JAS-ANZ

AN ISO 9001:2008 CERTIFIED COMPANY

TÜV SÜD

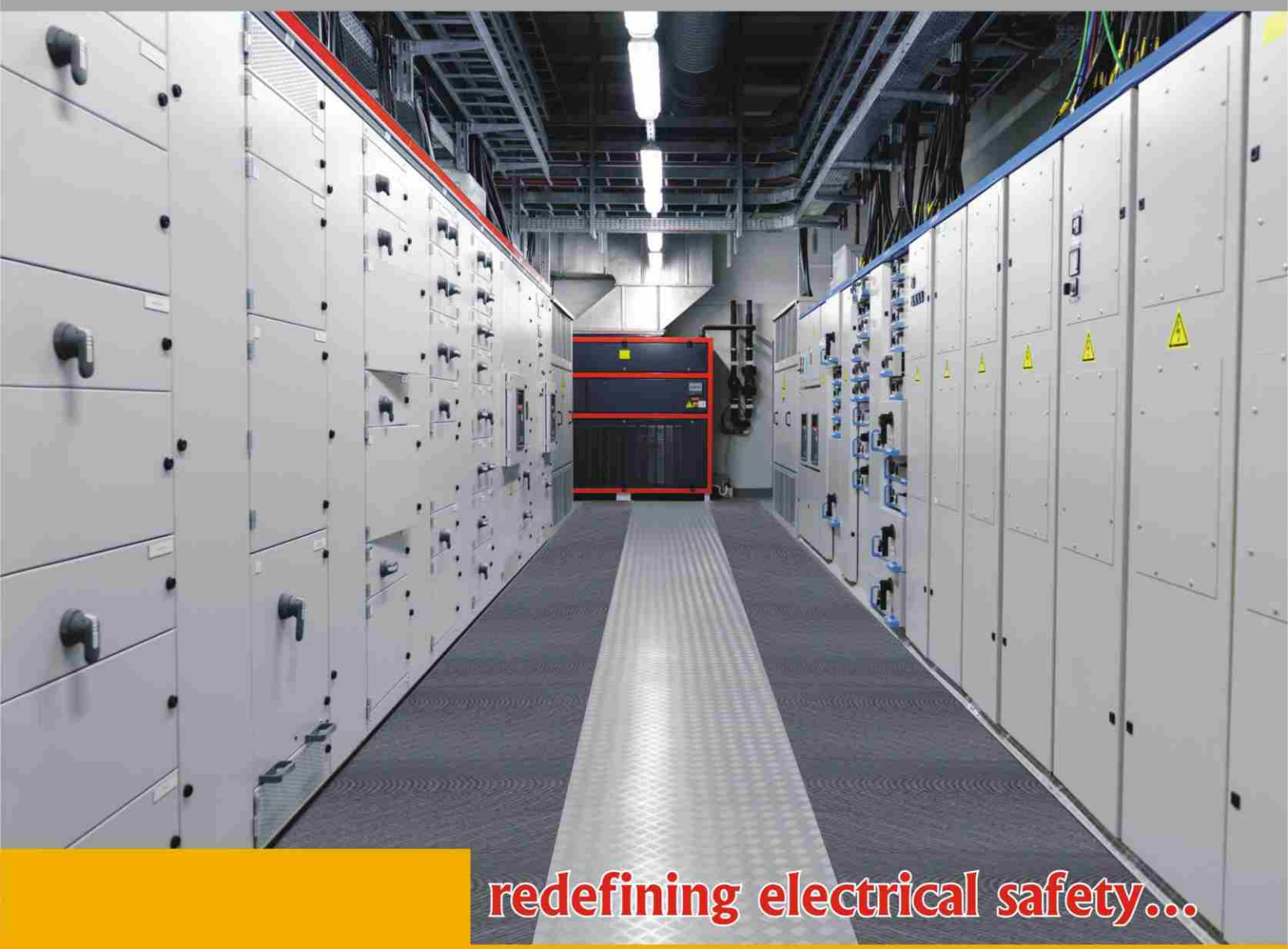
Production monitored
Safety tested

RoHS COMPLIANT

vardhman®

Live working Electrical Insulating Rubber Matting

IEC / BS EN 61111:2009



redefining electrical safety...

