Electricity Complex, Patta No. 1293 under 87(2), Khwai Bazar, Keishampat, District – Imphal West, Manipur – 795001)

NOTICE INVITING TENDER

Imphal, the 23rd March, 2015

No.2/24/O&M/Ts-14/2014-MSPDCL/Pt: Sealed Tenders are invited by the Managing Director, Manipur State Power Distribution Company Limited (MSPDCL) from the manufacturers/authorised dealers for the following Materials/equipments.

Tender Specification No.	Particulars		Cost of Tender Paper/ Package	Last date of Submission of Hard copies for Techno-Commercial Bid & Price Bid	Date of Opening of Techno-Commercial Bid	Date of Opening of Price Bid
1	2		3	4	5	6
No.24/2/14 (Estimated Cost-Rs. 13.04 lakh)	**1**	**Hardware Fittings**	Rs. 5,000/-	07/04/15 2.00 P.M.	09/04/15 11.00 A. M.	10/04/15 11.00 A. M
	a	Hardware Fittings for 11 KV Disc Insulator (T&C) Type				
	b	G.I. Pin for 11 KV Pin Insulator				
	c	G. I. Pin for LT Pin Insulator				
	d	Hardware Fittings for LT Shackle Insulator				
	2	Diaphragm for Exhaust valve to suit (250KVA,400KVA,660KVA) DT				
	3	LT Bushing rod for (Brass)				
	a	Suitable for 63 KVA Distribution Transformer				
	b	Suitable for 100 KVA Distribution Transformer				
	c	Suitable for 250 KVA Distribution Transformer				
	4	HT bushing rod for (Brass)				
	a	Suitable for 63 KVA Distribution Transformer				
	b	Suitable for 100 KVA Distribution Transformer				
	c	Suitable for 250 KVA Distribution Transformer				
	5	Galvanized bolts and nuts				
	a	Galvanized Bolts & Nuts (5/8)″ x 3″ (Full thread)				
	b	Galvanized Bolts & Nuts (5/8)″ x 6″				
	c	Galvanized Washer (5/8)″ dia.				
No.16/2/14 (Estimated Cost- Rs. 45.75 lakh)	**C**	**Insulators**	Rs. 5,000/-	07/04/15 2.00 P.M.	09/04/15 11.00 A. M	10/04/15 11.00 A. M
	1	Insulators				
	a	11 KV Porcelain Pin Insulator				
	b	11 KV Porcelain Disc. Insulator 45KN (T&C) Type				
	c	11 KV Stay/Guy Insulator				
	d	LT Pin Insulator				
	e	LT Shackle Insulator				
	f	LT Stay/Guy Insulator				

The Intending Tenderers /Firms should satisfy the following conditions.

1. QUALIFYING REQUIREMENTS:-

The Tenderers / Firms satisfying the following conditions only may apply.

1.1 CONSTITUTION OF BIDDER/ TENDERER :-

a) Consortiums of Firms are not eligible.
b) Registration Certificate such as Trade license, Factory License of the Tenderer shall invariably be furnished.

1.2 TECHNICAL REQUIREMENTS:-

a) The tenderers who have supplied similar items in the past is preferable. They shall furnish list of past supplies along with the names of the Purchasers, Order No. & Date, Quantity and Performance Certificates issued by the various clients. Details of manufacturing facilities/capacity/Tools & Plants, testing facilities etc, shall also be furnished along with the offers.

1.3 COMMERCIAL & FINANCIAL REQUIREMENTS:-

a) The Firm / Company shall be financially sound and must have sufficient funds to supply the materials/equipments. A certificate issued by the Bank as Solvency Certificate should be submitted.

b) Minimum Average Annual Turnover (MAAT) of the Firm / Company for the last 3 (three) years shall be submitted with documentary evidence.

c) **Cost of Tender : Rs.5,000/- each (non refundable)** for **Tender Specification no. 24/2/14, and 16/2/14** in the form of Bank Draft/Banker Cheque payable at a branch of Nationalised/Scheduled Bank in Imphal in favour of the **Managing Director, MSPDCL.** should be submitted on or before the date of opening of Tender.

d) **Earnest Money** calculated @2.5% of the Estimated Cost subject to a maximum of Rs.50,000/-, as Fixed Deposit Receipt/Bank Draft/ Banker Cheque payable at a branch of Nationalised/Scheduled Bank in Imphal duly pledged in favour of the **Managing Director, MSPDCL** should also be submitted on or before the date of opening of Tender.

e) Valid Income Tax and Sales Tax Clearance Certificates from the concerned authorities duly attested by a Gazetted Officer should be included in the documents.

f) Copies/Photocopies of the relevant documents duly attested by a Gazetted Officer of State or Central Government should be included.

1.4 SUBMISSION OF DOCUMENTS

a) The Firm / Company shall furnish documentary evidence in support of the qualifying requirement stipulated as above.

b) The Tenderer shall submit the Tender under "Single Stage – Two Envelope" containing "Cost of Tender Form & Earnest Money and Techno Commercial Bid" in 1st Cover and 2nd Cover "The Financial Bid". **The available Techno Commercial Bid will be opened and scrutinized by Tender Opening Committee and Financial Bid will be opened for the eligible Firms only. The decision of the opening Committee will be final. Further, if the eligible Technical qualification criteria are not fulfilled, Price Bid shall not be opened.**

c) If the last date for opening of tenders happens to be a holiday, it will be open on the next working day at the same stipulated time. The Company reserves the right to postpone the date of opening of tender on a situation so arises to warrant its postponement.

d) Failure for submission of the completed offer due to poor communications or any other reasons shall not be the responsibility of the Company and no time extension on these grounds shall be allowed.

e) Supply should be completed within **3(three) months**

f) Upon getting Supply order the bidder/bidders have to supply 25% of the materials within a period of 30 (thirty) days. Failing which MSPDCL will reserve the right to cancel the balance quantity and award the same to the other bidders.

g) The MSPDCL reserves the right to accept/reject the lowest or any other offer without assigning any reason whatsoever and the right to split the order, if required.

(L. Joychandra Singh)
General Manager(Purchase)
MSPDCL

Copy to:
1. The Secretary to the Hon'ble Chief Minister, Manipur, for kind information of the Hon'ble Chief Minister.
2. The Commissioner (Power), Govt. of Manipur for favour of information.
3. The Executive Director (Tech) (MSPDCL) Manipur for information please.
4. The General Manager, Electrical Circle No-I/II/III, for information please
5. The General Manager, (Finance & Accounts), MSPDCL, for information.
6. The OSD, IT, Imphal. He is requested to upload the above NIT in the website **www. manipur. gov.in**.
7. The SIO, NIC, Imphal. He is requested to upload the above NIT along with the Terms & Conditions and Price Bids in the website ***www.manipurtenders.gov.in***
8. The PMU SP/DW.

TERMS AND CONDITIONS

Sl. No.	Details	Date	Time
1.	Last Date for submission of Hard copies for Techno-Commercial Bid including Financial Bid	07/04/2015	2.00 p.m.
2.	Date of opening of Techno-Commercial Bid	09/04/2015	11.00 a.m.
3.	Date of opening of Price Bid at NIC Office, Manipur	10/04/2015	11.00 a.m.

1. Offers should be submitted in Hard Copies as per item wise Price Break-up at **ANNEXURE-A** only.

2. Hard Copies of Techno-Commercial Bid should be submitted superscribing **Tender Specification No. 24/2/14 and No.16/2/14** to the Executive Director (Tech), MSPDCL with **description of items** distinctly.

3. Tenders (Techno-Commercial Bid and Financial Bid) will be received upto **2.00 P.M. of 07/04/2015** and will be opened on **09/04/2015** at **11.00 A.M. for Techno-Commercial Bid and 10/04/2015 at 11.00 A.M. for Financial Bid** in the presence of the intending tenderers or their authorised representatives. If the date of opening tenders happens to be a holiday, it will be open on the next working day at the same stipulated time.

4. The Company reserves the right to postpone the date of opening of tender on a situation so arises to warrant its postponement.

5. Failure of ON LINE submission of the completed offer due to poor network delay or any other reasons shall not be the responsibility of the Utility and no time extension on these grounds shall be allowed.

6. Offer should inter-alia be accompanied by (i) Technical particulars including the guaranteed ones (ii) Test Certificates of similar materials/equipments. (iii) Proof documents of reliable, genuine and reputed manufacturer etc.

7. The tenderer shall furnish details of manufacturing facilities/capacity/Tools & Plants, testing facilities etc. along with the offers.

8. The Firm /Company should possess valid ISO/BIS Certificate and Performance Certificate for the tendered item supplied in the Power Utility/Company.

9. The Tenderers who have already supplied similar items in the past is preferable. They shall furnish list of past supplies along with the names of the Purchasers, Order No. & Date, quantity and Performance certificates issued by the various clients

10. Offers should invariably be accompanied by:-

    (a) **Cost of Tender : Rs.5,000/- each (non-refundable)** for **Tender Specification No. 24/2/14, and No.16/2/14** in the form of Bank Draft/Banker Cheque payable at a branch of Nationalised/Scheduled Bank in Imphal in favour of the **Managing Director, MSPDCL.** Original copies of Cost of Tender should be submitted on or before the date of opening of Tender.

