

ANNEXURE - ' D '
TECHNICAL SPECIFICATION FOR
INSULATOR PINS
(PINS FOR 11,22 AND 33 kV INSULATORS)
SPECIFICATION NO: DIST/MM/I/G.I. PINS -2006)

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**TECHNICAL SPECIFICATION FOR INSULATOR PINS
(PINS FOR 11,22 AND 33 kV INSULATORS)**

1. SCOPE :-

The specification given hereunder covers manufacturing, testing, supply and dispatch of pins for the 11,22 and 33 kV Pin type of Insulators (Manufactured in accordance with IS-731/1971

The pins shall conform to IS-2486(Part-I) /1993 and IS-2486(Part-2)/1989 (amended upto date) for insulator fittings for overhead power lines .

2. GENERAL REQUIREMENTS :-

The pins shall be a single piece obtained preferably by the process of forging. They shall not be made by jointing, welding, shrink fitting or any other process from more than one piece of material.

The finish of the collar or the seating surface of the metal base in the case of line post insulators shall be down correctly on the cross arms when fixed to that through hole the dia of which is 2 mm greater than the diameter of the shank.

3. MATERIAL :-

i)The pins shall be of good quality forged steel complying with class 2, IS-1875/1978 (Specification for carbon steel forging for general engineering purposes) and of tensile strength such that the mechanical test specified in clause 9.5 of IS-2486/1993(Part-I) are satisfactorily met with.

ii) Nuts shall be of steel or wrought iron.

The nuts shall be made of material conforming to class 4.8 of IS:1367 (Part-6) /1980 with regard to its mechanical properties. The nuts shall be well greased after galvanizing, the threads being cut before galvanizing.

iii)For galvanizing the Zinc conforming to grade Zn 99.95 of IS-209/1992 specification for Zinc (Revised) shall be used.

iv)Threading : The threads on the shank and the nut shall be according to IS-2486 (Part-2) /1989.

4. DIMENSIONS :-

The pins shall comply in all respect with IS-2486 (Part-2) / 1989 Indian Standard Specification for insulator fitting for overhead power lines .

The general dimensions shall be as follows :-

Suitable for Pin Insulator	Steel Head	Shank Dia.	Shank length	Stalk length	Minimum failing load.	Ref.No. as per IS-2486 (Part-2) 1989.	Remark .
11 KV	Small	20 mm	150 mm	165 mm	5 KN	S 165 P	Cast in lead thimble for steel head pins.
22 KV	Large head	24 mm	150 mm	230 mm	10 KN	L 230 N	--Do--
33 KV	Large head	24 mm	150 mm	300 mm	10 KN	L 300 N	--Do--

Tolerance in Dimensions :

Length : Subject to plus or minus 5 %

Diameter : Subject to plus or minus 2 %

Pin to be supplied with spring washer Electro galvanized.

5.WORKMANSHIP :-

The Pins shall be well forged , free from flaws and other defects , of good finish and shall be galvanized after all threads have been cut. The nuts and the spring washer will also be galvanized smoothly.

6. GALVANISING :-

After galvanizing the nut should travel freely on threads of the pin.

All pins, nuts and washers shall be galvanized and galvanizing shall be effected by hot dip process in case of pins and nuts and electro galvanized in case of spring washers and shall not adversely affect the mechanical properties of the coated metal. It shall consists of

smooth and continuous coating and shall conform to I.S. 2633 of 1986 and IS 4759 / 1984 for hot dip galvanizing and I.S.-1573/1986 for electro galvanizing according to service condition No. 4 in case of spring washers. The threads of nuts and tapped holes shall be cut before galvanizing.

7. TEST :-

TESTING FACILITIES AND TEST CERTIFICATES :-

The tenderer must clearly indicate what testing facilities are available in the works of manufacturer and whether the facilities are adequate to carry out all routine as well as type and acceptance tests in accordance with the I.S.-2486 (Part-I)/1993. These facilities should be available to Company's Engineer if deputed to carry out or witness the tests in the manufacturer's works.

The pins shall be tested in accordance with the procedure detailed in I.S.-2486 Part-I / 1993. Specification for Insulator fittings for overhead power lines with nominal voltage greater than 1000 Volts. The tests to be carried out are reproduced below.