> COMPANY OUTLOOK

Vardhman Hoses Pvt. Ltd. was established in the year 1996 has been focusing on R&D, Manufacturing and marketing of rubber and PVC products, providing reliable and robust products to our customers.

OUR MAIN PRODUCTS INCLUDES:

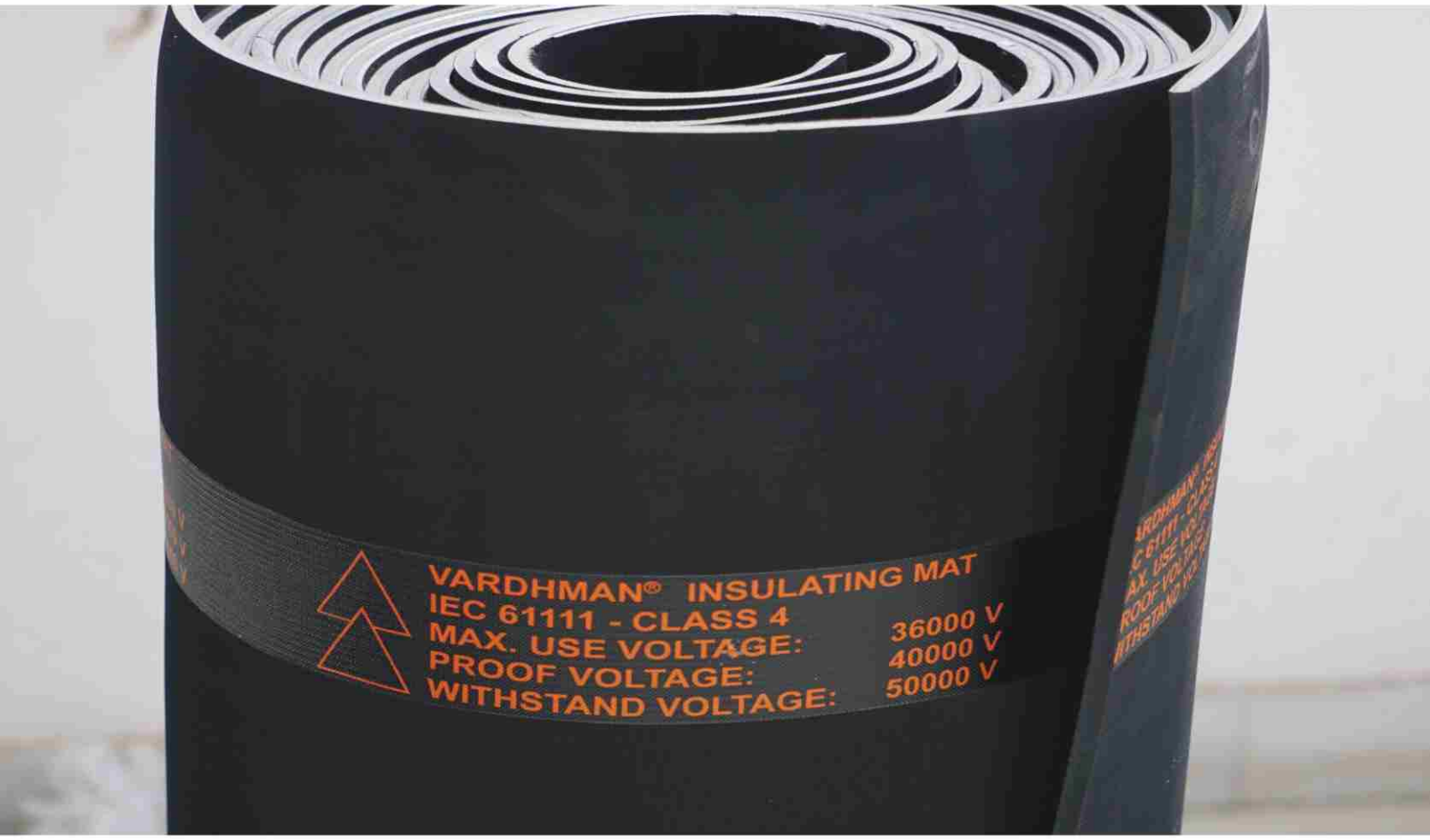
- > Industrial Rubber Hoses up to 16" ID
- > Hydraulic Hoses
- > Rubber sheets
- > PVC Hoses
- > High Voltage Insulating Mats IS-15652 marked (PVC Synthetic Elastomer)
- > Rubber Insulating Matting IEC 61111 (Rubber Elastomer)
- > PVC water Stop Seal
- > Pvc and Rubber Profiles for automobile and other OEM customers.

