TECHNICAL SPECIFICATION AND OTHER REQUIREMENTS FOR INSULATED SAFETY SHOES against TN-2713

1.0 SCOPE:

This specification covers design, manufacture, inspection before dispatch and delivery at our stores of Insulated Safety Shoes.

2.0 TECHNICAL DESCRIPTION OF INSULATED SAFETY SHOES:

2.1 Standard Technical Particulars

Insulated Safety Shoes of superior quality are required for use in Control Room and GSS Switch Yards of various 765 / 400 / 220 / 132 KV / 33 KV / 11 KV Grid Sub Stations of JVVNL for protection of their employees from electric shock while working on electrical panels / equipments. The insulated safety shoes shall meet the following qualities and technical requirement.

a) The Safety Shoes should be manufactured as per IS 15298: 2016 Part-II.
b) The Insulated Safety Shoes shall be made from Chrome tanned printed buff leather with the thickness 1.8 – 2.00 mm. The leather should be of high strength, durable, longer life.
c) The Insulated Safety shoes shall be assembled in such a manner to ensure a high strength bond between sole & uppers without nails and stitches.
d) The toe caps of the safety shoes should be able to provide protection from heavy objects falling on the feet. The toe cap should be of composite so as to able to with stand impact of 200 J.
e) The safety shoes should be lined with cambrell / non-woven to provide extra comfort to the foot at work and sweat absorbers, making feet odour free and cool. The eyelets should be of non-metal and made of Poly Carbonate (at least 04 pairs), also woven polyester/ Nylon cotton round/square laces so as to provide high breaking strength.
f) The safety shoes shall be resistant of electric current, oil and acid resistant. The sole should be made up of polyurethane with cleated design and it should be of light weight, slip resistant, abrasion resistant and flexible.
g) The bounding of the sole be such that it should be resistance to heat and puncher so as to prevent foot injury. Sole temperature resistance should be Max 120 deg C for 1 min exposure.
h) No breakdown/flashover at minimum 15 KV AC for 1 minute.
i) The safety shoes shall be of Black Color only.
j) The In socks should be made of PU with density 0.2- 0.3 gm/cc with top layer of breathable fabric. Cushioning effect intact should be 12 months.
k) Flexible PU Memory Foam with Density of 150d+5d kg/m^3 confirming to IS 7888 should be sandwiched between the sole and insole at the heel area.
l) The shoes should be manufactured not more than 06 months before its supply.
m) The shoes should be impermeable to water and protect the feet from mechanical impacts.

n) The quality of footwear should be ensured by the guaranty period of at least one year from the date of supply.
o) A Certificate by the bidder that material used for making the Shoe is recyclable is also acceptable for this purpose.
p) Sole, Insole and PU Memory foam should be of different colors so as to easily distinguish between them.

2.2 MARKING:

The marking should be at the cushion pad of the shoes and shall be visible and permanent and shall not impair the quality of the shoe. Each pair of safety insulated shoe shall be marked with the following:

i. ISO / BIS marked.
ii. Size of shoes.
iii. Manufacturers name / recognized trade mark should be mentioned at the visible place.
iv. Month and year of manufacturing of shoe.
v. Tender No. 2713 and word " JVVNL"

The manufactures standard practice in respect of marking may also be considered.

2.3 PACKING:

Each pair of shoe shall be suitably and properly packed in card-board box, the card-board box shall be clearly marked with type and size of shoe, 30-50 Nos. shoe boxes shall per packed in a big card board container or as per manufactures standard practice. Any other mode of packing superior to above as per manufactures standard practice may also be agreed.

The insulated safety shoes shall be purchased directly from the manufacturers or an authorized distributor or selling agent of such a manufacturer only.

3.0 ACCEPTANCE TESTS:

3.1 The bidder shall submit duly signed and sealed copies of test certificates as per IS:15298 (Part-2) to confirm following parameters on total fifty samples against the total ordered quantity with at-least one sample from each size, conducted at manufacturer laboratory, FDDI or any other Govt. approved/ Govt. recognized laboratory.

S. No.	Particulars of Test	Requirement
1.	Design	
a.	Height of Upper	<103mm
b.	Seat Region	Closed
2.	On complete footwear	
a.	Impact resistance at 200J	13.0 mm (min.)
b.	Compression resistance-15kN	13.0 mm (min.)
3.	On Upper leather	

a.	Tear Strength	120 N (min.)
b.	Tensile Strength	15 N/mm^2 (min.)
4.	On Coated fabric & textile (Vamp lining & Quarter lining)	
a.	Tear Strength	15 N (min.)
5.	On Insole	
a.	Thickness	2 mm (min.)
b.	Water absorption	70 mg/cm^2 (min.)
c.	Water desorption	80% (min.)
d.	Abrasion resistance	400 cycle (min.)
6.	On Insock	
a.	Abrasion resistance (Dry)	25600 cycle (min.)
b.	Abrasion resistance (Wet)	12800 cycle (min.)
7.	On Sole	
a.	Thickness	6 mm (min.)
b.	Tear Strength	8 kN/m (min.)
c.	Abrasion resistance	150 mm^3 (max)
d.	Flexing resistance (30000 flex cycle)	4 mm (max) cut growth
e.	Hydrolysis (30000 flex cycle)	6 mm (max) cut growth
f.	Interlayer bond strength	The Shoe sole shall be double density with specified inter layer bond strength.
8.	Whole Footwear	
a.	Penetration Resistance Test	Insole shall be NON METALIC, anti static Kevlar fabric in sole with specified Penetration Resistance
9.	High Voltage test	No breakdown/flashover at minimum 15 KV AC for 1 minute.