- Type Test :
1. Visual examination test.
 2. Checking of threads on heads.
 3. Galvanizing test.
 4. Mechanical test.
 5. Chemical Composition test.

- Acceptance Tests :
1. Checking of threads on heads.
 2. Galvanizing test.
 3. Mechanical test.

- Routine Test :
1. Visual examination test.

Test Certificate :-

The tenderer shall furnish detailed type test reports of the offered G.I. Pins for the tests. All the above Type Test shall be carried out as per the procedure given in I.S.-2486 (Part-I)/ 1993 at approved

laboratories to prove that the G.I. Pins offered meet the requirement of the specification. These tests should have been carried out within five years prior to the date of opening of this tender. However, the tenderers who have supplied the G.I.Pins to this company against order from Central Purchase Agency of M.S.E.D.C.L. shall be exempted from submission of type test reports against this tender provided.....

- i) their offered G.I.Pins are already fully type tested at approved Laboratory within five years prior to the date of opening of this tender.
- ii) there is no change in the design of type tested G.I. Pins and those offered against this tender.
- iii) Such tenderer complying (i) and (ii) above shall furnish an undertaking in the format schedule " F " enclosed herewith.

The detailed type test reports alongwith the relevant certified drawings etc. or undertaking in the format schedule " F " seeking exemption from their submission of Type Test Reports are to be submitted in sealed cover on or before 15.00 hours on the same date of the month one month after the date of tender opening (i.e. the tender is opened on 3 rd June, the submission of type test report shall be on or before 3 rd July) Or the next working day in case the same date is a holiday duly superscribed on it following details.

" Type Test Report of G.I. Pins against tender :----- "

The sealed covers shall be opened at 15.00 hours on the same day in presence of the tenderers who choose to be present.

The purchaser reserves the right to demand repetition of some or all the Type Tests in presence of purchaser's representative at purchaser's cost For this purpose, the tenderer shall quote unit rates for carrying out each Type Test. However, such unit rates will not be considered for evaluation of the offer. In case the unit fails in the type tests, the complete supply shall be rejected.

The successful tenderer shall take approval / waiver of type tests from C.E. (Dist.), M.S.E.D.C.L. , " Prakashgad ", Bandra, Mumbai prior to commencement of supply.

8. PACKING :-

For packing of pins, double gunny bags (or wooden cases if deemed necessary) shall be employed. The heads of the threaded portion of the pins shall be properly protected against damage. The gross weight of each packing shall not normally exceed 50 kg . Different pins shall be packed in different bags or cases and shall be complete with nuts and washers fitted in place. All nuts shall be hand tightened over the pins and screwed upto farthest point.

9. SCHEDULE:-

9.1 The tenderer shall fill in the following schedules which forms part of the tender specification and offer. If the schedules are not submitted duly filled in with the offer, the offer shall be liable for rejection.

SCHEDULE - ' C ' - Tenderer's Experience.

SCHEDULE - ' F ' - Proforma of Undertaking.

9.2 The tenderer should submit the list of orders for this type of material, executed or under execution during the last three years, with full details in the schedule of Tenderer's experience (Schedule-C) to enable the purchaser to evaluate the tender.

SCHEDULE – " C "

SCHEDULE OF TENDERER,S EXPERIENCE

Tenderer shall furnish here a list of similar orders executed by him to whom a reference may be made by Purchaser in case he considers such a reference necessary.

SR. No.	NAME OF CLIENT & DESCRIPTION	VALUE OF ORDER	PERIOD OF SUPPLY & COMMISSIONING	NAME & ADDRESS TO WHOM REFERENCE MAY BE MADE
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NAME OF FIRM_____

NAME & SIGNATURE OF TENDERER_____

DESIGNATION_____

DATE_____

SEAL & SIGNATURE OF THE TENDERER

SCHEDULE – " F "

PROFORMA OF UNDERTAKING

We hereby confirm that G.I. Pins for 11 kV , 22 kV and 33 kV insulators offered by us against this tender are of the same design and type as have been supplied to M.S.E.D.C.L. against earlier order No. _____ dated _____ and all the type test reports thereof were approved by C.E.(Dist.) vide letter No. _____ dated _____ (copy enclosed).

We further confirm that the said type tests have been carried out at any approved laboratory within five years prior to the date of opening of the present tender.