

SORBERBARRIER PU

polyurethane film faced sound absorber-noise barrier composite

Sorberbarrier PU combines the superior soundproofing performance of the flexible mass loaded vinyl, Wavebar, and Pyrotek's Sorberfoam with a polyurethane film facing. The product was developed to meet market requirements in industrial/domestic enclosures, OEM equipment and the marine industry.

Sorberbarrier PU's acoustic performance is achieved by placing the mass barrier between two layers of absorbing foam. It keeps the noise barrier separate from the structure it is bonded to, allowing for flexibility to reflect and absorb the transmission of sound. The PU facing provides protection from sprays or dust that may contaminate the foam's porous material. The black finish also offers a discreet look to blend with design requirements.

Tests have revealed that increasing the thickness of the foam separating the barrier improves the product's performance in some frequencies without affecting the overall weight. The combination of these properties allows Sorberbarrier to target a broad range of frequencies, making it one of the most versatile acoustic solutions in the market place.

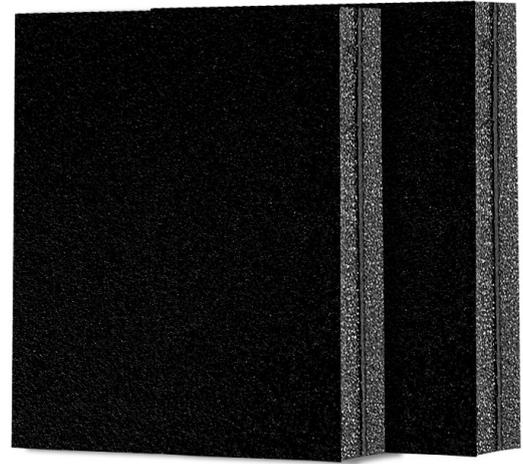
Sorberbarrier PU is one of the available products in the range to meet custom design requirements. Other options include plain (Sorberbarrier), aluminium glass cloth (Sorberbarrier AGC), metallised polyester (Sorberbarrier M) and perforated vinyl (Sorberbarrier V).

VOC, ODP, HEALTH AND SAFETY

Sorberbarrier PU is non-toxic and safe to handle by methods prescribed in the Safety Data Sheet. No ozone depleting substances are used during the manufacture of Sorberbarrier PU.

SPECIFICATIONS

| | |
|-----------|--|
| Colour | Black (PU facing) Dark grey/black (foam) |
| Available | Sheet size: 1.3 x 1 m Available in 20, 25, 32, 50 and 75 mm thickness |
| | Custom sizes, colours and/or thicknesses available depending on MOQ |



applications

- Engine rooms in boats under CE Marine Survey
- Acoustic and thermal insulation for air conditioning ductwork
- Acoustic insulation for plenum areas
- Power generation units and containerised generator sets
- Machinery and equipment enclosures
- Car, boat, truck and bus engine compartment, firewall and bonnets

features

- Multifunction product: an absorber and barrier in one
- Discreet aesthetic look to meet design requirements compared to plain acoustic foam
- PU facing protects the foam sprays or dust
- No ozone-depleting substances generated during manufacture
- Free from formaldehyde, phenolic resins and irritating fibres
- Engineered to resist degradation (foam rot) more than traditional acoustic foam
- Low spread of flame surface
- Quick and easily installed in awkward places
- Easy to cut, adhere or mechanically fasten into position
- Matching self-adhesive tape or sprayable coating for sealing joints and edges of the foam
- Can be constructed with other absorption products such as Sorbermel (See Sorberbarrier ML range technical data sheets)

PRODUCT SPECIFICATION

| Product | Total thickness | Construction Absorptive layer (mm)/Mass barrier (kg)/ decoupler (mm) | Sheet size ¹ | Thermal conductivity ² (K) | Operating temperature range |
|------------------------|-----------------|--|-----------------------------|---------------------------------------|--|
| Sorberbarrier PU20/4.5 | 20 mm | PU12/4.5/06 | 1.3 x 1.0 m and 1.3 x 2.2 m | 0.033 W/mK | -40 to 100 °C (Continuous) -40 to 120 °C (Intermittent) |
| Sorberbarrier PU25/4.5 | 25 mm | PU12/4.5/12 | 1.3 x 1.0 m and 1.3 x 2.2 m | | |
| Sorberbarrier PU32/4.5 | 32 mm | PU25/4.5/06 | 1.3 x 1.0 m and 1.3 x 2.2 m | | |
| Sorberbarrier PU32/8.0 | 32 mm | PU25/8.0/06 | 1.3 x 1.0 m | | |
| Sorberbarrier PU50/4.5 | 50 mm | PU25/4.5/25 | 1.3 x 1.0 m and 1.3 x 2.2 m | | |
| Sorberbarrier PU50/8.0 | 50 mm | PU25/8.0/25 | 1.3 x 1.0 m | | |
| Sorberbarrier PU75/4.5 | 75 mm | PU50/4.5/25 | 1.3 x 1.0 m | | |
| Sorberbarrier PU75/8.0 | 75 mm | PU50/8.0/25 | 1.3 x 1.0 m | | |

Tolerances: Length: ±1%, Width: -0/+5 mm, Thickness: ±3 mm, Weight: ±10%

¹Useable width is specified. Some surface coverings such as foils, films or fabric may overhang the useable width. Please consult your sales representative as minimum order quantities may apply.

