

ELECTRICAL ISI  
Insulation mats  
IS:15652 2006



MANDELIA  
TRANSMISSIONS

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Certified by:





## PRODUCT DESCRIPTION

Electrical Insulation Mat are generally used for covering the floor below the control panels.

Our High Voltage Mats are manufactured as per latest Indian Standard i.e IS 15652:2006. The insulating mat that we offer is mainly used for safety of workers while installing and operating electrical equipment because of possibility of leakage of current.

These Insulating Mats are manufactured using elastomer (latex, rubber and elastomeric compounds that might be natural, synthetic or mixture of both) all along with anti-skid aberrations on the top to avoid slippage and smooth, lower surface . It is available in 2mm, 2.5mm & 3.0mm thickness depending upon the working/use voltage. Manufacturer's Test Certificate is provided along with the supply.

## TECHNICAL FEATURES

- ISI Marked, ERDA & CPRIType Tested Insulatng Mats.
- Tests & Specifications also meet BS 921, IEC 61111, ASTM.
- For both A.C and D.C applications.
- Di-Electric Strength 65KV (65000 volts).
- AC Proof Voltage up to 36KV.
- Low Temperature Resistant.
- Acid, Alkali, Diesel & Transformer Oil Resistant.
- Flame Retardant.
- Good Aging Properties.
- High Insulation Resistance exceeding 1100000 MΩ
- High Tensile Strength & Elongation Properties.
- Leakage Current less than 1mA.



## PROPERTIES

### DIMENSIONS

Form	● Rolls or □ Mats
Length	5M/10M/20M (upto 100M)
Width	1M/1.2M/1.5M
Color (* Other colors as per request)	RED/BLACK/BLUE/GREY
Thickness	2mm, 2.5mm, 3mm

\* WE CAN SUPPLY THE ELECTRICAL INSULATING MATS IN ANY LENGTH & WIDTH AS PER CUSTOMER REQUIREMENT.



## Comparison of Electrical Insulation Mat & Traditional Rubber Mat



SL NO.	CHARACTERISTICS	INSULATING MATS (IS:15652)	RUBBER MATS (IS:5424)
1	Compositions	Elastomer (Rubber/PVC)	Natural Rubber
2	Recommended Thickness	2.0mm (Class A) 2.5mm (Class B) 3.0mm (Class C)	Min. 6 mm Max. 25mm
3	Thickness Allowed	No restrictions	No restrictions
4	Tensile Strength	Very High	Medium
5	Elongation	High	Medium
6	Acceptability/Standard	India	India
7	Fixing	Optional	Not required
8	Maintenance	Low	High
9	Expected Life Span	5-10 yrs	2-3 yrs
10	Flame Retardance	High	Low
11	Insulation Resistance with Water	High	Medium
12	Electrical Insulation	Very High	Medium
13	Ground Treatment	Not Essential	Not Required
14	Oil Resistance	High	Poor
15	Acid Resistance	High	Medium
16	Alkali Resistance	High	Medium
17	Low Temperature	Good	Poor
18	Visual/Aesthetic	Good	Poor
19	Weight per sq.Mtr.	Low	High
20	Pricing	Low Overall Cost High Initial Cost	High Overall Cost Low Initial Cost



S.No.	Specification	Classs A	Class B	Class C
1	Thickness	2.0 mm	2.5 mm	3.0 mm
2	Max. use Voltage	3.3 KV	11 KV	33 KV
3	AC Proof Voltage	10 KV	22 KV	36 KV
4	AC Di-Electric Strength	30 KV	45 KV	65 KV
5	Max. Leakage Current	10 mA	10 mA	10 mA
6	Min. Insulation resistance measured by 5000 V megger	1,00,000 MΩ	1,00,000 MΩ	1,00,000 MΩ
7	Min. Tensile Strength (N/MM2)	15	15	15
8	Min. Elongation (%)	250	250	250
9	Min. Retention in Tensile & Elongation from Original Value on Aging at $70\pm1^{\circ}\text{C}$ for 168 hr	T.S-Min. 75% EL-Min. 75%	T.S-Min. 75% EL-Min. 75%	T.S-Min. 75% EL-Min. 75%
10	Min. Retention in Tensile & Elongation Strength from Original Value when immersed in Acid/Alkali/Diesel/Transformer Oil for 48 Hrs	T.S-Min. 80% EL-Min. 80%	T.S-Min. 80% EL-Min. 80%	T.S-Min. 80% EL-Min. 80%
11	Low Temperature Resistance	Yes	Yes	Yes
12	Flame Retardance	Yes	Yes	Yes
13	Composition	Synthetic Elastomer	Synthetic Elastomer	Synthetic Elastomer

