

TECHNICAL SPECIFICATION FOR HIGH VOLTAGE INSULATING MAT UNDER TN-2581

3.01 SCOPE

This specification covers the manufacture, testing before despatch and delivery at our stores, of High Voltage Insulating Mats.

3.02 SCHEDULE OF TECHNICAL SPECIFICATION

High Voltage Insulating Mats shall be manufactured and tested in accordance with the following specification/standard.

ISI marked Electrical Insulation Matting conforming to IS: 15652-2006 (with latest amendments) shall be Anti-skid top and plain bottom bearing Rolls of mat in multiple length of 15000 mm and in a width of 1000 mm: -

- a) Mat should be ISI marked at every meter.
- b) Mat should be tested by CPRI/NTH/ERDA for IS: 15652-2006(with latest amendments). The test report is required to be furnished along with tenders and should not be older the 3 years.
- c) Mat should be 100% shock proof with leakage current of 10mA.
- d) Mat should be pastable type allowing smooth breaker trolley movement
- e) Mat should be fire retardant, water and moisture proof.
- f) Mat should have no adverse effect of acids, alkalies ,Diesel and transformer oil. Mat should have good mechanical properties to withstand load and movement of breaker trolley.
- g) Mat should be manufactured without any metallic derivation
- h) Mat should be suitable for both A.C. & D.C. electrical installations.
- i) Mat should have high tensile strength and elongation properties to withstand good mechanical properties. Every Mat will be marked with Class, ISI, Lot No., manufacturer identity.
- j) Mat should have one side colored strip having clearly mentioned voltage rating of the mat e.g. 33KV etc., logo of the concerned department/ Nigam (embossed), Name & CML no. of the Manufacturer and Brand.
- k) Mat should have Safety Glow Band both side across the width 2” wide. Glow band seamless laminated on the surface which shall absorb light and glow like in EMERGENCY SITUATION when lightening is not available for a period of at least 3 hours.
- l) The thickness of the mat shall be as below:

Class of Mat	Thickness (mm)	Tolerance Percent
C	3.00	<u>± 10%</u>

3.03 SCHEDULE OF REQUIREMENT:

The approximate requirement of High Voltage Insulating Mats is as under:
High Voltage Insulating Mats: **9,000 Sq. Mtrs.**

3.04 GUARANTEED TECHNICAL AND OTHER PARTICULARS.

The tenderer shall furnish complete guarantee and other particulars of material offered by him in Schedule V-A.

3.05 SAMPLES:

Tenderers shall furnish one sample of size 3000 x 1000 Sq. mm. along with their tender for approval, failing which their offer is liable to be ignored.

3.06 The Test Report (not older than 5 Years) containing results for of following properties will be submitted as per is: 15652:2006: -

1. Thickness,
2. Tensile strength
3. Elongation test,
4. Ageing Properties Test,
5. Effect of Acid, Alkaline, Diesel and Transformer Oil,
6. Insulation Resistance Test,
7. Leakage Current Test,
8. AC proof voltage Test
9. AC Di-electric strength Test,
10. Flame Retardance Test.

3.07 CLASS / VOLTAGE / COLOR:

C - Class / 33 KV / Orange with Chips / Without Chips and anti skid embossing.

3.08 INSPECTION AND TESTING:

Inspection and testing shall be as per relevant IS-15652-2006 (with latest amendments) /GTPs of P.O.

The supplier should satisfy themselves that the stores in accordance with the terms of the contract and fully confirm to required specifications by carrying out a through pre inspection of each quota before tending the same for inspection to the inspecting officer/inspecting agency nominated by the purchaser. Such pre inspection on the part of the suppliers would minimise the change of rejection in inspection.

The material shall be tested and inspected by an authorised inspecting officer/inspecting agencies nominated by the purchaser before despatch. Samples shall be drawn for inspection / testing as per provisions of the relevant IS/purchase order. The purchaser reserve the right to get the material tested in any testing laboratory before despatch.