Vardhman has been renowned for Hi quality unmatched products in the industry and as a result we are fast growing company and our products are exported worldwide.

Our most Products are approved with Bureau of Indian Standards and comes with ISI mark.

Regular inspections by the agencies like SGS, PDIL, RITES, BIS, DGS&D, Lloyds etc. are conducted using the factory laboratories and products are also tested in outside laboratories like National Test House (NTH), Central Power Research Institute (CPRI), Electrical Research & Development Association (ERDA) for TYPE TEST Purpose for the continuous Quality check and approvals.

Today, Vardhman® is the leading brand in the industry.



> IEC BSEN 61111 ELECTRICAL MATTING

Vardhman Insulating Matting (Di-Electric Carpets) made of Rubber Compound suitable for providing the Electrical safety to the workmen working around the possible areas of Electrical shock and act as a safeguard equipment from electrical shock due to leakage of current, shot circuit or any other.

Electrical Rubber Matting manufactured by Vardhman® conforms to IEC 61111 and comes with a double triangle logo. The special high quality Rubber Compound ensures the complete shock protection against electrical shocks due to electrical earth faults.

Our Mats are fully compliant with IEC 61111 (International Electro Technical Commission) and are regularly tested by third parties like TUV, Lloyds and many others...
The mats offered by us are ROHS and PAH Compliant.

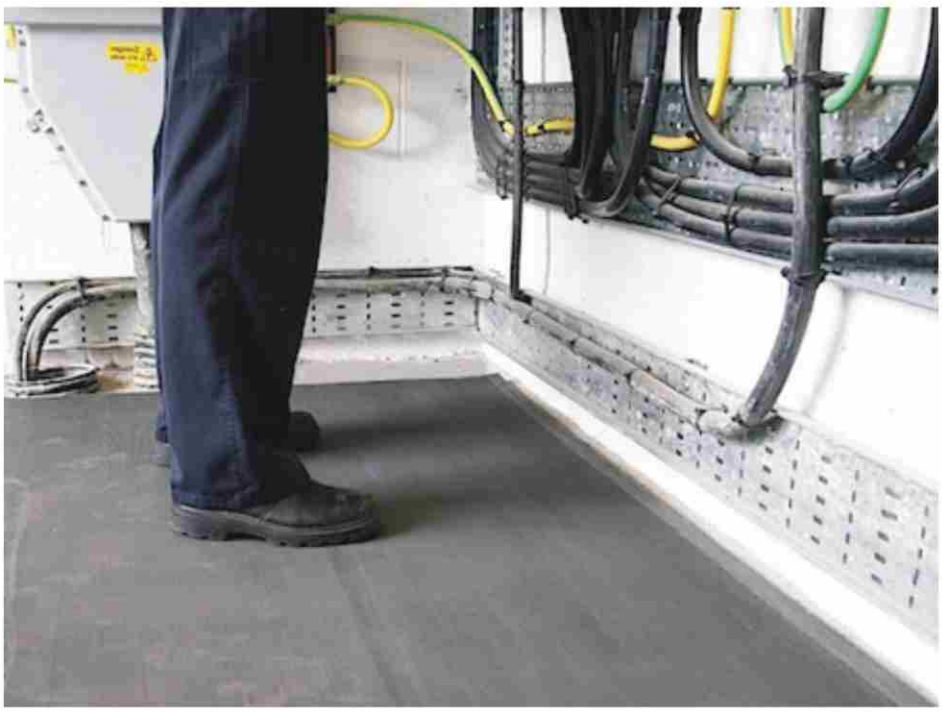
We at Vardhman, adopt the most advance technology to manufacture Insulating mats. The state of the art line (German Technology) makes our quality and finish unmatchable in the industry.