    (b) **Earnest Money** calculated @2.5% of the Estimated Cost subject to a maximum of Rs.50,000/- as Fixed Deposit Receipt/Bank Draft/ Banker Cheque payable at a branch of Nationalised/Scheduled Bank in Imphal duly pledged in favour of the **Managing Director, MSPDCL** should also be submitted on or before the date of opening of Tender.

    (c) Valid Income Tax and Sales Tax Clearance Certificates from the concerned authorities duly attested should be included in the documents.

    (d) Copies/Photocopies of the relevant documents duly attested by a Gazetted Officer of State or Central Government should be included.

NOTE:- **Offers without cost of Tender paper & required Earnest Money will be rejected.**

11. Tenderers should quote only **"FIRM"** price. No variable price shall be considered

12. Tenderers should note that the quantity tendered may be increased or decreased at the time of placement of the order, subject to fulfillment of the prescribed Technical parameters.

13. In case of failure to execute the order within the stipulated time, penalty @ 0.5% per week subject to a maximum of 10% of the total value of the materials undelivered/ late delivered shall be imposed. However, in case of delay by 3 months or more, the order may be cancelled and the Security Deposit will be forfeited, without prejudice to any other action that may be taken under law. The imposition of penalty is, however, subject to force Majeure Conditions.

14. Force Majeure: The force majeure conditions shall be such, acts of God, acts of Public enemy, Fire, Flood, Epidemic, Strike, Freight embargo, Earthquake, Labour unrest, Wars, lockout, Civil Commotion, Cyclone, Government regulation etc. If the progress or delivery is delayed due to the above happenings during the delivery period then the delivery period will be extended only to the extent of the time lost, provided notice of such happening issued by a competent authority is given within 30 (thirty) days from the date of happening.

15. Delivery: The materials should be dispatched and delivered by road on freight paid basis through a Nationalised Bank approved Road Transport Agency having their branch or head office at Imphal, duly insured against any loss or damage in transit. The Freight and Insurance charges should include Loading, Unloading and Handling charges and be paid in advance by the supplier before delivery at the consignee's godown/stockyard at Imphal.

16. Payment: i) 20% of the order Value shall be paid as Mobilisation advance (Interest bearable).
    ii) The balance 75% (out of the remaining 80%) shall be made after receipt of the equipment by the consignee in full and in good condition.
    iii) The remaining balance 5% shall be made after expiry of the guarantee period.

17. Guarantee:- The materials shall be guaranteed for a period of 18 (Eighteen) months from the date of supply or 12 (Twelve) months from the date of commissioning, whichever is earlier.

18. The materials shall be made available for inspection after the order is awarded by an authorised representative of the MSPDCL during manufacturing of the material or before material dispatch. Some of the major materials should conform the technical specification enclosed.

19. The tenderer must offer for full quantity of the materials failing which the offer shall be considered as non-responsive.

20. The MSPDCL reserves the right to accept any offer and reject the lowest or any other offer without assigning any reason whatsoever and the right to split the order, if required.

21. Supply should be completed within **3(three) months**

22. Upon getting Supply order the bidder/bidders have to supply 25% of the materials within a period of 30 (thirty) days, failing which MSPDCL will reserve the right to cancel the balance quantity and award the same to the other bidders.

23. The MSPDCL reserves the right to accept/reject the lowest or any other offer without assigning any reason whatsoever and the right to split the order, if required.

24. Any firm which does not fulfill the above terms and conditions may be summarily rejected.

25. Legal Jurisdiction: All disputes relating to this NIT will be settled within the legal jurisdiction of Imphal only.

Executive Director(Tech)
MSPDCL

FORMAT FOR SUBMISSION OF TECHNICAL AND FINANCIAL REQUIREMENTS

A) Technical

1	Name of Bidder	
2	Name of materials/equipments during the last 3 years	
3	i) Supply order No. & Date ii) Date of completion.	
4	Name and Address of the Employer/Utility by whom the supply was awarded e-mail ID Telephone No. Fax No.	 _____ _____ _____
5	Details/documentary evidence submitted in support of stated experience/supply	

B. Financial

1.	Name of Bidder	
2.	Cost of Tender	
3.	Earnest Money	
4.	Minimum Average Annual Turnover (MAAT) 1. Financial Year 2011-12 2. Financial Year 2012-13 3. Financial Year 2013-14	 : Rs. ----- lakhs : Rs. ----- lakhs : Rs. ----- lakhs
5.	Solvency Certificate issued by the Bank should be submitted.	

(Documentary evidence, such as copies of utility certificates etc., in support of its experience shall be attached with the filled-up format for each experience.

Alternative, Deviations and Exceptions to the Provisions

Bidder's Name and Address: To: XXXXX *(Name and Address of Employer)*

Dear Sir,

The bidder shall itemize any deviation from the Specifications included in his bid. Each item shall be listed (separate sheets may be used and enclosed with this Attachment) with the following information:

Sl. No.	**Reference clause in the Specifications**	**Deviation**	**Cost of withdrawal of the deviation**

The above deviations and variations are exhaustive. We confirm that we shall withdraw the deviations proposed by us at the cost of withdrawal indicated in this attachment, failing which our bid may be rejected and Bid Security forfeited.

Except for the above deviations and variations, the entire work shall be performed as per your specifications and documents. Further, we agree that any deviations, conditionality or reservation introduced in this Attachment and/or in the Bid form, Price schedules & Technical Data Sheets and covering letter, or in any other part of the bid will be reviewed to conduct a determination of the substantial responsiveness of the bid.

Date:..... (Signature).....

Place:..... (Printed Name).....…

(Designation).....…….....

(Common Seal).....……

1. General Requirement

1.1 The Steel Tubular Pole should be made of Steel of minimum ultimate tensile strength of 410 Mpa (42 Kgf/Sq. mm)

1.2 The Pole should be swaged type.

1.3 The tubes for making poles shall conform to grade Yst 240 or Yst 310 of IS: 1161-1979 "Specification for steel tubes for structural purposes (third revision)" as appropriate, except that manual metal arc welding process may also be used to make tubes, provided tubes so manufactured shall meet all requirement of IS:1161-1979. Cold bend test need not be carried out for tubes manufactured by manual arc welding.

1.4 Swaged poles shall be made of seamless tubes of suitable lengths, swaged or joined together. No circumferential joints shall be permitted in the individual tube lengths of the poles. If welded tubes are used, they shall have one longitudinal weld seam only; and the longitudinal welds shall be staggered at each joint.

1.5 Swaging may be done by any mechanical process. The upper edge of each joint shall be chamfered off at an angle of about 45 degree. The upper edge need not be chamfered if a circumferential weld is to be deposited as below.

1.6 Unless swaging is done by mechanical process such as rotary or longitudinal die swaging process, a circumferential weld shall be deposited at the upend end of the joint at a slope of approximately 45 degree. This circumferential weld shall be deposited only after the poles are subjected to and conform to all the test requirements specified in this standard.

2. Joint in the swaged poles:-

The length of the joints shall be 230mm and 300mm for the top and the middle or bottom joints respectively.

3 Freedom from Defects

Poles shall be well finished, clean and free from harmful surface defects, Ends of the poles shall be cut square, poles shall be straight, smooth and cylindrical.

4. Tolerance:-

(i) Outside Diameter:-

Poles shall be nearly as circular as possible and their outside diameters shall vary from the approximate value, except at the joint or step by more than +/-1.0%

(ii) Thickness:-

In case of seamless tubes, the following tolerances on thickness shall apply

(i) Where the ratio of the thickness to the outside diameter is more than 3%:- 12.5% of the specified thickness.

(ii) Where the ratio of the thickness to the outside diameter is equal to or less than 3%:- 15% of the specified thickness.

(iii) Length:- The tolerance on the length shall be as follows:-

a) On the length of any section+/- 40mm
b) On the overall length of pole +/- 25mm

(iv) Weight:-The mean weight for bulk supplies shall be not more than 5% below the calculated value. The weight of any single pole shall not fall below the calculated weight by more than 7.5%

(v) Straightness:-The finished poles shall not be out of straightness by more than 1/600 of its length.

5. **Test for Poles**

The following tests shall be conducted on finished poles

a) Deflection Test
b) Permanent Set Test and
c) Drop Test

5.1 Number of poles selected for conducting the deflection, permanent set and drop tests shall be as follows

Lot Size	No. of Poles
Up to 500	5
501 t0 1000	8
1001 to 2000	13
2001 to 3000	18
3001 and above	20

6**. Re-tests:-**

Should any of the poles first selected fail to pass any of the above mentioned tests, two further poles shall be selected for testing from the same lot in respect of each failure. Should both these additional poles fail; the test material represented by the test samples shall be deemed as not complying with the standard.

7. **Workmanship:-**

When the tubes are made by manual metal arc welding, the welded joints shall be of good quality, free from scale, surface defects, cracks etc.

