

# 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.

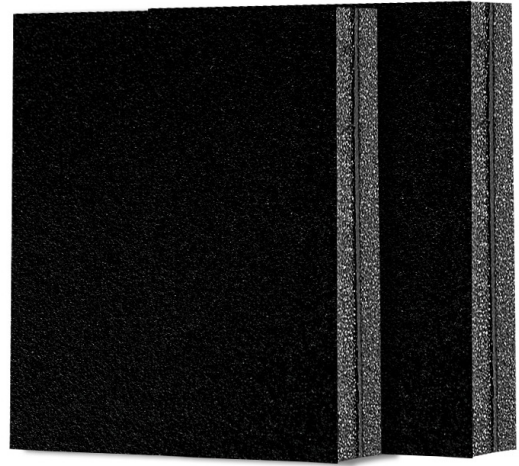
Sorberbarrier PU is one of the available products in the range to meet custom design requirements. Other options include plain (Sorberbarrier), aluminium glass cloth (Sorberbarrier AGC), metallised polyester (Sorberbarrier M) and perforated vinyl (Sorberbarrier V).

### 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 <sup>1</sup>	Thermal conductivity <sup>2</sup> (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%

<sup>1</sup>Useable 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.

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

All the above products are available with pressure-sensitive adhesive backing. Under extreme temperature conditions or where the substrate surfaces cannot be free from contaminants, mechanical fixing will be required on vertical surfaces. For all inverted installations, including ceiling installations, mechanical fixing must be done in addition to PSA adhesion. 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)

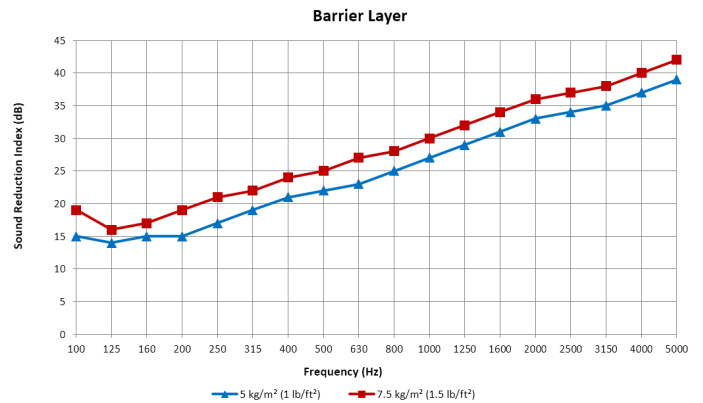
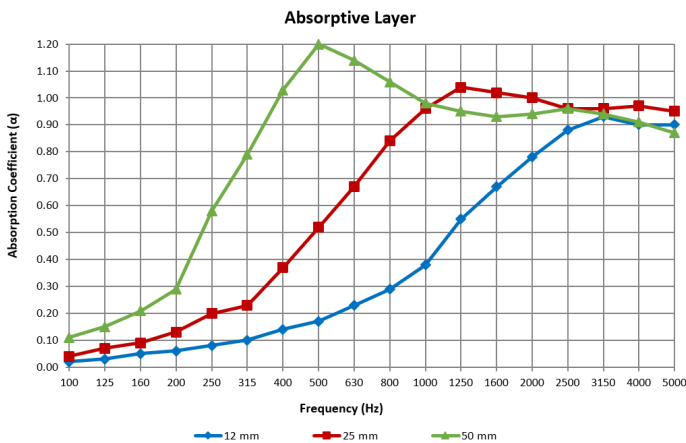
Frequency (Hz)	12 mm	25 mm	50 mm
100	0.02	0.04	0.11
125	0.03	0.07	0.15
160	0.05	0.09	0.21
200	0.06	0.13	0.29
250	0.08	0.20	0.58
315	0.10	0.23	0.79
400	0.14	0.37	1.03
500	0.17	0.52	1.20
630	0.23	0.67	1.14
800	0.29	0.84	1.06
1000	0.38	0.96	0.98
1250	0.55	1.04	0.95
1600	0.67	1.02	0.93
2000	0.78	1.00	0.94
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
$\alpha_w$	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 <sup>2</sup>	8 kg/m <sup>2</sup>
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 <sub>w</sub>	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](http://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](http://pyroteknc.com/disclaimer).*