The Committee comprising of TA to CE (MM) & concerned ACOS shall select & seal one no. sample out of the each supplied lot and will be sent for testing as per latest IS-15652-2006 at CPRI/ERDA testing laboratory. The testing charges will be borne by the supplier. The payment of supplied material bills will be made after receipt of successful Test reports.

3.09 MANUFACTURER:

The offers of standard make and directly from the manufacture only shall be accepted for ISI mark High Voltage Insulating Mats.

3.10 DELIVERY

Delivery of ordered material should commence after 30 days from the date of receipt of detailed purchase order and shall be completed within Three Months thereafter at equal monthly installments. However you can offer the material even earlier. The month of commencement and completion of supply should be expressed precisely.

3.11 PRICES:

The **prices are FIRM**. The tenders offered with prices on variable basis are likely to be ignored.

3.12 TENDERS:

Tenderer shall furnish complete particulars of the material offered by them with regard to this specification and submit the same with their tender in single copy. Failure to do so or any incomplete entry therein may prevent a tender from being considered.

3.13 GENERAL:

The tenders received without complete details required as per enclosed forms /schedules are liable to be rejected.

3.14 MARKING:

Each High Voltage Insulating Mats shall be marked with the following:

- a) Name of manufacturer.
- b) Month and year of manufacture.
- c) JVVNL
- d) Lot / batch Number.
- e) TN-2581
- f) IS-15652-2006
- g) Class
- h) ISI mark on every meter

3.15 MANUFACTURER'S WARRANTY:

The offered equipment/material shall be guaranteed for satisfactory operation for a period of 18 months from the date of receipt of last consignment at site. For this purpose you shall furnish manufacturer's warranty on Rajasthan State Non-judicial Stamp Paper worth Rs.500/- in a manner detailed at Clause 1.41 of "General Conditions of Contract".

- 3.16** As GST act has been effected from 01.07.2017, therefore, BOQ has been prepared accordingly with applicability of GST. Further, old tax structure wherever appearing in ITB/GCC/Specification may be replaced by GST as per notification.

3.17 ADDITIONAL ORDER

Repeat order for additional quantities upto 50% of original ordered quantities, may be placed by the Nigam on the same rates, terms and conditions given in the contract.

- 3.18** Every Micro, Small & Medium enterprises of Rajasthan shall be required to submit an affidavit in schedule-XI, along with duly filled bid document.

**GUARANTEED TECHNICAL AND OTHER PARTICULARS FOR SUPPLY OF
HIGH VOLTAGE INSULATING MATS AGAINST TN- 2581.**

Name, Address with Contact No. of Manufacturer: M/s _____

S. No.	Characteristics	Standard Values	To be furnished by the bidder
1.	Name & Address of Manufacturer	-	
2.	Work Address	-	
3.	GSTIN	-	
4.	Size of Roll	15000 mm x 1000 mm x 3 mm.	
5.	Thickness	3.0 mm	
6.	Tensile Strength (N/ mm ²)	15 N/ mm ² (Minimum)	
7.	Elongation (%)	250 % (Minimum)	
8.	Insulation resistance with water at 5000 V DC	1 x 10 ⁵ M Ω	
9.	Leakage Current at 11 KV	10mA (Maximum)	
10.	AC Di-Electric Strength	65 KV (Minimum)	
11.	AC Proof Voltage	36 KV should withstand for 1 Min.	
12.	Flame Retardance	5.0 sec (Maximum)	
10.	Effect to Acid, Alkali, Diesel & Transformer Oil [Tensile Str. (N/ mm²), Elongation (%)]	% change from original value	
	Acid: Tensile Str. (N/ mm ²) Elong (%) Alkali: Tensile Str. (N/ mm ²) Elong (%) Diesel: Tensile Str. (N/ mm ²) Elong (%) Transformer Oil: Tensile Str. (N/ mm ²) Elong (%)	Tensile Strength ± 20% Elongation ... ± 20%	
13.	Ageing Properties at 70° C for 168 hrs. Tensile Strength Elong (%)	% change from Original value ± 25% ± 25%	
14.	Mat should have one side color strip	As per spec.	
15.	Safety glow band	As per spec.	

(Signature)
Name & Designation
with seal of the bidder.