8. **Protection against corrosion:-**

The poles should be coated with black bituminous paint conforming to IS:158/1968 throughout internally and externally, up to the level which goes inside the earth. The remaining portion of the exterior shall be painted with one coat of red oxide primer as specified in IS:2074/1979.

9. **Earthing Arrangements:-**

A through hole of 14 mm diameter shall be provided in each pole at a height of 300mm above the planting depth for earthing.

10. **MARKING**

The poles should have outside engraving/embossing mark indicating Company Name : MSPDCL, Name of Project : O&M, Year of supply/manufacture : 2015, at a height of 2.5 m from the bottom of the poles.

11. **TECHNICAL REQUIREMENTS:- (As per IS:2713(Part – I & II) – 1980 and its latest amendment)**

(i) Designation:- 410-SP-14

(ii) Overall Length:-	8 mt.
(iii) Planting depth:-	1.5 mt.
(iv) Load applied from top at a distance of:-	0.30 mt.
(v) Height above ground:-	6.5 mt.
(vi) Length of sections:-	(a) Bottom:- 4.50 mt. (b) Middle:- 1.75 mt. (c) Top:- 1.76 mt.
(vii) Outside diameter and thickness of sections:-	(a) Bottom:- 139.7X4.85 mm (b) Middle:- 114.3X4.50 mm (c) Top:- 88.9X3.25 mm
(viii) Approximate weight of Pole:-	111 Kgs
(ix) Breaking Load:-	4440 N (453 Kgf)
(x) Crippling Load:-	3160 N (322 Kgf)
(xi) Working load (Taking a factor of 2 on crippling load):-	1580 N (161 Kgf)
(xii) Working load (Taking a factor of 2.5 on breaking load):-	1770 N (181 Kgf)
(xiii) Load for permanent set not exceeding 13 mm:-	2160 N (220 Kgf)
(xiv) Load for temporary deflection of 157.5 mm:-	1280 N (131 Kgf)

TECHNICAL SPECIFICATION FOR SWAGED TYPE STEEL TUBULAR POLES 9m (410-SP-31) (As per IS:2713(I&II), 1980 and its latest amendment)

A. General Requirement:-

1. The Steel tubular Steel Pole should be made of steel of minimum ultimate tensile strength 410 Mpa (42 Kgf/Sq.mm).

2 The Pole should be swaged type.

3 The tubes for making poles shall conform to grade Yst 240 or Yst 310 of IS:1161-1979 "Specification for steel tubes for structural purposes(third revision)" as appropriate, except that manual metal arc welding process may also be used to make tubes, provided tubes so manufactured shall meet all requirement of Is: 1161-1979. Cold bend test need not be carried out for tubes manufactured by manual arc welding.

4. Swaged poles shall be made of seamless tubes of suitable lengths, swaged or joined together. No circumferential joints shall be permitted in the individual tube lengths of the poles. If welded tubes are used, they shall have one longitudinal weld seam only: and the longitudinal welds shall be staggered at each joint.

5. Swaging may be done by any mechanical process. The upper edge of each joint shall be chamfered off at an angle of about 45 degree. The upper edge need not be chamfered if a circumferential weld is to be deposited as below.

Unless swaging is done by mechanical process such as rotary or longitudinal die swaging process, a circumferential weld shall be deposited at the upper end of the joint at a slope of approximately 45 degree. This circumferential weld shall be deposited only after the poles are subjected to and conform to all the test requirements specified in this standard.

6. **Joints in Swaged Poles: –**

The lengths of joints shall be 230 mm and 300 mm for the top and the middle or bottom joints respectively.

7. FREEDOM FROM DEFECTS:-

Poles shall be well finished, clean and free from harmful surface defects. Ends of the pole shall be cut square. Poles shall be straight, smooth and cylindrical.

8. TOLERANCES:-

(i) Outside diameter: – The poles shall be as nearly circular as possible and their outside diameter shall not vary from the appropriate value, except at the joint or step, by more than + 1.0 percent.

(ii) Thickness:-

In the case of seamless tubes, the following tolerances on thickness shall apply.

a) Where the ratio of the thickness to the outside diameter is more than 3 percent, - 12.5 percent of the specified thickness; and

b) Where the ratio of the thickness to the outside diameter is equal to or less than 3 percent; - 15 percent of the specified thickness.

c) Length – the tolerance on the length shall be as follow :
i) On the length of any section - +40mm
ii) On the overall length of poles - +25mm

d) Weight – The mean weight for bulk supplies shall be not more than 5 percent below the calculated value. The weight of any single pole shall not fall below the calculated weight by more than 7.5 percent.

e) Straightness- The finished pole shall not be out of straightness by more than 1/600 or its length.

9. **Test for Poles:-**

The following test shall be conducted on finished poles.

a) Deflection Test.

b) Permanent Set Test and

c) Drop Test

9.1 Number of poles selected for conducting the deflection, permanent set and drop tests shall be as follows

Lot Size	No. of Poles
Up to 500	5
501 t0 1000	8
1001 to 2000	13
2001 to 3000	18
3001 and above	20

10. **Re-tests:-**

Should any of the poles first selected fail to pass any of the above mentioned tests, two further poles shall be selected for testing from the same lot in respect of each failure. Should both these additional poles fail: the test material represented by the test samples shall be deemed as not complying with the standard?

11**. WORKMANSHIP:-**

When the tubes are made by manual metal arc welding, the welded joints shall be of good quality, free from scale, surface defects, cracks etc.

12**. PROTECTION AGAINST CORROSION**

The poles should be coated with black bituminous, paint conforming to IS: 158/1968 throughout, internally and externally up to the level which goes inside the earth. The remaining portion of the exterior shall be painted with one coat of red oxide primer as specified in IS: 2074/1979.

13**. EARTHING ARRANGEMENTS**

A through hole of 14mm diameter shall be provided in each pole at a height of 300mm above the planting depth for earthing.

14**. MARKING**

The poles should have outside engraving/embossing mark indicating Company Name : MSPDCL, Name of Project : O&M, Year of supply/manufacture : 2015, at a height of 2.5 m from the bottom of the poles.

15. TECHNICAL REQUIREMENTS:- (As per IS:2713(Part – I & II) – 1980 and its latest amendment)

(i) Designation:- 410-SP-32

(ii) Overall Length:- 9 mt.

(iii) Planting depth:- 1.5 mt.

(iv) Load applied from top at a distance of:-	0.30 mt.
(v) Height above ground:-	7.5 mt.
(vi) Length of sections:-	(a) Bottom:- 5.00 mt. (b) Middle:- 2.00 mt. (c) Top:- 2.00 mt.
(vii) Outside diameter and thickness of sections:-	
	(a) Bottom:- 165.1X4.50 mm (b) Middle:- 139.7X4.50 mm (c) Top:- 114.3X3.65 mm
.	
(viii) Approximate weight of Pole:-	147 Kgs
(ix) Breaking Load:-	5070 N (517 Kgf)
(x) Crippling Load:-	3600 N (367 Kgf)
(xi) Working load (Taking a factor of 2 on crippling load):-	1800 N (184 Kgf)
(xii) Working load (Taking a factor of 2.5 on breaking load):-	030 N (207 Kgf)
(xiii) Load for permanent set not exceeding 13 mm:-	2460 N (251 Kgf)
(xiv) Load for temporary deflection of 157.5 mm:-	1260 N (139 Kgf)

11 KV PORCELAIN INSULATORS

1. SCOPE

This specification covers details of porcelain insulators (Pin and Strain Insulators) for use on 11 KV overhead power lines in rural electric distribution system.

2. APPLICABLE STANDARDS

Except when it conflicts with the specific requirements of this specification, the insulators shall comply with IS:731 and IS:3188 as amended from time to time.

3. GENERAL REQUIREMENTS

3.1 The porcelain shall be sound, free from defects, thoroughly vitrified and smoothly glazed.

3.2 Unless otherwise specified, the glaze shall be brown in colour. The glaze shall cover all the porcelain parts of insulators except those areas which serve as support during firing or are left unglazed for the purpose of assembly.

3.3 The design of insulators shall be such that stresses due to expansion and contraction in any part of the insulator shall not lead to deterioration. The porcelain shall not engage directly with hard metal.

3.4 Cement used in construction of insulators shall not cause fracture by expansion or loosening by contraction and proper care shall be taken to locate the individual parts correctly during cementing. The cement shall not give rise to chemical reaction with metal fittings and its thickness shall be as uniform as possible.

3.5 The insulators should preferably be manufactured in automatic temperature - controlled kilns to obtain uniform baking and better electrical and mechanical properties.

4. CLASSIFICATION AND DIMENSIONS

4.1 Both pin and strain insulators shall conform to Type B of IS:731.

4.2 The dimensions of pin insulators shall be as shown in Fig. 1.

4.3 The strain insulators shall be of Ball and Socket type or Tongue and Clevis type, as required by the Purchaser. The dimensions of these insulators shall be as per Fig. 2.

