

SORBERBARRIER PU

polyurethane film faced barrier - absorber composite

Sorberbarrier PU is a unique composite noise control product that offers both excellent noise transmission loss and high noise absorption with a tough polyurethane, tear resistant surface covering. It was developed to meet market requirements for reducing noise in industrial and domestic enclosure, OEM and marine markets.

Sorberbarrier PU combines the superior performance of the flexible mass barrier, Wavebar® together with the high absorption properties of Sorberfoam. A polyurethane film facing is laminated to the surface of Sorberfoam to alter the natural absorption curve enhancing sound absorption in mid to high frequencies.

Sorberfoam PU is applied by using a sophisticated process that optimises flow resistivity and maximises sound absorption. It acts as a protective facing in environments where sprays or dust may contaminate porous material with the black finish providing a more discreet look.

The high performance of Sorberbarrier is achieved by its unique construction. Placing the mass barrier between two layers of absorbing foam, keeps the barrier separate from the structure to which it is bonded, allowing it to remain flexible at all times, This increases the noise transmission loss.

Tests have revealed that altering the thickness of foam that separates the noise barrier from the structure, improves the product's performance in some frequencies without an increase in overall weight.

Sorberbarrier PU's surface covering targets specific frequency ranges, which combined with a mass barrier provides maximum noise reduction, making it the most versatile product for controlling noise in the market place.

SPECIFICATIONS

Colour	Black (other colours available on request – minimum quantities apply)
Other facings	M (Silver), PU (Black), V (Grey), AGC, GC
Standard	Available in 20, 25, 32, 50, 75 mm thickness
	1.3 m x 1 m or custom depending on MOQ



applications

- Engine rooms in boats
- Acoustic and thermal insulation for air conditioning duct work
- Acoustic and thermal insulation for plenum areas
- Power generation units
- Machinery and equipment enclosures.
- Car, boat, truck and bus engine compartment, fire wall and bonnets

features

- Multi-function product: An absorber and barrier in one
- No ozone-depleting substances generated during manufacture
- Free from formaldehyde, phenolic resins and irritating fibres
- Sorberfoam is engineered to resist degradation (foam rot) more than traditional acoustic foam
- Low spread of flame surface
- The PU facing outperforms comparative products at lower frequencies
- Quick and easily installed in awkward places
- Easy to cut, adhere or mechanically fasten into position
- Available with self-adhesive backing for ease of installation
- Surface colour: black (Other colours available on request – minimum quantities apply)
- Matching self-adhesive tape or sprayable PU coating for black surface covering, is available for sealing joins and edges of foam
- Can be constructed with other absorption product Sorbermel®



PRODUCT SPECIFICATIONS

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

Tolerances: Weight: +/- 0.5Kg; Thickness: +/- 3mm; Length and Width: -0 to +5mm * Typical value for Polyurethane foam - Polyurethane handbook: Chemistry, Raw Materials, Processing, Application, Properties 2nd edition

**Useable width is specified. Some surface coverings such as foils, films or fabric may overhang the useable width.

MATERIAL PROPERTIES

Test method	Index	Results	Description
UL94	After flame time ≤ 2 seconds	HBF*	Horizontal burn test for foam materials.
FMVSS-302	Burn rate - mm/min	Self extinguishing	Automotive burn rate test.

*Result applies to 12mm thickness.