## NOTES

CONFIRM MARKING WITH  
IS 15652 REQUIREMENTS

- Mats shall be ISI Marked at every meter with unique CM/L No.
- Mats shall be Type Tested by ERDA.
- Mats shall be pastable type. Pasting/Fixing or request.
- Inspection facilities are available.
- In-House test certificate along with supply.
- Mats shall be replaced on first sign of any damage.

CLASS &amp; W.V

BATCH NO.

CATEGORY

BRAND NAME

MANUFACTURING DATE



## SAFETY INSTRUCTIONS FOR FIXING THE INSULATING MATS

We recommend that for laying & fixing the high voltage insulating mat, ground should be cemented, smooth, free from any pitting & moisture proof. It should be installed with a combination of special adhesives, bonding agent and hardener.

It is further recommended that the laying of Electrical Mats should be done by experienced and skilled persons only.

### PROCEDURE FOR FIXING/PASTING OF ELECTRICAL MAT

- Ensure that the surface of the floor is free from small pits.
- Make the floor dust free primarily using water and then wipe off all the water with the wiper or some cloth to make it dust and moisture proof. Ensure the floor is completely dry and clean before starting fixing.
- Also ensure that the pasting side of the mat is dust and moisture free.
- After this apply the \*mixture thinly and evenly to the floor and rubber mat using brush. Application shall be done thoroughly by spreading the mixture equally to the floor area so that the whole surface can be dried at once. This can be done by multiple rotation of the brush on the applied area.
- After it, let the floor and the mat for drying partly. 10-15 minutes are generally required for drying. However, the person should check it physically as well because excessive wet condition affects the pasting quality.
- As soon as the adhesive becomes touch dry both on the floor and rubber mat, the mat is ready to be pasted on the floor. Press down the sheet in position gently and gradually from one end taking care of to prevent air from being trapped.
- After this, apply pressure on the flooring with a steel roller of approx. 10 kg so as to attain perfect adhesion b/w the mat and the floor.

\*Mixture = Pidilite SR 505/998 can be used.

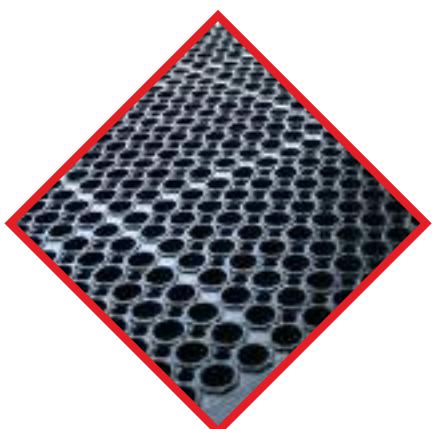
### WHY AND WHERE THESE ELECTRICAL MATS ARE RECOMMENDED?

These electrical mats are highly recommended for total safety of workmen from electrical shock when working in or around environment like **High Voltage Panels, Sub-station, Power Transformer Rooms, LT & HT labs, near Busbars, near Control Panels etc.**

Safety from electrical shock is required for workmen whether they are involved in **Electricity Generation, Transmission, Distribution** or its use.

### APPLICATION AREA

- Near HT/LT Control Panels.
- Electrical Substations
- Transformers, Generators & Lift Room
- Infront of Switchboards.
- Around Buss Bars.
- Outdoors/Indoors On-site use on Live Equipment.



Manufactured By:  
**MANDELIA INSULATION  
AND  
TRANSMISSION CO.**



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