5. TEST VOLTAGES

5.1 The test voltages of insulators shall be as under :

Highest System voltage	Visible Discharge Test	Wet Power Frequency withstand Test	Power Frequency puncture withstand test		Impulse voltage withstand Test
			Pin Insulator	Strain Insulator	
KV(rms)	KV(rms)	KV(rms)	KV(rms)	KV(rms)	KV(Peak)
12	9	35	105	1.3 times of the actual dry flash over voltage of the Insulator	75

6. FAILING LOAD

6.1 Mechanical Failing Load (For Pin Insulators only) The insulators shall be suitable for a minimum failing load of 5 KN applied in transverse direction.

6.2 Electro-Mechanical Failing Load (For Strain Insulators) The insulators shall be suitable for a minimum failing load of 45 KN applied axially.

7. CREEPAGE DISTANCE

The minimum creepage distance shall be as under :

Highest System Voltage	Normal and Moderately polluted atmosphere	Heavily Polluted atmosphere	
		Pin insulator	Strain insulator
KV	mm	mm	Mm
12	230	320	400

Note : Higher value of creepage distance has been specified for strain insulators as these are normally used in horizontal position in 11 KV lines.

8. TESTS

The insulators shall comply with the following tests as per IS:731 :-

8.1 Type Tests

a) Visual examination
b) Verification of dimensions
c) Visible discharge test
d) Impulse Voltage Withstand Test
e) Wet Power Frequency Voltage Withstand Test
f) Temperature cycle test
g) Mechanical Failing load test (for Pin Insulators only) to be carried out as per procedure described at Sub-clause 8.4
h) 24-hour Mechanical strength Test for Strain Insulators
i) Puncture Test
j) Porosity Test
k) Galvanising Test
l) Electro-mechanical failing load test (for Strain insulators only) to be carried out as per procedure described at Sub-clause 8.4

m) Thermal Mechanical Performance Test (for Strain insulators only) to be carried out as per procedure described at Sub-clause 8.4

8.2 ROUTINE TESTS:

a) Visual examination
b) Mechanical routine test (for strain insulator only)
c) Electrical routine test (for strain insulator only)
d) Hydraulic Internal Pressure test on shells for strain insulators to be carried out as per procedure described at Sub-clause 8.4

8.3 ACCEPTANCE TEST:

a) Verification of Dimensions
b) Temperature cycle Test
c) Electro-mechanical failing load test (for strain insulators only) to be carried out as per procedure described at Sub-clause 8.4
d) Puncture test (for strain insulators only)
e) Porosity test
f) Galvanising test

8.4 Following procedure shall be used for conducting tests on insulators :

A) Hydraulic Internal Pressure Test on Shells (For Disc Insulators).
The test shall be carried out on 100% shells before assembly. The detail and methodology for conducting this test has been illustrated at attached Annexure – 1.

B) Thermal Mechanical Performance Test (if applicable)
Thermal Mechanical Performance Test shall be performed in accordance with IEC- 383-1-1993 Clause 20 with the following modifications:

i. The applied mechanical load during this test shall be 70% of the rated electromechanical or mechanical value.

ii. The acceptance criteria shall be

(a) X greater than or equal to R + 3S.

Where
X- Mean value of the individual mechanical failing load.
R- Rated electro-mechanical / mechanical failing load.
S- Standard deviation.

(b) The minimum sample size shall be taken as 20 for disc insulator units.

(c) The individual electromechanical failing load shall be at least equal to the rated value. Also puncture shall not occur before the ultimate fracture.

a. Electromechanical/Mechanical Failing Load Test.
This test shall be performed in accordance with clause 18 and 19 of IEC 383 with the following acceptance

(i) X greater than or equal to R + 3S , Where
X- Mean value of the electro-mechanical/mechanical/ failing load.
R- Rated electro-mechanical / mechanical failing load.
S- Standard deviation.

(ii) The minimum sample size shall be taken as 20 for disc insulators units. However, for larger lot size, IEC 591 shall be applicable.

(iii) The individual electro-mechanical/mechanical failing load shall be at least equal to the rated value. Also electrical puncture shall not occur before the ultimate fracture.

9. MARKING

9.1 Each insulator shall be legibly and indelibly marked to show the following :

a) Name or trade mark of manufacturer
b) Month and year of manufacture
c) Minimum failing load in KN
d) ISI certification mark, if any

9.1.1 Markings on porcelain shall be printed and shall be applied before firing.

10. PACKING

All insulators (without fittings) shall be packed in wooden crates suitable for easy but rough handling and acceptable for rail transport. Where more than one insulator is packed in a crate, wooden separators shall be fixed between the insulators to keep individual insulators in position without movement within the crate.

11. INSPECTION

11.1 All tests and inspection shall be made at the place of manufacture unless otherwise especially agreed upon by the manufacturer and purchaser at the time of purchase. The manufacturer shall afford the inspector representing the purchaser all reasonable facilities, without charge, to satisfy him that the material is being furnished in accordance with this specification.

11.2 The purchaser has the right to have the tests carried out at his own cost by an independent agency whenever there is dispute regarding the quality of supply.

HYDRAULIC PRESSURE TEST ON DISC INSULATOR SHELL

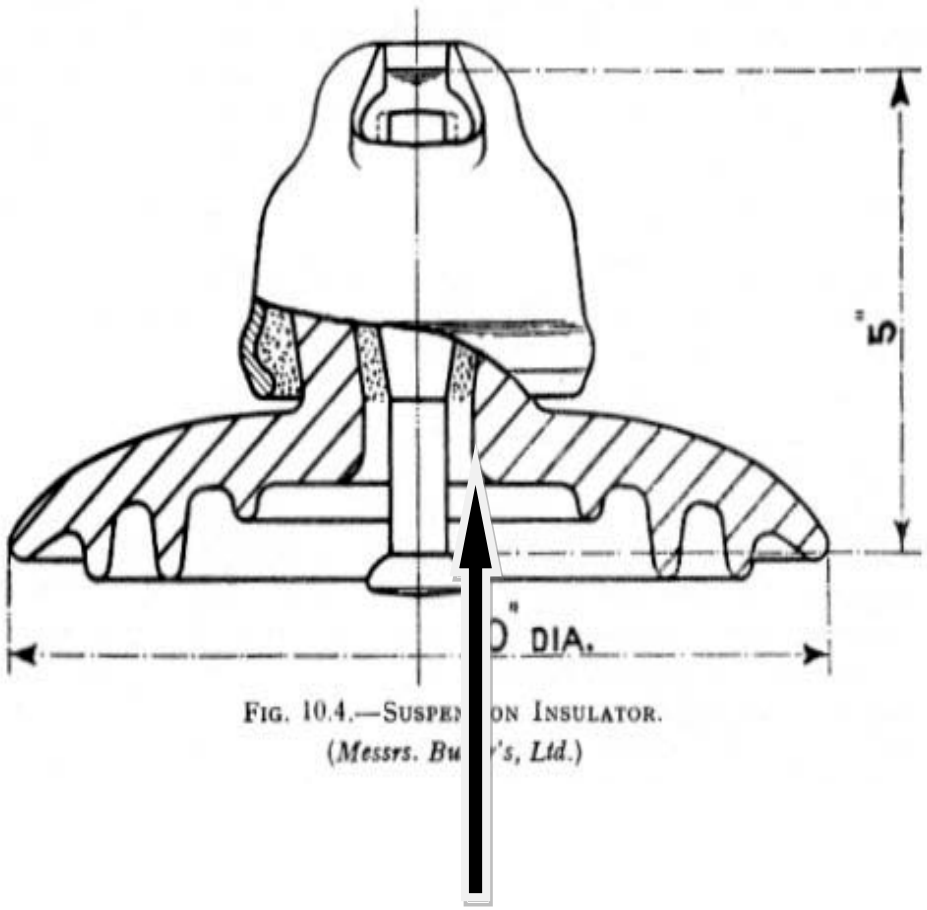


FIG. 10.4.—SUSPEN ON INSULATOR.
(*Messrs. Bu s, Ltd.*)

120 KG C/ M sq +/- 10 on the shell before cap and pin assembly to check the integrity of Porcelain

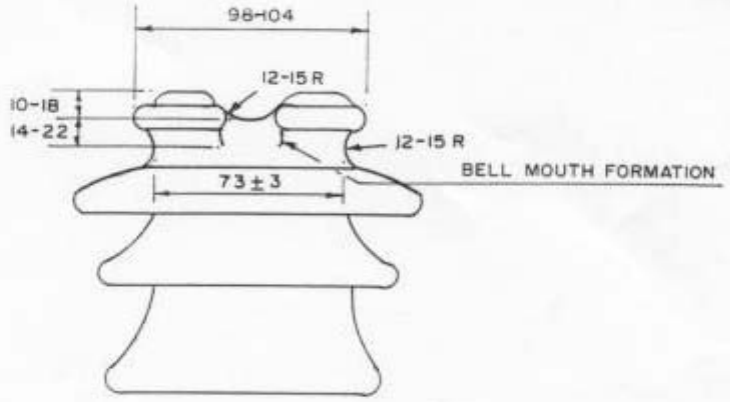


FIG-1.

