

LIGHTNING PROTECTION INTERNATIONAL PTY LTD



## EPR Safety Mat







PROUD AUSTRALIAN MANUFACTURER

## The LPI story

Lightning Protection International Pty Ltd (LPI) is a fully Australian owned manufacturer and supplier of direct strike lightning protection, transient voltage surge suppression, and earthing / grounding solutions.

For many years, LPI have been providing specialist lightning protection advice to customers in some of the most lightning prone areas of the world. Our personnel have extensive experience in risk management, system design, training, installation, certification, and commissioning of systems in a wide variety of industry groups.

LPI maintains a third party Quality Management System to AS/NZS ISO 9001:2008.

LPI's range of products and services are exported from its head office and research facility (in Tasmania, Australia) and via regional offices worldwide.

The company has been recognised within Australia for its outstanding export successes and has been awarded several prestigious export awards.



## Active in Industry throughout 70 countries



## LPI's 4-Step Approach to Lightning Protection

It is the strategic aim of our company to be able to provide a complete packaged solution. LPI has identified 4 key steps when considering the complete approach to lightning protection, ask for our LPI 4 Step approach to lightning protection.

### Our system design approach includes:

- 1 Definition and provision of area protection
- 2 Creation of a bonded earthing system
- 3 Protection of mains power lines
- 4 Protection of signal, data and communication lines







## EPR Safety Mat Features

- Mitigation of EPR hazards to personnel from lightning discharges and other fault currents injected into the ground
- Unique three-layer design and technology to redistribute surface potential gradients
- High degree of portability and deployment (easily unrolled and rolled up)
- Can be easily joined to create a safety mat of any desired size

## LPI's new EPR Safety Mat

Electrical discharge events present a significant hazard to equipment and assets via earth potential rise and can cause injury or death to animals and humans. Particularly hazardous electrical discharge events include lightning strikes and electric power system faults.

- The EPR Safety Mat provides a simple means for mitigating these hazards via its unique three-layer design as shown in Figure 1.
- The central, electrically-conductive layer rapidly equalises the electrical potential across the mat



- The upper layer insulates the asset from the electrically-conductive layer.
- The lower layer, is a special electrically-conductive elastomer that protects the central layer and provides electrical continuity to that layer, as shown in Figure 1.

All of the layers are highly flexible and hence enable the mat to be rolled and unrolled as required, as shown in Figure 2. An additional product option is available that enables mats to be joined electrically, to create longer ones as required. See Figure 3.

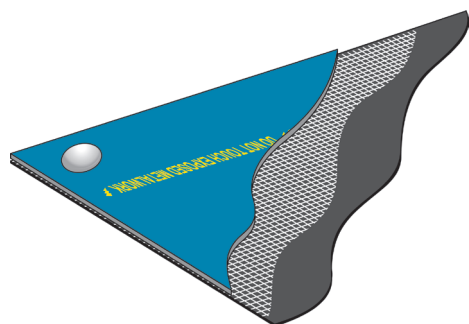


Figure 1.  
Three layer construction and corner eyelet of the EPR Safety Mat.

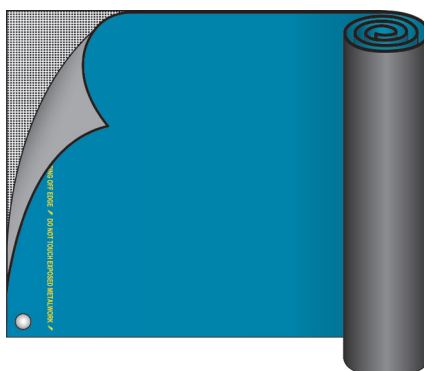


Figure 2.  
The EPR Safety Mat's unique three-layer design and rollability for ease of portability.

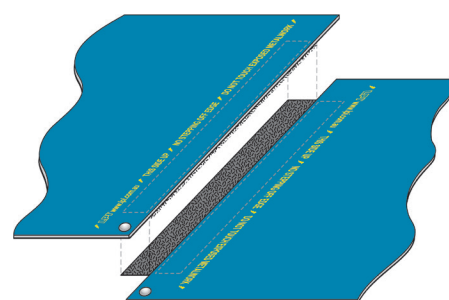


Figure 3.  
The EPR Safety Mat can easily be rolled and unrolled as required, and can be joined together in multiple sections.