All the testing and inspection facilities are established within the factory which ensures every square inches of mat are fully tested to the specifications.

> APPLICATIONS

The mat can be used in Indoor and Outdoor locations and are mostly used in front and rear side side of electrical panels, switchgears, transformers and other high voltage workplaces to provide the high safety environment for the workforce.

This mat can also be used as portable protection for site engineers working on live equipment.



> FEATURES AND ADVANTAGES

- Fully tested to specification IEC 61111.
- Provides safety for operators against electrical shock.
- High Electrical Resistance up to 50 KV/50000 volts.
- Suitable for both AC and DC Applications.
- Health and safety regulation Halogen Free flame retardant material.
- Highly Flexible mats with self-gripping design on floor.
- Anti-Fatigue type. Comfortable while standing for long period.
- Anti-slip Finish. Tested to slip resist test.
- Resistant to acid, oil and Low temperature test.
- Ozone, UV and weather resistant.
- Permanent Marking- Durable and un-erasable done while curing of mats.
- Fully Traceable supply.
- Low Maintainance.
- No Recycled Rubber.

Class	Standard Thickness	Max. Use Voltage	Proof Voltage	Withstand Voltage	Color Code
0	3 mm	1000 Volts	5000 Volts	10000 Volts	Red
1	3 mm	7500 Volts	10000 Volts	20000 Volts	White
2	3/6 mm	17000 Volts	20000 Volts	30000 Volts	Yellow
3	4/6 mm	26500 Volts	30000 Volts	40000 Volts	Green
4	4/6 mm	36000 Volts	40000 Volts	50000 Volts	Orange

* Other thickness are also available on request. Maximum thickness offered in any class is 14mm

> DIMENSIONS

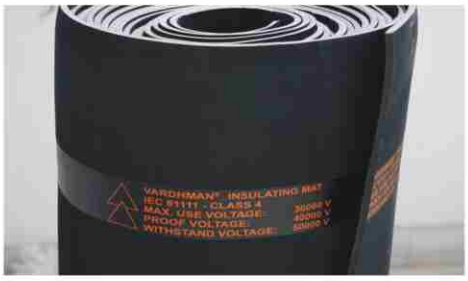
Width	**0.9mtr, 1.0mtr, 1.2mtr**
Length	**2mtr, 5mtr, 10mtr, 20mtr, or as per requirement**
Thickness	**As Per Specified Class**
Colors*	**Black** **Blue** **Grey**
Surface/Design	**Anti-Skid Texture Finish**

* Other colors also available on request

> OTHER PROPERTIES

S. No.	Technical Specifications	All Classes
1.	Composition and Surface	Rubber elastomer*, Anti Skid Finish. Macromolecular material which returns rapidly to its final dimension by a weak stress and release of the stress
2.	Workmanship	Mats shall be free from Harmful physical irregularities.
3.	Mechanical Puncture Resistance	Min. 70 N
4.	Slip Resistance Test @ force of 70 N	Maximum 15 mm
5.	Ageing Test at 70 deg cl./168 hrs.	Puncture Resistance shall be min. 80% of original value
6.	Flame Retardant Test	Flame shall not reach any point on a 50 mm circle.
7.	Thermal Test(Low Temp. Test)	No Crack@100 N. No-Breakdown on specified voltage.
8.	Acid Test; H2SO4 For 8 hrs. Minimum Retention in Mech. Puncture Test initial value.	Min. 75% Retention & No Breakdown on specified Voltage.
9.	Oil Test; oil for 24 hrs. Minimum Retention in Mech. Puncture Test initial value.	Min. 75% Retention & No Breakdown on specified Voltage.