११ के० वी० पिन विद्युतरोधक का विस्तार

DIMENSIONS OF 11 KV. PIN INSULATOR

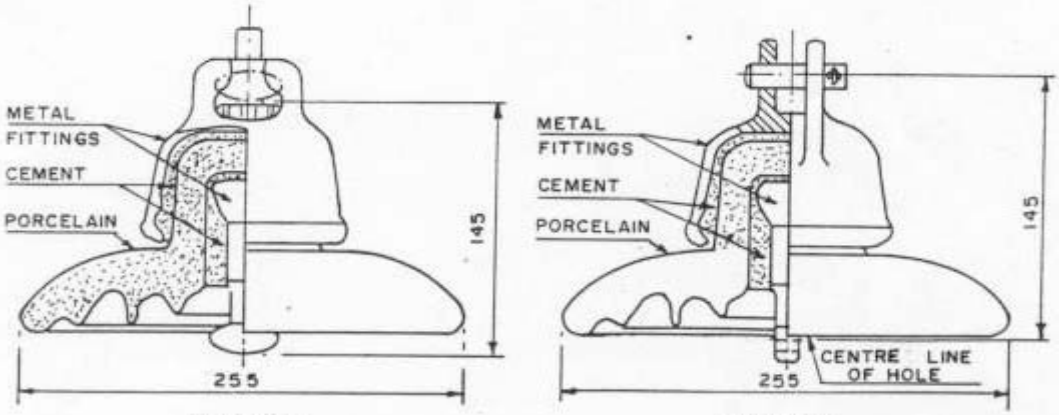


FIG-2A
BALL AND SOCKET TYPE.

FIG-2B
TONGUE AND CLEVIS TYPE.

FIG-2.

विकृति विद्युतरोधक का विस्तार

DIMENSIONS OF STRAIN INSULATORS

GUY STRAIN INSULATORS

1. SCOPE

This Specification covers porcelain guy strain insulators for use in rural electrification system.

2. APPLICABLE STANDARDS

Unless otherwise modified in this specification, the insulators shall comply with IS: 5300-1969 or the latest version thereof.

3. GENERAL REQUIREMENTS

3.1 The porcelain insulator shall be sound, free from defects, thoroughly vitrified and smoothly glazed.

3.2 The design of the insulator shall be such that the stresses due to expansion and contraction in any part of the insulator shall not lead to its deterioration.

3.3 The glaze, unless otherwise specified, shall be brown in colour. The glaze shall cover the entire porcelain surface parts except those areas that serve as supports during firing.

4. TYPE OF INSULATORS

4.1 The standard guy strain insulators shall be of designations 'A' and 'C' as per IS:5300.

4.2 The recommended type of guy strain insulators for use on guy wires of overhead lines ofdifferent voltage levels are as follows :

Power Line Voltage	Designation of Insulators
415/240V	A
11000V	C
33000V	C (2 Insulators to be used in series)

5. DIMENSIONS

The dimensions of guy strain insulators shall be in accordance with Figs. 1 and 2.

6. BASIC INSULATION LEVELS

The test voltage of the insulators shall be as under :

Designation of Insulator	Dry one minute power Frequency withstand voltage KV (rms)	Wet one minute power Frequency withstand voltage KV (rms)
A	18	8
C	27	13

7. MECHANICAL STRENGTH

The insulators shall be suitable for the minimum failing loads specified as under:

Designation of Insulator	Minimum failing load (KN)
A	44
	88

8. TESTS

The insulators shall comply with the following routine, type and acceptance tests as per IS:5300.

8.1 Routine Test

Visual examination

8.2 Type Tests

a) Visual examination

b) Verification of dimensions
c) Temperature cycle test
d) Dry one-minute power-frequency voltage withstand test
e) Wet one-minute power frequency voltage withstand test
f) Mechanical strength test
g) Porosity test

8.3 Acceptance Tests: (to be conducted in the following order)

a) Verification of dimensions
b) Temperature cycle test
c) Mechanical strength test
d) Porosity test

9. MARKING

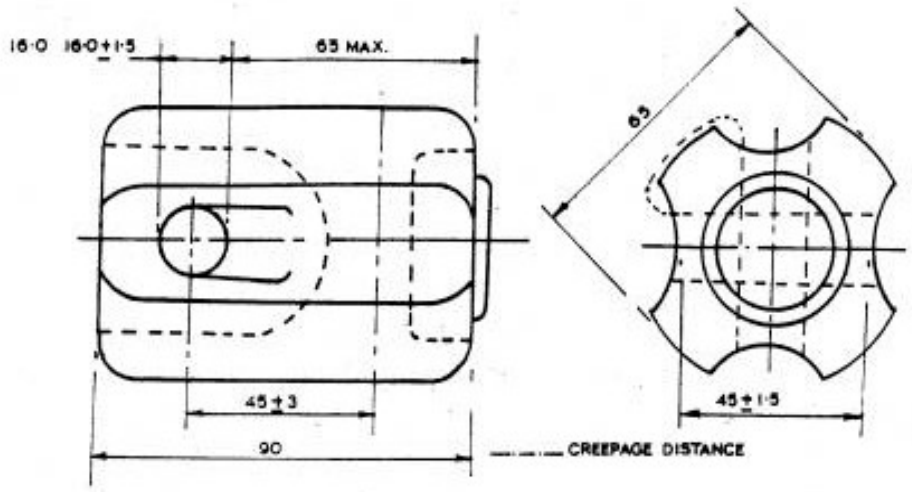
9.1 Each insulator shall be legibly and indelibly marked to show the following :

a) Name or trade mark of the manufacturer
b) Year of manufacture
c) ISI certification mark, if any.

9.2 Marking on porcelain shall be applied before firing.

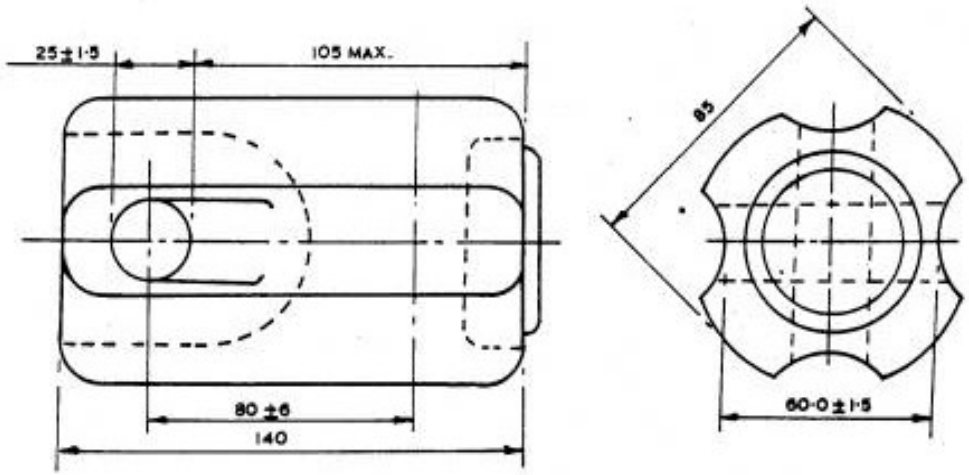
10. PACKING

All insulators shall be packed in wooden crates suitable for easy but rough handling and suitable for rail transport. Wooden separators shall be fixed between the insulators to keep individual insulators in position without movement within the crate.



चित्र-१. ताण रस्सी विकृतिसह विद्युतरोधक – संज्ञा ए.

FIG. 1. GUY STRAIN INSULATOR (DESIGNATION– A)



चित्र-२ ताण रस्सी विकृतिसह विद्युतरोधक – संज्ञा सी.

FIG. 2. GUY STRAIN INSULATOR (DESIGNATION – C)

ALL DIMENSIONS ARE IN mm

PORCELAIN INSULATORS FOR 415/240V OVERHEAD POWER LINES

1. SCOPE

This Specification covers the details of the porcelain insulators for use on 415/240 V overhead power lines met with in rural electric distribution systems.

2. APPLICABLE STANDARDS

Unless otherwise modified in this specification, the insulators shall comply with IS:1445-1977 or the latest versions thereof.

3. PORCELAIN INSULATORS

3.1 General Requirements

3.1.1 The porcelain shall be sound, free from defects, thoroughly vitrified and smoothly glazed.

3.1.2 The glaze, unless otherwise specified, shall be brown in colour. Except for the screw threads and the parts on which the porcelain is supported during firing, which may be left unglazed, all other surfaces of the insulator shall be effectively glazed.

3.1.3 The design of the insulator shall be such that stresses due to expansion and contraction in any part of the insulator shall not lead to its deterioration.

3.1.4 The insulator shall be in one piece.

3.2 Type of Insulators

3.2.1 Pin Insulator : Pin insulator is an insulator consisting of a single piece of porcelain and intended to be mounted rigidly on a supporting structure by a pin, which passes up inside the insulator. The pin type insulator shall have a top groove and shall be threaded to take mild steel pins, the profile of threads being as given in Fig. 5 of IS:1445-1977. The dimensions of pin insulator shall be as shown in Fig. 1.

3.2.2 Shackle Insulator : Shackle insulator is an insulator consisting of a single piece of porcelain and intended to be mounted vertically or horizontally , between and in contact with the two ends of a 'U' strap or a pair of straps with its axis vertical and intended to secure a line conductor in tension. The dimensions of shackle insulator shall be as shown in Fig. 3 & 4.