## EPR Safety Mat Applications

The versatile nature of the EPR Safety Mat, makes its application ideal for many industries and scenarios, including:

- Trafficable areas around large metallic structures (buildings, frames, tanks, etc.)
- Near / around communication masts
- Walkways
- Covered walkways
- Along metallic fences
- Trafficable areas near pipelines
- Railway line maintenance
- Electrical work
- Valve Pits (below ground)
- Piggeries
- Horse stables
- Race courses
- Zoos
- Remote workers
- Lightning Safety Shelters
- Public area shelters (Council Gazebos)
- Military tent operations



## EPR SAFETY MAT

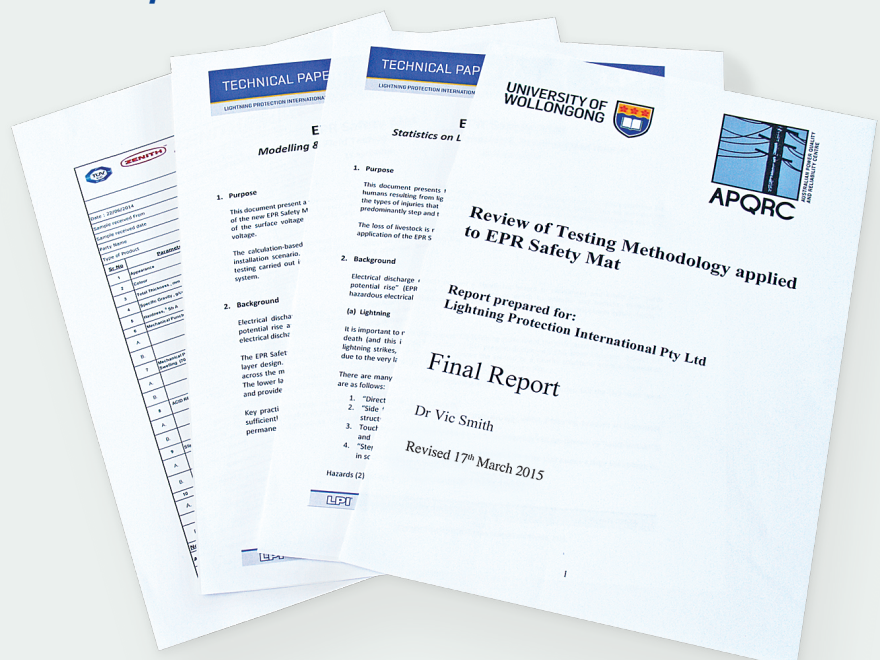
- Scouts
- Campers
- Mining and remote workers

- Exploration Drill Rigs
- Fire and emergency services
- Airport operations

## Test Reports and Technical Papers

Upon request LPI can provide a selection of test reports and technical papers.

- Review of testing methodology applied to EPR safety mat. (University of Wollongong, Australia).
- Test report, IEC 6111:2009.
- Technical Paper: EPR safety mat, statistics on lightning and power related injuries.
- Technical Paper: EPR safety mat, modelling and field testing summary.



Aust. Pat. App. No. 2014900428



## Specifications

Description:	Earth Potential Rise Safety Mat 1 m x 1.5 m
Material:	1 – NBR-PVC rubber [non-conductive] 2 – Stainless steel [316L] 3 – NBR-PVC rubber [conductive]
Finish:	1 – Coarse fabric, non-slip [top layer] 2 – Fine wire mesh [middle layer] 3 – Medium fabric, non-slip [bottom layer]
Colour:	Royal Blue
Nominal Thickness [total]:	3.2 mm
Standard Width:	1.5 metres
Standard Length:	1 metre
Weight:	< 7 kg per lineal metre
Protective Edging:	Stitched rubber strip
Markings:	35 mm embossed labelling 100 mm from each edge, bright yellow lettering
Standards:	IEC 61111, IEEE Std. 81, ENA EG1

## Accessories

## Product Code

Bonding Kit	EPRSM-BKIT2M	Electrical connection kit for bonding the EPR Safety mat to adjacent equipment. Kit comprises: 2 metre single core flexible conductor with black insulation and heavy duty spring clamp
Button Connector	EPRSM-BCKIT	Button connector kit
Packing Kit	EPRSM-PKIT	Velcro Packing Strap Kit

## EPR MAT Ordering

Product Order Code	EPRSM - 1MB
Product Description	Earth Potential Rise Safety Mat 1 m x 1.5 m complete with Bonding Kit

