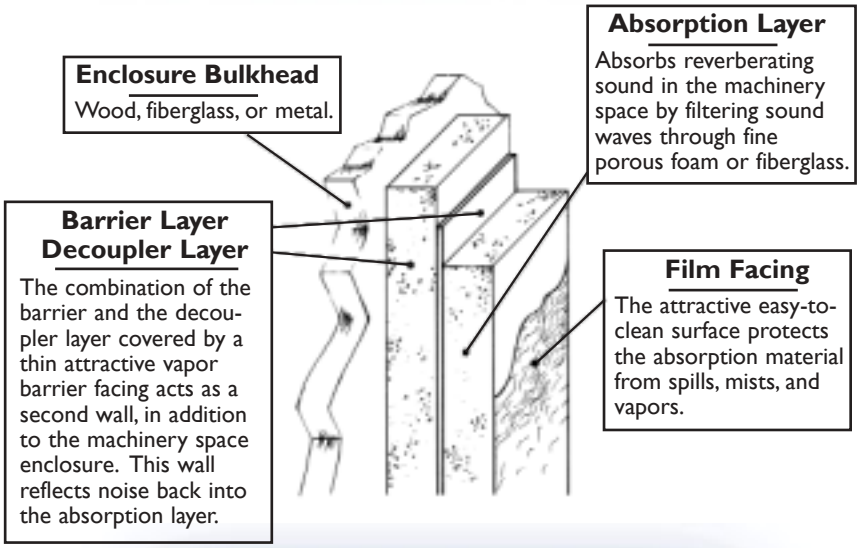
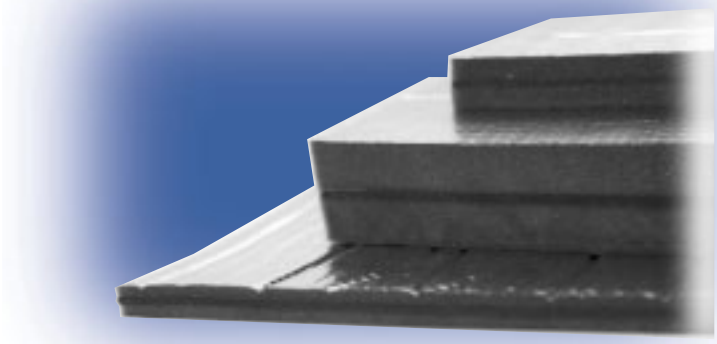
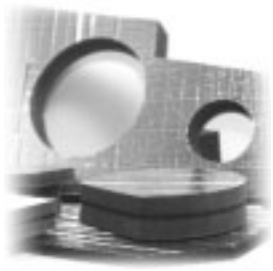
Technical Specifications

Vinyl/Foam Insulation







Above: SOUNDOWN manufactures a wide range of insulation to meet specific needs.

Left: SOUNDOWN'S custom cutting reduces labor, scrap and shipping costs. SOUNDOWN technicians work with digital files, drawings and complex patterns.

Vinyl Foam Barrier Composite

SOUNDOWN'S Vinyl/Foam composite insulation is an effective treatment for airborne noise that radiates from engines, and other machinery. The standard composite consists of a layer of mass loaded vinyl sandwiched between two layers of polyether fire retardant foam covered by a thin attractive vapor barrier facing. The composite is designed and manufactured specifically for attenuation of sounds from machines such as engines, generators, pumps, and other marine equipment which may have significant base and mid-range frequency components. Our construction centers the acoustic vinyl between equal thicknesses of foam, front and back. This configuration optimizes the mid and bass frequency sound isolation in comparison to other materials with only a thin foam layer on the backside; soley optimized for "tinier" high-frequency noise.

Vinyl/Foam composite insulation from SOUNDOWN is available in a number of formats for optimal sound attenuation within the available space. Soundown is able to tune this attenuation by utilizing barrier material of 0.5 lb., 1 lb., 1.5 lbs., or 2 lbs. per square foot in our composites. In areas where hatch and bulkhead clearances do not allow the use of thicker composites we may substitute heavier barrier material so that performance is not compromised. Likewise, in weight critical applications, lighter barriers may be used in thicker composites.

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Barrier Foam Composites

Barrier

.5 lb./ft²	1 lb./ft²	1.5 lb./ft²	2 lb./ft²
1/16"	1/8"	3/16"	1/4"

Decoupler Layer

Polyether Polyurethane
Flexible Foam-1.6 lb/ft³
220+pores/inch
1/2"-3" thickness available

Absorber Layer

Polyether Polyurethane
Flexible Foam 1.6lb/ft³
220 + pores/inch
1/2"-3" thickness available
1.5 mil Ripstop Mylar Vapor Barrier Facing

Typical Physical Properties

Thickness	1/4" to 4"
Weights (per ft²)	.55 lbs. to 2.5 lbs.
Flammability, foam UL 94 HF-1 MVSS 302	PASS MEETS
Specific Gravity (Barrier) ASTM D 798	1.80
Hardness (Barrier) Shore A 2 ASTM D 2240	90 Nominal

Stiffness, MPA (Barrier) ASTM 749	19.60
Tensile, PSI (Barrier) ADSTM D 412	407
Elongation, % (Barrier) ASTM D 412	120
Tear, lbs/1" (Barrier) ASTM D 624	77
Temp Range, Fahrenheit (Composite)	-40 to 255 degrees

Typical Acoustic Properties

Transmission loss of Composite by Weight Per ASTM E90-90			Sound Absorption Per ASTM C 423-84A
Octave Band Center Freq. Hz	1 lb./ft²	1.5 lb./ft²	1" Foam, Mylar Face
125	14	18	.14
250	17	21	.37
500	22	25	.69
1k	28	32	.61
2k	36	37	.79
4k	44	46	.48
STC	28	30	
NRC			.60

* Transmission loss as published by SOUNDOWN and other manufacturers of composite insulation represent a test of the material alone without panel to it might be attached to in service.

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