3.3 Basic Insulation Levels The test voltages of the insulators shall be as under :

Type of Insulator	Wet One-Minute Power Frequency Withstand Voltage	Power Frequency Puncture Withstand Voltage
	KV (rms)	KV (rms)
Pin	10	60
Shackle	10	60

Note : The withstand voltage in Column 2 above is referred to the "Reference Atmospheric Conditions" as per IS:1445.

3.4 Mechanical Loads

The insulators shall be suitable for the minimum failing load specified as under :

Pin Insulator KN	Shackle Insulator KN
3.5	11.5 (Type 1)
-	16.0 (Type 2)

3.5 Tests

The insulators shall comply with the following tests as per IS:1445.

3.5.1 Type Tests

The following tests shall constitute the type tests :

a) Visual examination
b) Verification of dimensions
c) Wet power-frequency voltage withstand test
d) Temperature cycle test
e) Mechanical failing load test
f) Power-frequency puncture withstand test and
g) Porosity test

3.5.2 Acceptance Tests

The test samples shall be subjected to the following acceptance tests in the order indicated below :

a) Verification of dimensions
b) Temperature cycle test
c) Mechanical failing load test (subject to mutual agreement between the purchaser and the supplier) and
d) Porosity test

3.5.3 Routine Test :

The visual examination shall be carried out on each insulator.

3.6 Marking

3.6.1 Each insulator shall be legibly and indelibly marked to show the following :

a) Name or trade mark of the manufacturer
b) Year of Manufacture and
c) ISI certification mark, if any

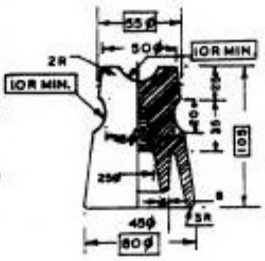
3.6.2 Marking on porcelain shall be printed and shall be applied before firing.

3.7 Packing

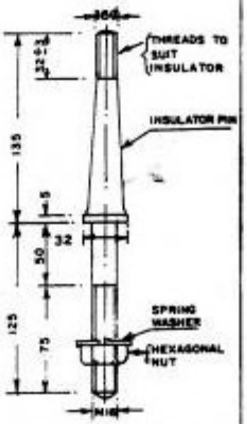
All insulators shall be packed in baskets, crates or boxes as per manufacturers' standard practice but suitable for rough handling.

NOTES

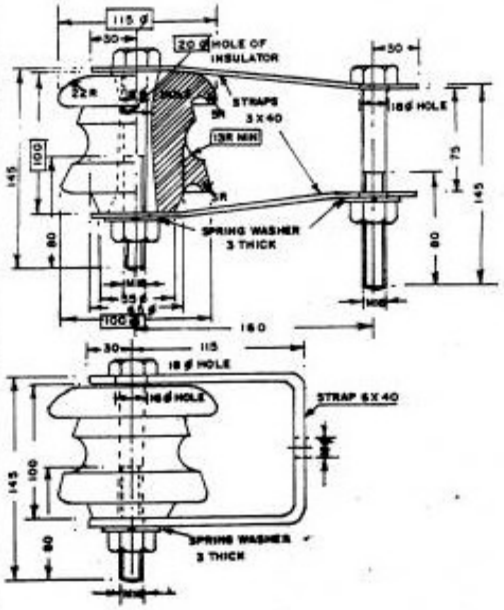
1. INSULATORS AS PER IS:1445-1977
2. FITTINGS AS PER IS:7935-1975
3. THE UPPER GROOVE OF THE PIN INSULATOR SHOULD BE SLIGHTLY SLANTING SO THAT THE POSSIBILITY OF DAMAGE TO THE CONDUCTOR ON SHARP EDGES IS AVOIDED.
4. IN CASE OF INSULATORS, THE ENCLOSED DIMENSIONS ARE MANDATORY. OTHER DIMENSIONS AND THE PROFILE ARE GIVEN FOR GUIDANCE.
5. TOLERANCES FOR DIMENSIONS WHEN NOT INDICATED IN THE DRAWING SHALL BE AGREED TO BETWEEN THE PURCHASER AND THE SUPPLIER, IF NECESSARY
6. ALL DIMENSIONS ARE IN mm.



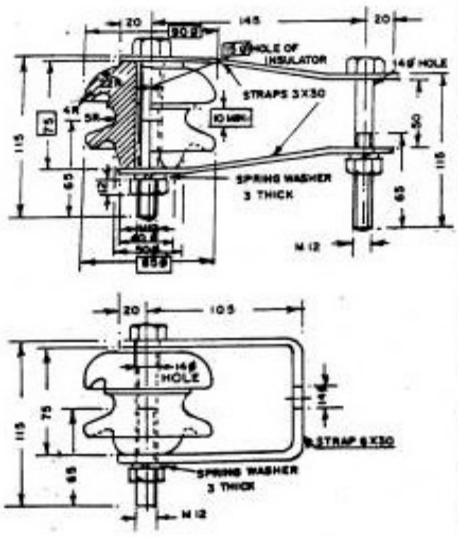
PIN INSULATOR
FIG :- 1.



DETAILS OF FORGED
INSULATOR PIN
FIG :- 2



SHACKLE INSULATOR TYPE-2
AND FITTINGS
FIG. :- 3



SHACKLE INSULATOR TYPE-1
AND FITTINGS
FIG. :- 4

ALL DIMENSIONS ARE IN mm.

SCALE :- N.T.S

HARDWARE FITTINGS FOR 11 KV INSULATORS

1. SCOPE

This specification covers details and test requirements for (i) Pins for 11 KV Insulators, (ii) Helically Formed Pin Insulator Ties (iii) Fittings for Strain Insulators with Helically Formed Conductor Dead-Ends and (iv) Fittings for Strain Insulators with conventional Dead-End Clamps.

2. APPLICABLE STANDARDS

Pins shall comply with the requirements of IS:2486 (Pt.I & II). Helically formed fittings shall comply with IS:12048-1987. Fittings for strain insulators shall comply with the requirements of IS:2486Pt.I to IV.

3. PINS FOR INSULATORS

3.1 General Requirements

The pins shall be of single piece obtained preferably by the process of forging. They shall not be made by joining, welding, shrink fitting or any other process using more than one piece of material. The pins shall be of good finish, free from flaws and other defects. The finish of the collar shall be such that a sharp angle between the collar and the shank is avoided. All ferrous pins, nuts and washers, except those made of stainless steel, shall be galvanised. The threads of nuts and taped holes, when cut after galvanising shall be well oiled or greased.

3.2 Dimensions

Pins shall be of small steel head type S 165 P as per IS:2486 (Part-II) having stalk length of 165mm and shank length of 150mm with minimum failing load of 5 KN. Details of the pins are shown in Fig. 3.

3.3 Tests

Insulator pins shall comply with the following test requirements as per IS:2486 (Part-I)-1993 or latest version thereof:

3.3.1. Type Tests

a) Checking of threads on heads
b) Galvanising test
c) Visual examination test
d) Mechanical test

3.3.2 Acceptance Tests

a) Checking of threads on heads
b) Galvanising test
c) Mechanical test

3.3.3 Routine Test

Visual examination test

4. FITTINGS FOR STRAIN INSULATORS WITH CONVENTIONAL DEAD END CLAMPS ALTERNATIVE TO FITTINGS COVERED IN CLAUSE

4.1 Fittings for strain insulators with conventional dead-end clamps for use with tongue & clevis or ball & socket type insulators shall consist of the following components :

a) Cross arms strap conforming to IS:2486 (Pt.II)-1989
b) Dead-end clamp made of aluminium alloy to suit ACSR conductors from 7/2.11mm to 7/3.35mm. The ultimate strength of the clamp shall not be less than 3000 Kg. The shape and major dimensions of clamps suitable for T&C insulators are shown in figures 8 respectively.

4.2 Tests

The fittings shall be subjected to type, routine and acceptance tests in accordance with the stipulations of IS:2486 (Pt.I).

