



# Floating Slab Mat

Sustainable resilient systems

## Adding Value

Across light rail transit, metro, mainline and high speed. Designed to give dependable performance in noise reduction, built with high-quality materials and resistant to prevailing conditions.



The Pandrol Floating Slab Mat (FSM) is a high-performing vibration attenuation floating slab system. Easy to install, maintenance free and compatible with all types of rail and track systems, it has been designed to reduce the lifecycle costs of the railway.

The FSM is based on the mass-spring principle. The concrete slab (the mass) is elastically supported by a continuous resilient mat (the spring). The elastic properties of the mat solution are defined by track and train design, chosen material, defined thickness and number of layers and determined shape factor.

They are made from high-quality resin-bonded rubbers. Depending on the project, the design parameters can be adjusted to achieve a vibration attenuation up to 25 dBv with a low resonance frequency, and therefore ensuring that on most critical frequencies where vibration reduction is needed.

## → TECHNICAL FEATURES

### Designed for quick and easy installation

The FSM can be supplied in rolls or sheets. Both are easy to install in single, double or triple layers, plus an underlayer if needed. The system does not have closing joints between adjacent mats, simplifying installation.

### Maintenance free

The FSM is built to last, with tested long-term stable properties and continued performance. It is water permeable and resistant to atmospheric conditions and fatigue. Each mat has excellent mechanical and chemical properties.

### Compatibility

It is compatible with all types of rail and track systems, as well as the curvature of the tunnel invert and special track works such as manholes, pipes and electrical boxes.

### Vibration isolation

The FSM is available in a wide range of stiffnesses, providing different possible levels or providing tuneable ground borne noise vibration isolation. The vibration isolation performance can be modified to meet requirements. Low resonance frequency is from -14 to 25Hz.

### Exceptional performance

The FSM has been proven to mitigate vibration transmission from rolling stock into neighbouring environments. Reductions of between 14db(v) and 25db(v) of recorded vibration levels are possible. Insulation performance can be tuned by modifying the stiffness of the mat or the properties of the slab.

### Eco-friendly

The Pandrol FSM is a continuous mat made of 90% recycled material and 100% recyclable.

## → ADVANTAGES /

- Rapid, easy installation saves time and labour costs.
- Hardwearing and maintenance free, it is highly efficient and cost effective over the long term.
- The FSM has a low environmental footprint and increases sustainability.
- Compatibility with all types of rail and track systems, including special track works, along with adaptable insulation performance means that the FSM is a highly flexible product with a wide range of applications.



## → COMPONENTS /

1. Horizontal resilient layer - in one or more layers, delivered in rolls or sheets
2. Vertical resilient mats
3. Top protection mat
4. Top Sealing joint (optional)

## → SPECIFICATIONS /

Thickness range	
Horizontal resilient layering	15–45 mm
Non-woven protection layer	1.8 mm
Total system thickness	16.8–61.8 mm
Density range	550–710 kg/m <sup>3</sup>
Bedding modules range	
Static bedding modulus range	5–100 MN/m <sup>3</sup> according to DIN 45673-7
Dynamic bedding modulus range	12–150 MN/m <sup>3</sup> according to DIN 45673-7

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