

SOUNDSTEEL™ MPM

constrained layer viscoelastic steel sandwich laminate

Soundsteel® MPM is a fully damped steel composite comprising two outer layers of steel, laminated together using a layer of a viscoelastic polymer, to form the laminate.

Using the “constrained layer” principle, the function of the viscoelastic interlayer is to damp disturbing structure borne sound.

Soundsteel MPM is free from resonance and coincidence phenomena which often detract from the performance of other acoustic insulation materials.

Soundsteel MPM can be used to fabricate acoustic doors, laundry and garbage chutes, ducts, enclosures, extraction hoods, and automotive components such as valve covers & oil sumps. Because of the steel base material, Soundsteel MPM can be used in severe environments where other damping materials cannot withstand.

The standard product is supplied with an electro-galvanised finish, and available in various metals and surface finishes. Using electro-galvanised, cold-rolled, low carbon steel allows the laminate to be used as a structural material in equipment construction.

Soundsteel MPM is also available with a choice 304 and 316 stainless steel grades, with surface finish of either polished, brushed or polyethylene (PE) coating for additional scratch resistance. When exposed to harsh environments, SS316 offers considerably high heat and corrosion resistance when compared to other grades of stainless steels.

Note: Powder-coated panels should not be bent. Bending should be completed on plain panels and painted on site. We recommend conducting trials on small sample pieces first.

SPECIFICATIONS

| | |
|-----------|---|
| Available | <p>Sheet size:</p> <p>1220 mm x 2440 mm</p> <p>All dimensions are nominal; Other sizes and shapes available on request.</p> |
|-----------|---|



applications

- Engine rooms for high speed craft/vessels
- Machinery and equipment, compressor and generator set enclosures
- Acoustic hoods and chutes
- Conveyor systems
- Crushers / Granulators
- Coin counters
- Air conditioner casings
- Automotive sumps and panels
- Acoustic wall panels and doors

features

- Maximum damping for minimum thickness
- Complies to IMO FTP 2010 - low spread of flame
- Can be used as part of the “main structure”
- Cut, form and join just like plain aluminium
- Insulates against air-borne sound, impact and vibration
- Able to be painted & powder coated - best results from the manufacturer for powder coating
- Effective “in-structure damping”
- No need for external damping materials
- Reduces or eliminates need for use of external isolators
- Lightweight damped structures
- Broad temperature range (-40°C to 110°C)
- Able to fabricate using conventional machine shop tools
- Available with a choice of polished, electro-galvanised, brushed or polyethylene (PE) coated surface finishes
- Able to be die formed into complex shapes
- Various configurations of metal thicknesses available from 1mm - 6mm.



PRODUCT SPECIFICATIONS

| Viscoelastic layer | Transmission loss/STC | Standard thickness (mm) | Sheet size (mm) | Recommended max service temp | Surface density (kg/m ²) |
|--------------------|-----------------------|-------------------------|-----------------|------------------------------|--------------------------------------|
| Acrylic | 29* | 1.2 | 1220 x 2440 | 110°C | 8.6 |
| | 30 | 1.6 | | | 11.7 |
| | 32* | 2.0 | | | 14.0 |

All dimensions are nominal; Other sizes and shapes available on request.

*Results shown have been calculated using transmission loss software. Base data was compiled from several years of acoustic testing. The software uses well known acoustic formula. Values given are within 1-2 dB of actual test data. Variation will always occur in test data and predictions. This is due to variations in material properties, different methods and standards.

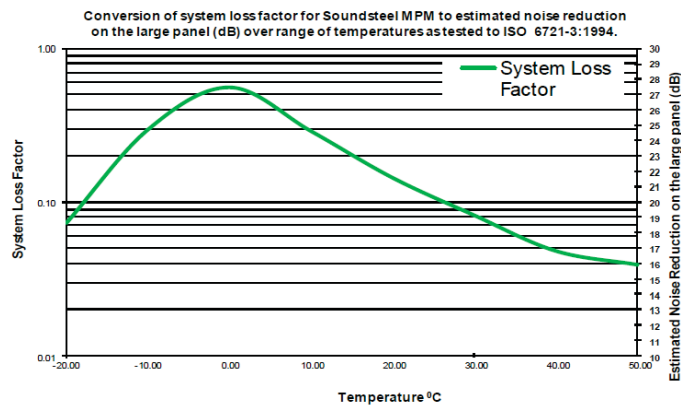
MATERIAL PROPERTIES

| Test method | Index | Report no. | Results | Description |
|-----------------|-----------------------------|--------------------|-----------------|-----------------------------------|
| AS 1530.1 1994* | Combustible/Non-Combustible | Report No. FNC 291 | Non combustible | Combustibility test for materials |

ACOUSTIC PERFORMANCE

| Temperature °C | System loss factor |
|--|--------------------|
| -20 | 0.97 |
| -10 | 0.30 |
| 0 | 0.56 |
| 10 | 0.29 |
| 20 | 0.14 |
| 30 | 0.08 |
| 40 | 0.05 |
| 50 | 0.04 |
| Maximum estimated noise reduction (dB) | 27.5 |

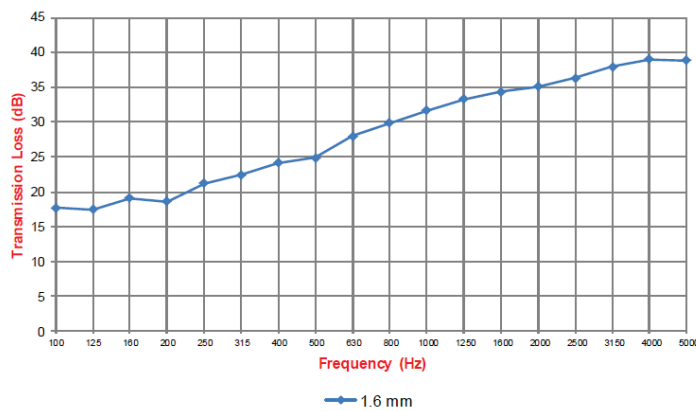
System loss factor is a dimensionless figure representing how well a particular system is damped. Standard ASTM E756-23/ISO 6721-3 is used to test for system loss factor. A system is a combination of the substrate, be it steel, aluminium or fibreglass and the damping material itself. System loss factor is system specific, hence the composition of the tested system needs to be provided.



System Loss Factor (Tested to ISO 6721-3:1994 - Report No. 25111 -MK1)

| Frequency (Hz) | 1.6 mm |
|----------------|--------|
| 100 | 17.7 |
| 125 | 17.4 |
| 160 | 19.1 |
| 200 | 18.6 |
| 250 | 21.2 |
| 315 | 22.4 |
| 400 | 24.1 |
| 500 | 24.9 |
| 630 | 28.0 |
| 800 | 29.9 |
| 1000 | 31.7 |
| 1250 | 33.3 |
| 1600 | 34.4 |
| 2000 | 35.1 |
| 2500 | 36.3 |
| 3150 | 38.0 |
| 4000 | 39.0 |
| 5000 | 38.9 |
| STC | 30 |
| R _w | 30 |

Soundsteel MPM 1.6



Transmission Loss (Tested to AS1191 - NAL Report No. ATF-142)

For further information and contact details, please visit our website pyroteknc.com

Caveats: Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustic, mechanical and fire engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek is not responsible for differing outcomes from using their products. Pyrotek disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented. No warranty is made that the use of this information or of the products, processes or equipment to which this Information Page refers will not infringe any third party's patents or rights. DISCLAIMER: This document is covered by Pyrotek standard Disclaimer, Warranty and © Copyright clauses. See pyroteknc.com/disclaimer.