4.0 INSPECTION:

4.1 The Purchaser's representative shall at all times be entitled to have access to the works and all places of manufacture, where shoe shall be manufactured and representative shall have full facilities for unrestricted inspection of the Supplier's works, raw materials and process of manufacture for conducting necessary tests as detailed herein.

4.2 The Supplier shall keep the Purchaser informed in advance so that arrangements can be made for inspection.

4.3 No material shall be dispatched before it has been satisfactorily inspected and tested, unless the inspection is waived off by the Purchaser in writing. In the latter case also the safety shoes shall be dispatched only after satisfactory testing for all tests specified herein have been completed.

4.4 The acceptance of any quantity of material shall in no way relieve the Supplier of any of his responsibilities for meeting all requirements of the Specification, and shall not prevent subsequent rejection it such material is later found to be defective.

4.5 The material shall be tested and inspected by an authorized inspecting officer nominated by the purchaser before dispatch. Five number samples of each size shall be drawn randomly from each lot by the inspecting officer. The samples shall be checked as per the manufacturers standard practice and workmanship and quality as per the sample approved by the purchaser.

5.0 SAMPLE:

The supplier shall furnish three samples of pair of insulated safety shoes one day prior to the opening of the tender at the office of Superintending Engineer (MM-II), JVVNL, for approval failing which their technical Bid shall not be opened. **Out of three samples furnished one sample should be vertically cut along the length so as to clearly see the cross-section and identify material/component**

The sample furnished will be evaluated by the committee constituted by the Chief Engineer (MM).

The Bidder whose sample does not found suitable by the above said committee, the Price bid of such bidder shall not be opened.

6.0 SCHEDULE OF REQUIREMENT :

Size No.	Quantity in pairs.
5 to 11	12946 Nos

The detailed Size wise requirement shall be shown in the Purchase Order(s) to be issued by the Superintending Engineer (MM-II), JVVNL, Jaipur. The above quantity is tentative which may be increased or decreased at the time of finalization of tender.

7.0 GUARANTEE :

The supplier has to give at least 1 year guarantee / warrantee for the sole that it will not break during this period. Any defects noticed within 1 year of the supply of the material in the store, the same shall be replaced by the supplier free of cost.

8.0 DEPARTURE FROM SPECIFICATION :

Should the supplier which to depart from the specification in any respect he should clearly state such departures, indicating the reasons thereof. Unless this is done, the departmental specification will hold good and shall be binding on the suppliers unless the departures have been approved in writing by the purchaser.

9.0 DELIVERY / COMPLETION PERIOD:

The supply should be completed within the stipulated delivery schedule i.e. **90** days from the date of purchase order. The commencement period shall be of 30 days and supply should be completed thereafter in equal monthly installments.

In case of failure in execution of the supply, the order can be withdrawn/cancelled and the work can be got supplied through other supplier on the risk & cost of the supplier.

10.0 DELAY IN DELIVERY:

As per G.C.C. Clause No. 1.24

11.0 PRICE:

Tenderer must quote 'FIRM' prices. The quoted prices shall be exclusive of Goods and Service Tax. If no duty and/ or tax is applicable at concessional rate, the same shall be clearly mentioned. The GST shall be quoted in specified space as provided in the BOQ.

12.0 SUPPLIER:

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

13.0 ADDITIONAL ORDER:

Repeat orders for additional quantities, up to a maximum of 50% of original ordered value, may be placed by the Nigam, on the same rates, terms and conditions given in the contract.

b) The suppliers received without complete details required as per enclosed forms / schedule are liable to be rejected.

Schedule –GTP

GUARANTEED & OTHER TECHNICAL PARTICULARS OF INSULATED SAFETY SHOES AGAINST TN-2713

S.No.	Description	Insulated Safety Shoes
1.	Manufacturer's name and address.	
2.	Type of industry (Micro/Small/Medium/Large scale)	
3	Standard to which the material shall conform	
4	Leather thickness (mm)	
5	Toe cap impact resistance at 200 J (mm)	
6	Number of eyelets	
7	Shape & Material of woven laces	
8	Sole temperature resistance (Deg. C)	
9	Minimum Breakdown/flashover voltage AC (for 1 minute)	
10	Color of safety shoe	
11	Height of Upper (mm)	
12	Seat Region (Closed)	
13	Tear Strength of Upper leather (N)	
14	Tensile Strength of Upper leather (N/mm^2)	
15	Thickness of Insole (mm)	
16	Water absorption of Insole (mg/cm^2)	
17	Water desorption of Insole (%)	
18	Abrasion resistance of Insole (Cycle)	
19	Abrasion resistance of Insock (Dry) (Cycle)	
20	Abrasion resistance of Insock (Wet) (Cycle)	
21	Thickness of Sole (mm)	
22	Tear Strength of Sole (kN/m)	
23	Penetration Resistance of whole footwear (N)	
24	Any other information	

(Signature)
Name & Designation with seal of the bidder