SELF-ADHESIVE TAPES SPECIFICATIONS

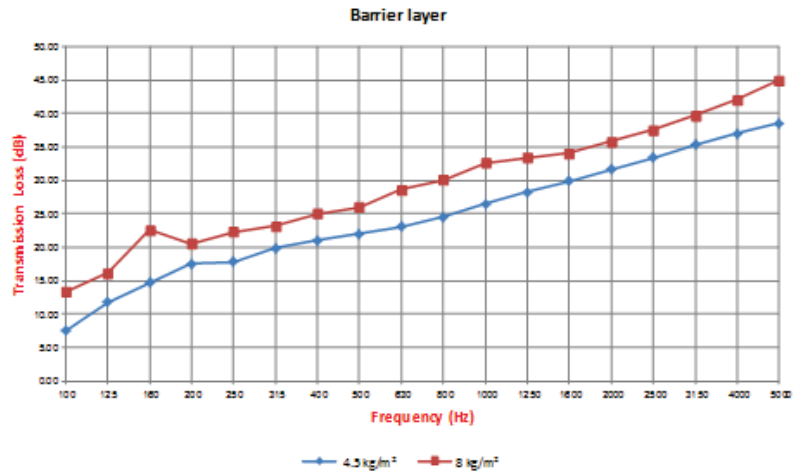
CODE	DESCRIPTION	OPERATING SERVICE TEMPERATURE °C
Alpha - A	Premium high performance transfer tape suitable for most applications.	-10 to 110
Alpha - A1	Versatile, resilient, high tack adhesive with excellent bonding strength to a wide range of substrates.	-10 to 80
Alpha - A2	Scrim reinforced acrylic backing for extra strength and high durability.	-10 to 60

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. When ordering products with adhesive backing, please specify your choice of tape with the appropriate code A, A1 or A2 as Sorberbarrier PU32A/4.5, Sorberbarrier PU32A1/4.5 or Sorberbarrier PU32A2/4.5. Unless otherwise stated, the standard adhesive backing supplied is premium grade (Alpha - A).

ACOUSTIC PERFORMANCE

Frequency (Hz)	4.5 kg/m ²	8 kg/m ²
100	7.50	13.30
125	11.76	16.19
160	14.66	22.55
200	17.50	20.51
250	17.80	22.29
315	19.80	23.16
400	21.00	25.00
500	22.00	25.99
630	23.10	28.58
800	24.50	30.09
1000	26.50	32.66
1250	28.20	33.43
1600	29.90	34.09
2000	31.60	35.86
2500	33.40	37.56
3150	35.30	39.74
4000	37.00	42.06
5000	38.60	45.00
STC	27	31
R _w	27	31

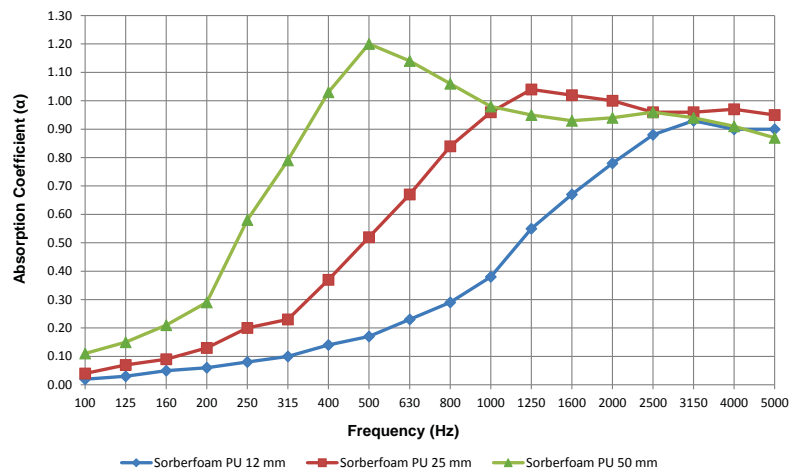
Frequency (Hz)	12 mm	25 mm	50 mm
100	0.02	0.04	0.11
125	0.03	0.07	0.15
160	0.05	0.09	0.21
200	0.06	0.13	0.29
250	0.08	0.20	0.58
315	0.10	0.23	0.79
400	0.14	0.37	1.03
500	0.17	0.52	1.20
630	0.23	0.67	1.14
800	0.29	0.84	1.06
1000	0.38	0.96	0.98
1250	0.55	1.04	0.95
1600	0.67	1.02	0.93
2000	0.78	1.00	0.94
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



*Results for 4.5kg m2 are tested to AS1191 Transmission loss report ATF-173 (revision 1)

**Results shown for 8kg m2 are tested to ISO15186-1/ISO 10140-4 (Report No. 189 Issue: 1)

ABSORPTION LAYER



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

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.