## Customised EPR Safety Mat

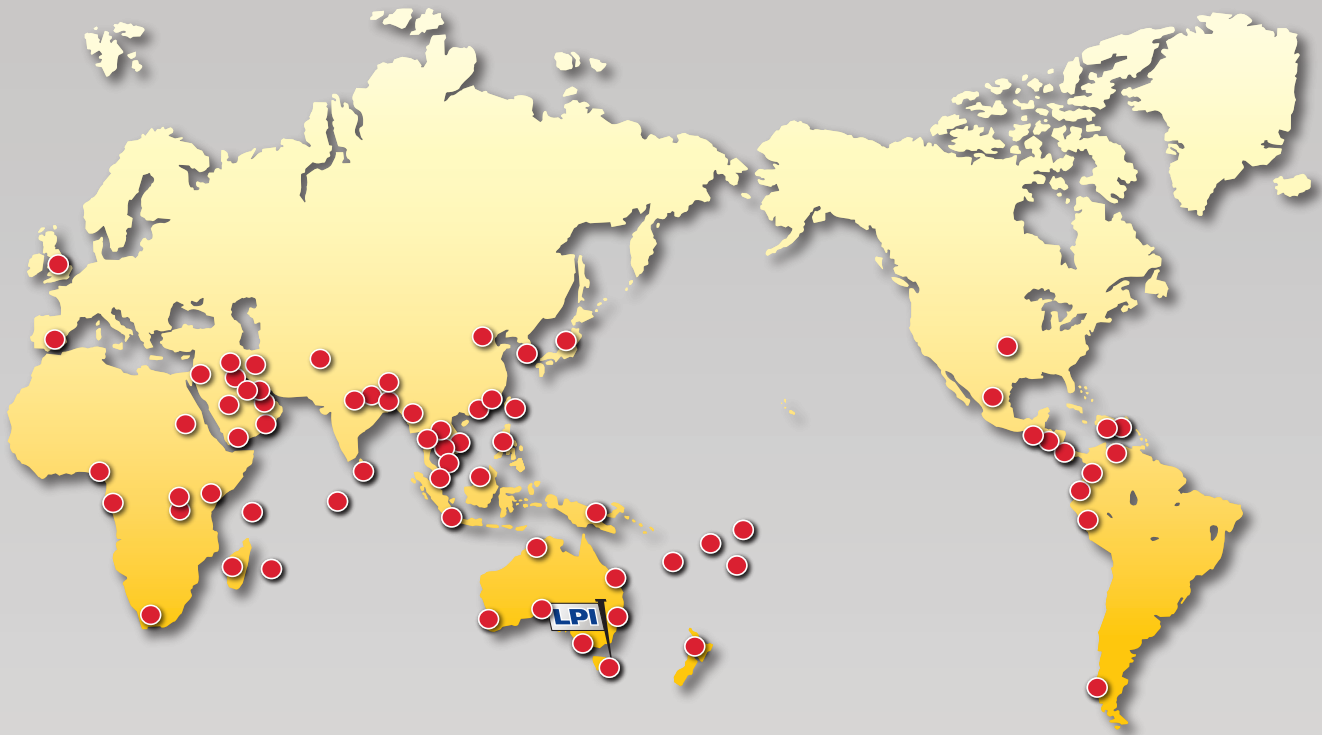
To customise your Safety Mat:  
**EPRSM – XMB**

**X** = Mat length  
**B** = Bonding Kit

### Notes

- Nominate length of Mat “X”
- Include “B” in Product Code if Bonding Kit is required





**Head Office**



**Customers**

***LPI proudly services customers from the following countries:***

- |                      |               |               |                    |                  |
|----------------------|---------------|---------------|--------------------|------------------|
| • Afghanistan        | • El Salvador | • Kuwait      | • Oman             | • Sri Lanka      |
| • Australia          | • Fiji        | • Laos        | • Papua New Guinea | • Sudan          |
| • Bahrain            | • Gabon       | • Macau       | • Peru             | • Taiwan         |
| • Bangladesh         | • Guatemala   | • Madagascar  | • Philippines      | • Thailand       |
| • Bhutan             | • Haiti       | • Malaysia    | • Qatar            | • Tonga          |
| • Brunei             | • Hong Kong   | • Maldives    | • Rwanda           | • UAE            |
| • Burundi            | • India       | • Mauritius   | • Samoa            | • United Kingdom |
| • Cambodia           | • Indonesia   | • Mexico      | • Saudi Arabia     | • USA            |
| • Chile              | • Iran        | • Myanmar     | • Seychelles       | • Vanuatu        |
| • China [PRC]        | • Iraq        | • Nepal       | • Singapore        | • Venezuela      |
| • Colombia           | • Japan       | • New Zealand | • South Africa     | • Vietnam        |
| • Dominican Republic | • Jordan      | • Nicaragua   | • South Korea      | • Yemen          |
| • Ecuador            | • Kenya       | • Nigeria     | • Spain            |                  |

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