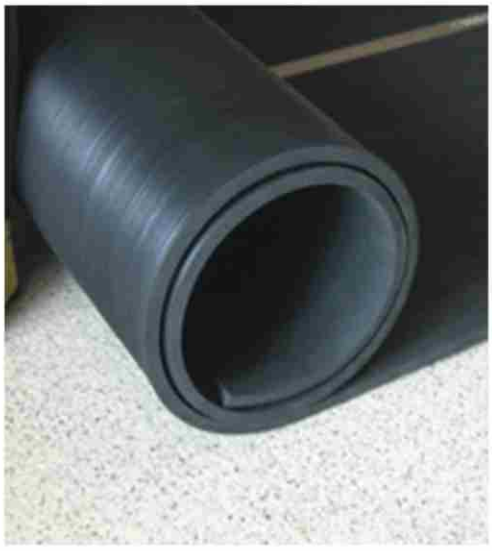
> CONFIRM MARKING



The marking on the Top side (always visible) of the safety mat will consist of following details:
The complete marking shall be marked at least once on every meter of mat. The marking shall be colour coded as per IEC 61111:2009 guidelines.

Class 'O' - RED , Class '1' - WHITE, Class '2' - YELLOW, Class '3' - GREEN, Class '4' - ORANGE

> USE AND STORAGE GUIDE



Recommendations for use of IEC 61111:2009 standard Live working- Electrical Insulating Mat.
The details are provided with regard to instructions for maintenance, inspections, retest and use of electrical insulating mats after purchase.

In cases where these recommendations are not followed, mats are not suitable for Live working.

STORAGE/ TRANSPORTATION

Proper transportation and storage is must to protect the Insulating properties and durability of mats. These mats shall not be bent or compressed. The mats should not be stored/used in the proximity of excessive heat sources. For maximum life of the mats do not store in open Sunlight, artificial light or any other sources of ozone for long hours.

MARKING

Every Roll/Mat of the Electrical Insulating mats shall have complete and visible marking as per IEC 61111:2009.

BEFORE USE

Inspect visually each side of electrical insulating mats before use. If mat is dirty, wash it with respect of the operating temperature range.
Before use, the mats shall be inspected and if any cracks, tears or small pin holes are found then the mats shall be thought unsafe and returned for testing.

IN USE

Ideal Operating Temperatures are -40 deg. Cl. To 55 deg. Cl. and avoid contact of mats with chemicals, solvents and strong acids as this adversely affect the life and properties of mats. Mats shall be placed on clean and smooth floor. Place the feet in the center of the mat.

PERIODIC INSPECTION AND TESTING

No electrical insulating matting, even those held in storage, should be used unless they have been inspected and/or electrically tested within the previous 12 months.
The tests on electrical insulating matting consist of visual inspection, and then a proof dielectric test without moisture conditioning, except for class 0 where visual inspection only is required.

Class of Insulating Matting	Type Test	
	Voltage KV	Duration (Minute)
0	Visually Inspected	
1	10	1
2	20	
3	30	
4	40	

* Test requirements according to IEC 61111

> FAQ'S

How do the Insulation rubber mattings work?

Specifically designed for use in front of high-voltage equipment such as swticboards, electrical safety matting is a special grade of rubber in mat form that has excellent insulating properties. Providing safety for operators and maintenance staff from electrical shock, it should be used in any area where the health and safety risk assessment has shown possible exposure to high-voltage shock.