²Typical value for Polyurethane foam - Polyurethane handbook: Chemistry, Raw Materials, Processing, Application, Properties 2nd edition

All above products are available with pressure-sensitive adhesive backing. Under extreme temperature and humidity conditions, air flow or where the substrate surfaces cannot be free from contaminants, mechanical fixing will be required. For all inverted installations including ceiling installations, mechanical fixing must be done in addition to pressure sensitive adhesive. Please consult your local Pyrotek representative for more information.

MATERIAL PROPERTIES

| Test method | Property | Report no. | Results |
|-------------|------------------------------------|--------------|---|
| UL 94* | Flammability of plastic materials | 05135JHY8 R1 | HF-1 |
| FMVSS 302* | Flammability of interior materials | 14713JY1 | Complies to the requirements of US (DOT) Department of transportation for occupant compartments of motor vehicles |

*Result applies to plain foam only.

ACOUSTIC PERFORMANCE (ABSORPTIVE LAYER)

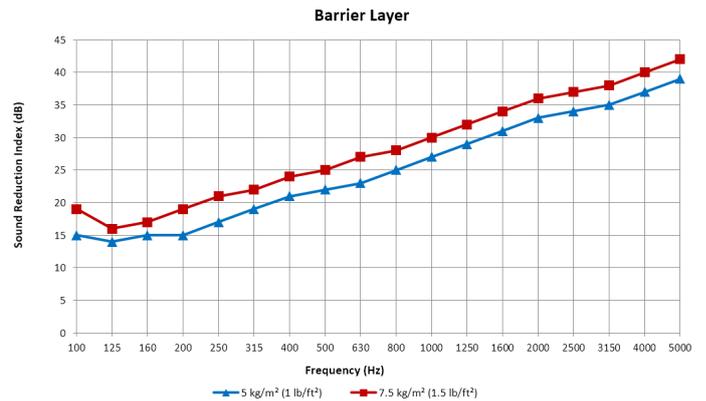
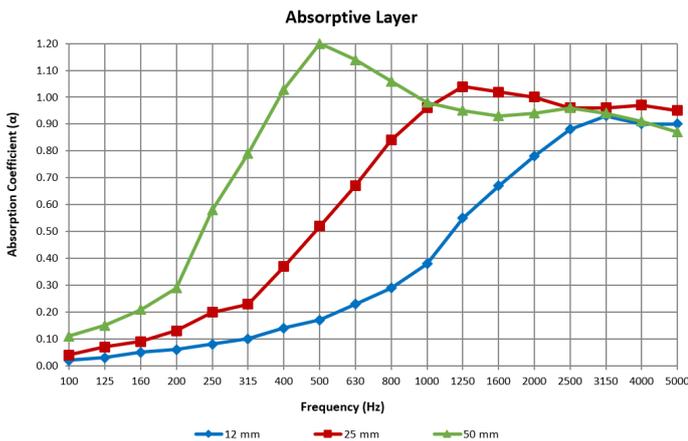
| Frequency (Hz) | 12 mm | 25 mm | 50 mm |
|----------------|----------|-----------|-------|
| 100 | 0.02 | 0.04 | 0.11 |
| 125 | 0.03 | 0.07 | 0.15 |
| 160 | 0.05 | 0.09 | 0.21 |
| 200 | 0.06 | 0.13 | 0.29 |
| 250 | 0.08 | 0.20 | 0.58 |
| 315 | 0.10 | 0.23 | 0.79 |
| 400 | 0.14 | 0.37 | 1.03 |
| 500 | 0.17 | 0.52 | 1.20 |
| 630 | 0.23 | 0.67 | 1.14 |
| 800 | 0.29 | 0.84 | 1.06 |
| 1000 | 0.38 | 0.96 | 0.98 |
| 1250 | 0.55 | 1.04 | 0.95 |
| 1600 | 0.67 | 1.02 | 0.93 |
| 2000 | 0.78 | 1.00 | 0.94 |
| 2500 | 0.88 | 0.96 | 0.96 |
| 3150 | 0.93 | 0.96 | 0.94 |
| 4000 | 0.90 | 0.97 | 0.91 |
| 5000 | 0.90 | 0.95 | 0.87 |
| NRC | 0.35 | 0.65 | 0.95 |
| SAA | 0.36 | 0.66 | 0.90 |
| α_w | 0.30 (H) | 0.50 (MH) | 0.85 |

Tested to ISO 354:2003 at University of Canterbury, New Zealand
Report Numbers: 291, 292 & 293

ACOUSTIC PERFORMANCE (BARRIER LAYER)

| Frequency (Hz) | 4.5 kg/m ² | 8 kg/m ² |
|----------------|-----------------------|---------------------|
| 100 | 15 | 19 |
| 125 | 14 | 16 |
| 160 | 15 | 17 |
| 200 | 15 | 19 |
| 250 | 17 | 21 |
| 315 | 19 | 22 |
| 400 | 21 | 24 |
| 500 | 22 | 25 |
| 630 | 23 | 27 |
| 800 | 25 | 28 |
| 1000 | 27 | 30 |
| 1250 | 29 | 32 |
| 1600 | 31 | 34 |
| 2000 | 33 | 36 |
| 2500 | 34 | 37 |
| 3150 | 35 | 38 |
| 4000 | 37 | 40 |
| 5000 | 39 | 42 |
| R _w | 26 | 30 |
| STC | 26 | 30 |

Tested to ASTM E90-09 at Riverbank Acoustical Laboratories, USA
Report Numbers: TL18-642 & TL18-643



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.

