

WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED

OFFICE OF THE CHIEF ENGINEER (PROCUREMENT & CONTRACTS)
VIDYUT BHAVAN (4TH FLOOR) : BIDHANNAGAR : KOLKATA-91

TECHNICAL SPECIFICATION FOR G.I. PIN TO BE USED WITH 11KV & 33KV PIN INSULATOR

1.0 SCOPE :

- 1.1 The specification covers design, manufacture, testing preferably at manufacturer's works before supply and delivery of G.I. Pin suitable for Pin Insulator for use on 11 KV & 33 KV overhead power lines with ACSR Weasel/Rabbit conductor.
- 1.2 The materials offered, shall be complete with all components which are necessary or usual for their efficient performance and satisfactory maintenance. Such parts shall be deemed to be within the scope of contract.

2.0 STANDARDS :

The G.I. Pin shall conform to the provisions of the following relevant Indian Standards as amended up to date except where specified otherwise :-

- i) IS: 2486 Part I, II & III : Specification for Insulator fittings for overhead power lines with nominal voltage greater than 1000 volts.
- ii) IS: 2629 : Recommended practice for hot-dip galvanizing of Iron and Steel.
- iii) IS: 2633 : Method for Testing uniformity of coating on zinc coated articles.
- iv) IS: 6745 : Methods for determination of mass of zinc coating.

3.0 MATERIALS AND OTHER REQUIREMENTS :

3.1 Materials :

The pin shall be a single piece obtained preferably by the process of forging. They shall not be made by joining, welding, shrink-fitting or any other process from more than one piece of material. 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 and the collar or the seating surface shall bed down correctly on to the cross arm when fixed to that through a hole and the diameter of which is 2 mm. greater than the diameter of the shank.

- 3.2 All parts of metal fittings for insulator shall be inherently resistant to the atmosphere, corrosion or be suitably protected against corrosion, both during storage and in service. All ferrous metal parts except those made of stainless steel/nuts shall be protected by hot dip galvanizing.

- 3.3 The pins shall be complete with spring washers and hexagonal nuts.

3.4 Other Requirements :

	<u>11 KV G.I. PIN</u>	<u>33 KV G.I. PIN</u>
i) Minimum total weight	: 950 gm.	3000 gm.
ii) Minimum failing load	: 5 KN	10 KN
iii) Dimension :		
a) Drawing reference of IS:2486 (Part-II)	: i) Figure No. 5; Ref. No. S165P ii) Fig. No. 1(A)	i) Figure No. 6; Ref. No. L300N ii) Fig. No. 1(B)

b) i) Stalk length	: 165 mm.	300 mm.
ii) Shank length	: 150 mm. (with 100mm. thread)	150 mm. (with 100mm. thread)
iv) Stalk diameter	: a) Just below head: 24 mm. b) Near Collar : 25 mm.	a) Just below head: 27 mm b) Near Collar : 44 mm.
v) Collar diameter	: 40 mm.	67 mm.
vi) Shank diameter	: 20 mm.	24 mm.
vii) Collar thickness	: 5 mm.	6 mm.

3.5 The pins shall be as per relevant figures indicated in IS: 2486 (Part-II) with small steel heads for 11 KV and with large steel head for 33 KV. The pins shall match with the pin type insulators with cemented zinc thimble having similar threads.

4.0 MARKING :

Each and every material shall be legibly and indelibly marked with Name or Trade Mark of the manufacturer and suitable identification mark like property marking "WBSIEDCL" should be engraved/embossed. In case of 11 KV G.I. Pin the property marking may be engraved/embossed as "WSEDC" in stead of "WBSIEDCL".

5.0 TESTS AND TEST CERTIFICATES :

A copy of Type Test Report carried out within last 5 years on similar G.I. pins in a NABL accredited Test House/Laboratory shall be submitted along with the tender. Otherwise, the tender may be rejected.

The following tests shall be carried out as per latest amendment of IS: 2486 (Part-I) :

A. TYPE TEST :

- a) Freedom from defects.
- b) Verification of dimensions.
- c) Galvanizing test (both uniformity of Zinc coating & mass of Zinc coating)
- d) Mechanical Tests.
- e) Chemical composition test.

B. ACCEPTANCE TESTS :

- a) Verification of dimensions.
- b) Galvanizing test (both uniformity of Zinc coating & mass of Zinc coating)
- c) Mechanical tests.

C. ROUTINE TESTS :

Routine Tests shall be carried out at the manufacturer's works according to IS: 2486 (Part-I).

6.0 L O T :

A lot shall consist of only one type of fittings manufactured essentially from the same raw materials and under identical conditions.

7.0 PACKING :

The materials are to be packed in gunny bags, each bag containing 50 nos. and 20 nos. for 11 KV and 33 KV Pin respectively.

8.0 TOLERANCE :

Applicable as per latest addition/amendment of IS: 2486 (Part-I).

9.0 DEVIATION :

No Technical deviation will be accepted.

GURANTEED TECHNICAL PARTICULARS
G.I. PIN FOR 11 KV PIN INSULATOR

<u>SL. NO.</u>	<u>PARTICULARS</u>
1	Maker's name & Address :
2	Trade mark, if any :
3	Standard to which Pins conform :
4	Material & Type of Steel Head :
5	Minimum failing Load (KN) :
6	Shank Length :
7	Shank Diameter :
8	Length of threaded portion in the shank :
9	Stalk Length :
10	Stalk Diameter :
11	Collar Diameter :
12	Collar Thickness :
13	Tolerance in dimensions :
14	Whether hot dip Galvanizing of Iron & steel conform to IS: 2629 and Zinc coating conforms to IS: 2633 & IS: 6745 of latest amendment? :
15	Minimum weight of the Pin :

SL. NO. PARTICULARS

- 16 Whether marking as per :
specification or not?
- 17 Particulars of Tests carried out :
by authorized Testing
Laboratory (Type/Routine Tests)
- 18 Other Particulars, if any :

Signature

Name

Seal of the Farm

Name of the Farm

GURANTEED TECHNICAL PARTICULARS
G.I. PIN FOR 33 KV PIN INSULATOR

SL. NO. PARTICULARS

- 1 Maker's name & Address :
- 2 Trade mark, if any :
- 3 Standard to which Pins conform :
- 4 Material & Type of Steel Head :
- 5 Minimum failing Load (KN) :
- 6 Shank Length :
- 7 Shank Diameter :
- 8 Length of threaded portion in :
the shank
- 9 Stalk Length :
- 10 Stalk Diameter :
- 11 Collar Diameter :
- 12 Collar Thickness :
- 13 Tolerance in dimensions :

SL. NO. PARTICULARS

- 14 Whether hot dip Galvanizing of :
Iron & steel conform to IS: 2629
and Zinc coating conforms to
IS: 2633 & IS: 6745 of latest
amendment?
- 15 Minimum weight of the Pin :
- 16 Whether marking as per :
specification or not?
- 17 Particulars of Tests carried out :
by authorized Testing
Laboratory (Type/Routine Tests)
- 18 Other Particulars, if any :

Signature

Name

Seal of the Farm

Name of the Farm