5. PACKING

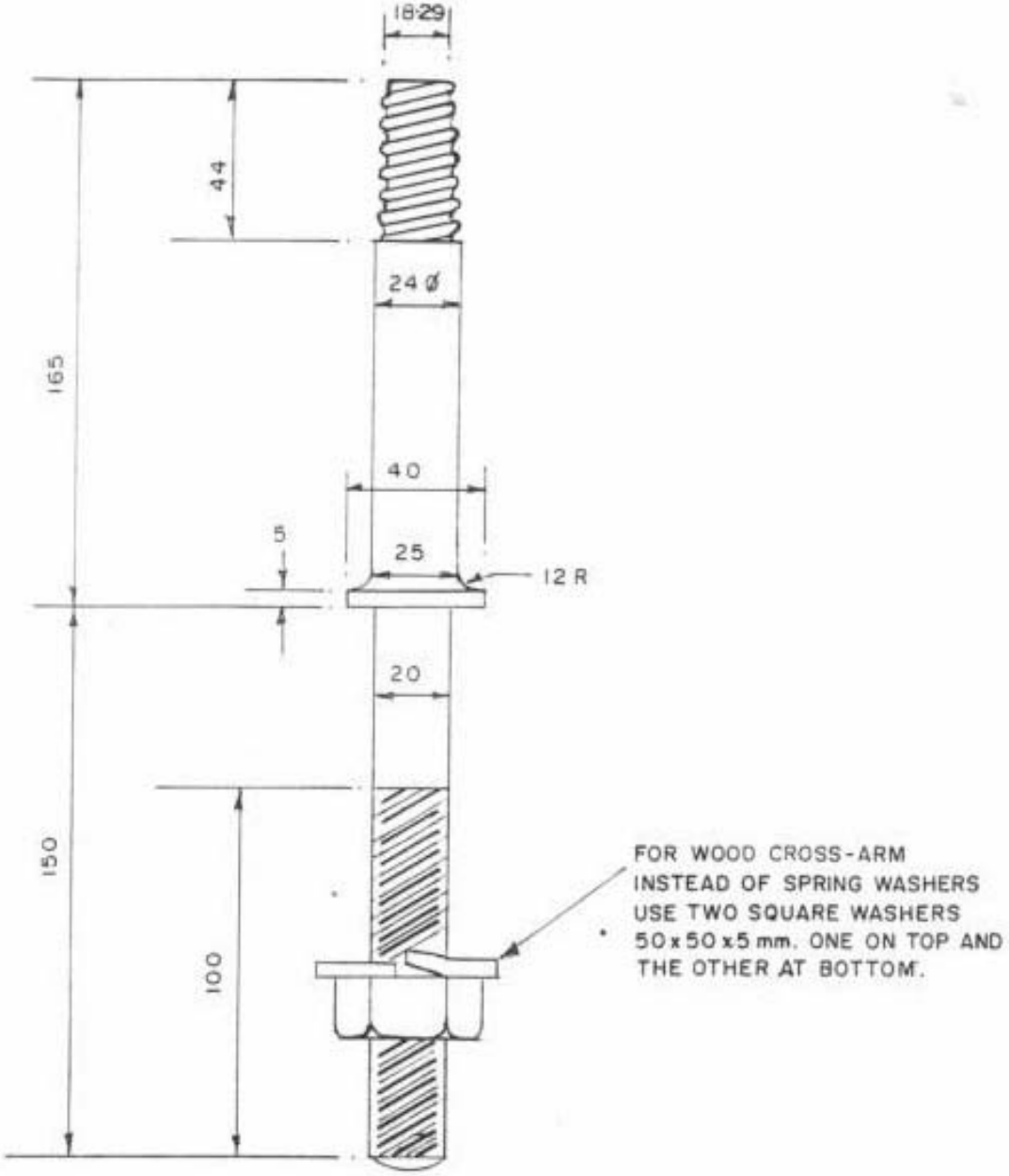
5.1 For packing of GI pins, strain clamps and related hardware, double gunny bags or wooden cases shall be used. The heads and threaded portions of pins and the fittings shall be properly protected against damage.

5.2 The gross weight of the packing shall not normally exceed 50 Kg. Helically formed fittings shall be packed in card-board / wooden boxes. Fittings for different sizes of conductors shall be packed in different boxes and shall be complete with their minor accessories fitted in place and colour codes on tags/fittings shall be marked to identify suitability for different sizes of conductors as per IS:12048-1987.

6 . INSPECTION

6.1 All tests and inspection shall be made at the place of manufacture unless otherwise especially agreed upon by the manufacturer and purchaser at the time of purchase. The manufacturer shall afford the inspector representing the purchaser all reasonable facilities, without charge, to satisfy him that the material is being furnished in accordance with this specification.

6.2 The purchaser has the right to have the test carried out at his own cost by an independent agency whenever there is dispute regarding the quality of supply.



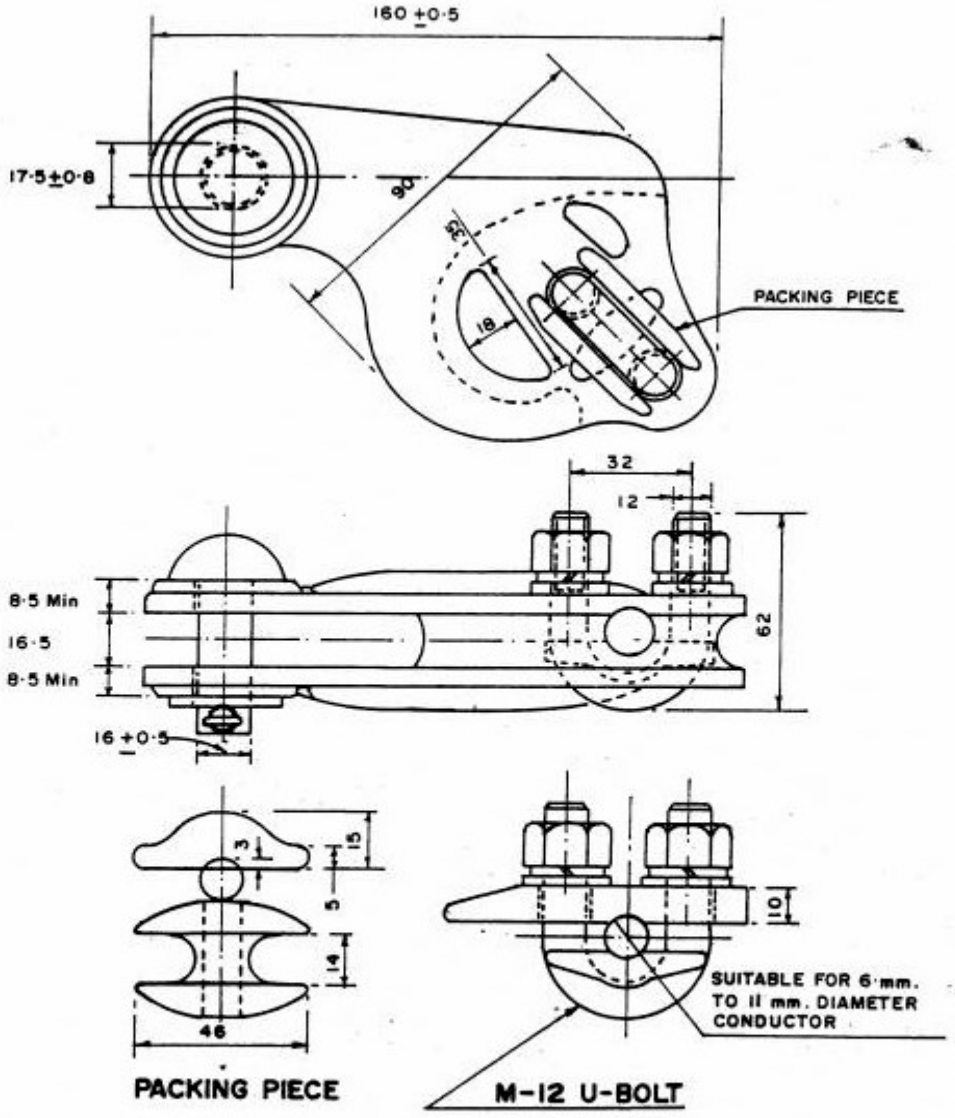
विद्युत रोधक पिन

INSULATOR PIN

(TYPE S 165P)

AS PER IS: 2486 Pt. II.

FIG-3.



चित्र: ८. टंग और क्लेविस टाइप विद्युतरोधक के लिए ११ के. वी. विकृति क्लैम्प

FIG. 8. 11 KV. STRAIN CLAMP FOR TONGUE AND CLEVIS TYPE INSULATOR.

ALL DIMENSIONS ARE IN mm.

INSULATOR FITTINGS FOR LT

1. Pins

1.1 General Requirements

1.1.1 The pins shall be obtained by the process of forging. They shall be of good finish, free from flaws and other defects. The finish of the collar shall be such that a sharp angle between the collar and the shank is avoided.

1.1.2 All ferrous pins, nuts and washers except those made of stainless steel, shall be galvanised. The threads of nuts shall be cut after galvanising and shall be well oiled or greased.

1.1.3 Dimensions

Pins shall have a stalk length of 135mm, shank length of 125 mm and minimum failing load of 2.0 KN. The dimensions of the pin shall be as given in Fig. 2**.**

2. Shackle Insulator Fittings

2.1 General Requirements

2.1.1 All parts shall be of good finish and free from flaws and other defects. The edges on the outside of fittings, such as at the holes etc. shall be rounded.

2.1.2 All ferrous fittings and the parts other than those of stainless steel shall be galvanised. Small fittings like spring washers, nuts etc. may be electro-plated with zinc.

2.1.3 Strap type fittings shall consist of the following:

a) A pair of MS strap
b) 2 Nos. MS bolts with hexagonal head and nuts
c) 2 Nos. spring washers
d) Helically formed conductor dead-end fittings made of aluminium alloy or aluminium-clad steel conforming to the requirements of REC Specification of Helically Formed Fitting for 11 KV & LT Lines.

