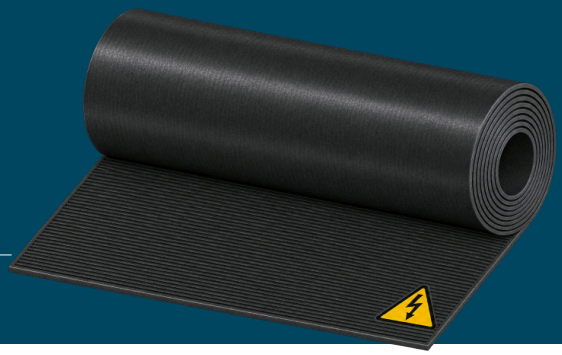
UNIPROOF EIM

SWITCHBOARD ELECTRICAL INSULATION MAT



Product Features

UNIPROOF EIM insulating matting is a flexible elastomer sheet produced with high-quality natural rubber. It is designed to cover floor surfaces in front of switchboards, switchgear, distribution panels, and other live medium/low-voltage electrical equipment to act as electrical insulation for workers standing on the surface and to reduce the risk of electrical shock during live working or maintenance.

UNIPROOF EIM features a corrugated (ribbed) or diamond top surface for anti-slip protection and a rough / honeycomb textured base to prevent mat movement on the floor. It is manufactured with beveled/flat edge designs to eliminate curling and reduce tripping hazards.

UNIPROOF EIM is a supplementary protective measure and must be used by skilled workers, following safe working procedures.

Advantages

- **Enhanced Safety Design:** Anti-slip ribbed/diamond top surface and high-friction bottom texture prevent slippage.
- **Trip Prevention:** Designed with beveled or flat edges to prevent edge curling.
- **Environmental & Stress Resistance:** Built to meet dielectric, mechanical, climatic, and environmental stresses including puncture resistance, slip resistance, ageing, flame retardancy, low temperature, acid, and oil resistance.
- **Customisable Installation:** Supplied in standard rolls and can be cut on-site for custom floor configurations.

Fields of Application

- Low and medium voltage switchboards and switchgear panels
- Substations and transformer rooms
- Motor Control Centres (MCC) and control panels
- High-voltage live working environments up to 36 kV (Class 4)

This technical data sheet is given in good faith and does not guarantee the application work.
All Unity Reliance technical data sheets & method statements are updated on a regular basis and can be subject to change without notice.
It is the user's responsibility to obtain the latest version of the information required.

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Technical Properties

Property	Test Method	Result
AC Withstand Voltage (Class 0)	IEC 61111:2009 Cl. 5.6.4.3 / BS EN 61111:2009	10 kV AC, 3 min (No breakdown)
AC Breakdown Voltage (Class 0, 3mm)	IEC 61111:2009 Cl. 5.6.4.3	≥ 19 kV
AC Withstand Voltage (Class 1)	IEC 61111:2009 Cl. 5.6.4.3	20 kV AC, 3 min (No breakdown)
AC Proof Voltage Range (Class 0 to 4)	IEC 61111:2009	5 kV to 40 kV AC
Mechanical & Climatic Properties (Puncture, Slip, Ageing, Flame Retardant, Acid, Oil, Low Temp)	IEC 61111:2009 Cl. 5.6 / TNB KEJ08434:2013	Complied / Pass
Hazardous Substances Compliance	RoHS Directive 2011/65/EU (RoHS 1 & RoHS 2)	Complied
Hardness	Shore A	60 ± 5
Specific Gravity	-	Approx. 1.6 g/cm³

1. Test reports refer specifically to the test samples submitted under test conditions (16 hours water immersion conditioning; tested in insulating oil). 2. Additional type testing (puncture, slip, ageing, flame retardant, low temperature, acid and oil resistance) and higher voltage classes (Class 2 to Class 4) conform to IEC 61111:2009 / TNB KEJ08434:2013 requirements.

Physical Properties

Material	:	Natural Rubber (NR) / SBR Elastomer
Colour	:	Black / Grey
Top Surface	:	Corrugated (ribbed) / Diamond plate anti-slip pattern
Underside Base	:	Anti-slip rough / honeycomb texture
Thickness	:	3mm / 5mm / 6mm / 8mm / 12mm
Width x Length	:	1m x 10m / 1m x 6m (600mm x 3m on request – TNB projects)

Class Selection (IEC 61111)

Class	Max. Working Voltage	Proof Test Voltage	Thickness	Roll Size
Class 0	1,000 V	5 kV	3 mm	1m x 10m
Class 1	7,500 V	10 kV	5 mm	1m x 10m
Class 2	17,000 V	20 kV	6 mm	1m x 10m
Class 3	26,500 V	30 kV	8 mm	1m x 6m
Class 4	36,000 V	40 kV	12 mm	1m x 6m

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Important Note / Special Note

- Inspect before each use. Do not use a mat that is cut, punctured, blistered, cracked or contaminated with conductive material.
- Lay flat on a clean, dry floor with no curled edges, covering the full standing area in front of the equipment.
- Select the class using the maximum working voltage of the equipment, not the withstand voltage.
- Do not use as the only safety measure; follow the site's safe working procedure and use appropriate PPE.

Shelf Life & Storage

Store **UNIPROOF EIM** rolled or flat, away from direct sunlight, heat, oil, solvents and sharp objects. Store in its original individual protective plastic wrapping to safeguard the material. Do not stack heavy loads on rolls.

Cleaning

Regular inspection and maintenance must be performed to keep both surfaces of the matting clean and free from harmful physical irregularities or conductive foreign material. Clean the matting using mild soap and water, avoiding aggressive abrasive tools that could cut, scratch, or alter the corrugated (ribbed) or diamond top pattern. Ensure the mat is completely dry and free from entrapped moisture, cracks, pinholes, or creases before returning it to service.

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No.135B, Jalan Kip 8,
Kawasan Perindustrian Kepong
52200 Kuala Lumpur

(+60) 3-6734 7941
(+60) 10-785 1159

enquiry@unityreliance.com
https://www.unityreliance.com

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