Specially engineered matting for use in areas prone to electrical shock such as Switch boards. Vardhman IEC 61111 electrical safety matting is a special of rubber posses high insulation properties. These mats should be used in area where the risk assessment team has shown possible exposure to high voltage shock.

Rubber has inherent di-electric properties which inhibit the flow of electric charge as a result of its molecular structure and thus preventing the free flow of electrons. This makes it an ideal insulator.

How do I use an Electrical Safety Mat ?

In combination with personal protection equipment (such as electrically insulated gloves) the operator or user should stand on the mat in front of the electrical equipment. This will avoid a direct short through their body to the ground.

> Guidelines for selection of class of electrical Insulating matting in relation to nominal voltage

The maximum use voltage recommended for each class of electrical insulating matting is designated in Table A.1.

The maximum use voltage is the voltage rating of the protective equipment that designates the maximum nominal voltage of the energized system that may be safely worked.
On multiphase circuits, the nominal voltage is equal to the phase-to-phase voltage. If there is no multiphase exposure in a system area, and the voltage exposure is limited to the phase to earth potential, the phase to earth potential should be considered to be the nominal voltage.
If electrical equipment and devices are insulated, or isolated, or both, such that the multiphase exposure on an earthed neutral star circuit (grounded wye) is removed, the nominal voltage may be considered as the phase-to-earth voltage on that circuit.
The user may decide to use a different class of electrical insulating matting than that recommended in Table A.1.

Class	A.C.(V) (r.m.s.)	D.C. (V)
0	1000	1500
1	7500	11250
2	17000	25500
3	26500	39750
4	36000	54000

Table A.1 Designation maximum use voltage

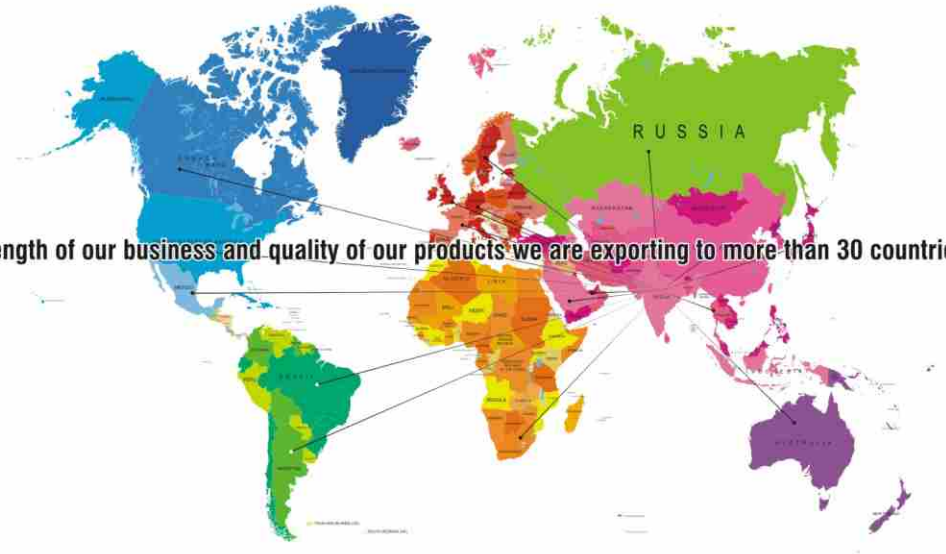
Our specialisation is also extended to manufacturing of

HIGH VOLTAGE ELECTRICAL INSULATING MATS AS PER IS 15652 ISI MARKED, ERDA / CPRI APPROVED

for which we can be contacted.

For more details please visit our website : www.insulatingmat.com.

Ask for the detailed catalogue at info@rubberindia.in



With the strength of our business and quality of our products we are exporting to more than 30 countries worldwide

Some of our domestic clientele

NSIC · HP · ONGC · GAIL · CAMO · BHEL · Bharat Petroleum · IndianOil · NTPC

VHPL

Estd : 1996

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