2.1.4 The complete details of shackle fittings to be used with steel cross-arms are shown in Fig. 3 & 4.

2.1.5 Alternatively, 'U' clamp fittings shall be required. These would consist of :

a) MS 'U' - clamp
b) 1 No. MS bolt and nut
c) 1 No. spring washer
d) Helically formed distribution side tie made of aluminium alloy or aluminium-clad steel conforming to the requirements of REC Specification of Helically Formed Fitting for 11 KV & LT Lines**.**

Note: 'U'clamp fittings are intended only for use on tangent locations or for service lines where load is small; the strap fittings are meant for angle and dead-end locations.

3. Tests

Insulator fittings shall comply with the following tests as per IS:7935.

3.1 Type Tests : The following shall constitute the type tests :

a) Visual examination
b) Verification of dimensions
c) Checking of threads on heads
d) Galvanising/electroplating test and
e) Mechanical strength test (for pin insulator fittings only)

3.2 Acceptance Tests : The following shall constitute the acceptance tests :

a) Checking of threads on heads and
b) Galvanising test

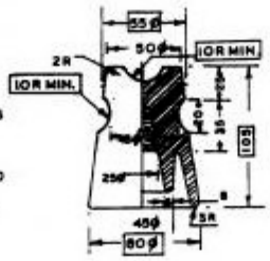
3.3 Routine Test : Visual examination test shall be carried out as routine test

4. Packing

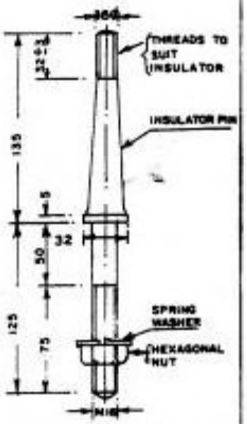
For packing of insulator pins and shackle fittings, double gunny bags or wooden cases, if deemed necessary, shall be employed. Helically formed fittings shall be packed in card board/wooden boxes. The gross weight of each packing shall not normally exceed 50 Kg. All nuts shall be hand-tightened over the bolts and screwed up to the farthest point.

NOTES

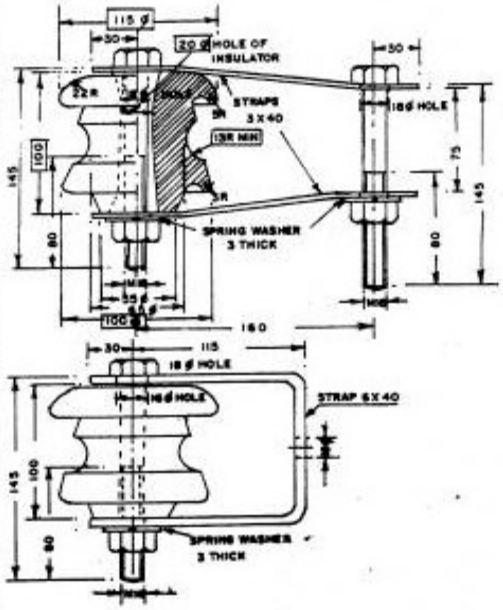
1. INSULATORS AS PER IS:1445-1977
2. FITTINGS AS PER IS:7935-1975
3. THE UPPER GROOVE OF THE PIN INSULATOR SHOULD BE SLIGHTLY SLANTING SO THAT THE POSSIBILITY OF DAMAGE TO THE CONDUCTOR ON SHARP EDGES IS AVOIDED.
4. IN CASE OF INSULATORS, THE ENCLOSED DIMENSIONS ARE MANDATORY. OTHER DIMENSIONS AND THE PROFILE ARE GIVEN FOR GUIDANCE.
5. TOLERANCES FOR DIMENSIONS WHEN NOT INDICATED IN THE DRAWING SHALL BE AGREED TO BETWEEN THE PURCHASER AND THE SUPPLIER, IF NECESSARY
6. ALL DIMENSIONS ARE IN mm.



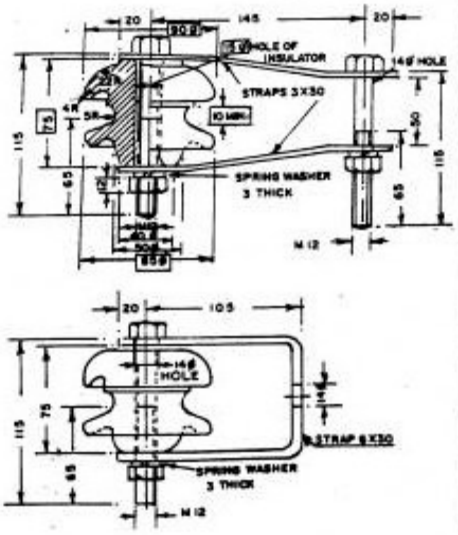
PIN INSULATOR
FIG :- 1.



DETAILS OF FORGED
INSULATOR PIN
FIG :- 2



SHACKLE INSULATOR TYPE-2
AND FITTINGS
FIG.:-3



SHACKLE INSULATOR TYPE-1
AND FITTINGS
FIG.:-4

ALL DIMENSIONS ARE IN mm.

SCALE :- N.T.S

MANIPUR STATE POWER DISTRIBUTION COMPANY LIMITED
(Regd. Office: Electricity Complex, Patta No. 1293 under 87(2), Khwai Bazar, Keishampat, District – Imphal West, Manipur – 795001)
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MEMORANDUM

Imphal, the 25th Feb, 2015

Subject:- Tender opening Committee for opening of Techno Commercial Bids and Price Bids/Financial Bids for procurement of Materials/Equipment required for Operation & Maintenance of MSPDCL.

No. 2/24/O&M/Ts-14/2014-MSPDCL/Pt: The Tender Opening Committee consisting of the following Officers of the Company is hereby constituted for opening of Techno Commercial Bids and Price Bid/Financial Bid for procurement of Materials/Equipment required for Operation & Maintenance of MSPDCL on **26/2/2015 at 11.00 A. M. (Techno Commercial Bids) and 28/2/2015 at 11.00 A.M. (Price Bids/Financial Bids)**

1.	Executive Director(Technical)	Chairman
2.	General Manager, Circle No- I	Member
3.	General Manager, Circle No- II	Member
4.	General Manager (Finance & Acct)	Member
5.	Deputy General Manager (Purchase)	Convener

(R. SUDHAN)
Managing Director
MSPDCL

Copy to :-

1. The Executive Director(Technical), MSPDCL for information.
2. The General Manager, Circle No- I, MSPDCL for information & necessary action.
3. The General Manager, Circle No- II, MSPDCL for information & necessary action.
4. The General Manager (Finance & Acct) MSPDCL for information & necessary action.
5. The Deputy General Manager(Purchase), MSPDCL for information & necessary action.

(Item wise Price Break-up) **ANNEXURE-A**

Bidder's Name & Address :

Price Break-down of Ex-works price, Taxes and F & I for supply of individual items

Tender Specification No		Particulars	Unit	Qty	Unit Ex-works price	Excise Duty	Sale Tax	Freight & Insurance charges	LST/ VAT	Total
1		2	3	4	5	6	7	8	9	10
No. 24/2/14	1	Hardware Fittings								
	a	Hardware Fittings for 11 KV Disc Insulator (T&C) Type	No	1500						
	b	G.I. Pin for 11 KV Pin Insulator	No	5000						
	c	G. I. Pin for LT pin Insulator	No	2000						
	d	Hardware Fittings for LT Shackle Insulator	No	2000						
	2	Diaphragm for Exhaust valve to suit (250KVA,400KVA,660KVA)DT	No	100						
	3	LT Bushing rod for(Brass)								
	a	Suitable for 63 KVA Dist. Transformer	No	500						
	b	Suitable for 100 KVA Dist. Transformer	No	500						
	c	Suitable for 250 KVA Dist. Transformer	No	500						
	4	HT Bushing rod for(Brass)								
	a	Suitable for 63 KVA Dist. Transformer	No	300						
	b	Suitable for 100 KVA Dist. Transformer	No	300						
	c	Suitable for 250 KVA Dist. Transformer	No	200						
	5	Galvanised bolts and nuts								
	a	Galvanized Bolts & Nuts (5/8)" x 3" (Full thread)	Kg	500						
	b	Galvanized Bolts & Nuts (5/8)" x 6"	Kg	500						
	c	Galvanized Washer (5/8)" dia.	Kg	200						

(Item wise Price Break-up) **ANNEXURE-A**

Bidder's Name & Address :

Price Break-down of Ex-works price, Taxes and F & I for supply of individual items

Tender Specification No		Particulars	Unit	Qty	Unit Ex-works price	Excise Duty	Sale Tax	Freight & Insurance charges	LST/ VAT	Total
1		2	3	4	5	6	7	8	9	10
No.16/2/14	1	Insulator:								
	a	11 KV Procelain Pin Insulator	No	5000						
	b	11 KV Procelain Disc Insulator 45 KN (T&C) Type	No	1500						
	c	11 KV Stay/Guy Insulator	No	960						
	d	LT Pin Insulator	No	2000						
	e	LT Shackle Insulator	No	2000						
	f	LT Stay /Guy Insulator	No	500						