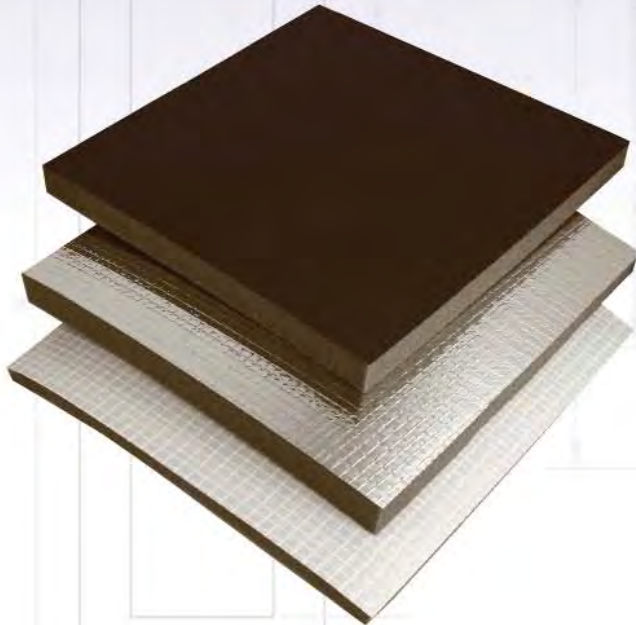


Technical Specifications

Acoustic Absorption Foam



Applications

- Machinery enclosures
- Office equipment
- Medical equipment
- Cars, buses and specialty vehicles
- Sound attenuated enclosures
- Appliances

Advantages

- High NRC values
- Economical
- Flexible for easy installation
- Light weight
- Available in sheets, rolls, or as precut kits

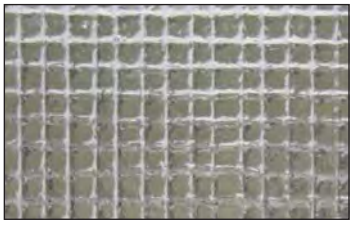
SOUNDOWN offers the highest quality acoustical foam products available today. Our Acoustic Absorption Foam is an open cell acoustical grade polyether designed to have excellent acoustic properties in an easily handled and durable format. Available in a range of standard thicknesses up to 3" with options for a number of different facings as well as pressure sensitive adhesive, Soundown can provide a product suitable for most any application. (Specialty foam and fibrous materials are available in cases where Soundown foam products are not applicable.)

Soundown Acoustic Absorption Foams are manufactured using a polyether formulation for increased durability. Polyether foams have a high degree of hydrolytic stability, allowing for a long service life even in high humidity or occasionally wetted areas. This level of durability makes Soundown Acoustic Absorption Foams an excellent choice for applications such as off and over road equipment or vehicles as well as generator, pump, and compressor enclosures.

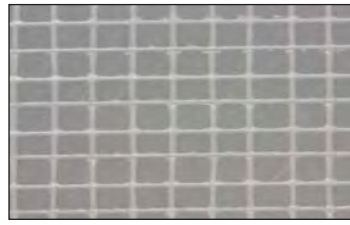
Soundown Acoustic Absorption Foams are available laminated with either a white or metalized polyester rip-stop facing or urethane film. These facing materials provide a vapor barrier to protect the insulation as well as provide a durable and aesthetically pleasing surface. Pressure Sensitive Adhesive (PSA) is also available for ease of installation.

Soundown's Acoustic Absorption Foams come in a variety of thickness to facilitate use in a wide range of applications. Our materials range from 1/4" to 3" thick, offering a high level of sound energy absorption. Acoustic insulation materials work by two processes: absorption of sound energy, which dissipates sound as low level heat, and reflection, which reflects noise away from a location where quieting is desired. The effectiveness of an absorptive material increases directly with thickness, in both the amount of energy absorbed and the range of frequencies over which absorption occurs (See fig. 1A). Bass frequencies require thicker absorptive layers. For engine noise 1/2" is generally a minimum useful thickness while 1" is good and 1.5" to 3" approaches the optimum with the practical considerations of effectiveness and space available.

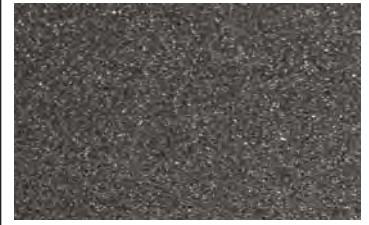
Facing Options



Aluminized Ripstop Facing



White Ripstop Facing



Black Urethane Facing

Typical Physical Properties

The Material

Soundown's Acoustic Foam is produced on 56" (1.37m) wide master rolls. Sheet goods are trimmed to 54" wide and come in a variety of lengths, which vary by product.

Thickness

0.5" (12mm)
1.0" (25mm)
1.5" (38mm)
2.0" (50mm)

Surface Density

.07 lb/ft² (0.342kg/M²)
.14 lb/ft² (0.684kg/M²)
.21 lb/ft² (1.027kg/M²)
.28 lb/ft² (1.956kg/M²)

	Polyether Foam
Resilience (Ball Rebound)	45% to 60 %
Load Bearing Range (@ 25% Compression)	0.20 to 0.45 pal
Hydrosis Resistance (Activation Energy)	Excellent 32,000 cal/mole
Oxidation Resistance	Excellent
Resistance to Air Flow (1/2" H2O Pressure Drop)	2 to 5 cfm
"K" Factor	0.25 to 0.30
Noise Reduction Coefficient	0.07 to 0.85
Tensile Strength	14 to 20 psi
Elongation	150% to 250%
Tear Resistance	1.5 to 3.0 ppi
Compression Set (@50% deflection) (@90% deflection)	Max. 10% Max. 20%
Solvent Resistance	Moderate Swelling (Recovers on Drying)
Water Absorption	Hydrophobic
Flammability	UL 94 HF 1
Temperature range (continuous operation)	-40F (-40C) to 200F (93C)

Acoustic Performance

Average Sound Absorption Coefficient at Normal Incidence		
Frequency	.500" thick	1.0" thick
125 Hz	0.05	0.07
250 Hz	0.07	0.12
500 Hz	0.15	0.28
1000 Hz	0.24	0.60
1600 Hz	0.37	0.80
2000 Hz	0.50	0.93
3150 Hz	0.73	0.85
4000 Hz	0.88	0.83
6300 Hz	0.80	0.85

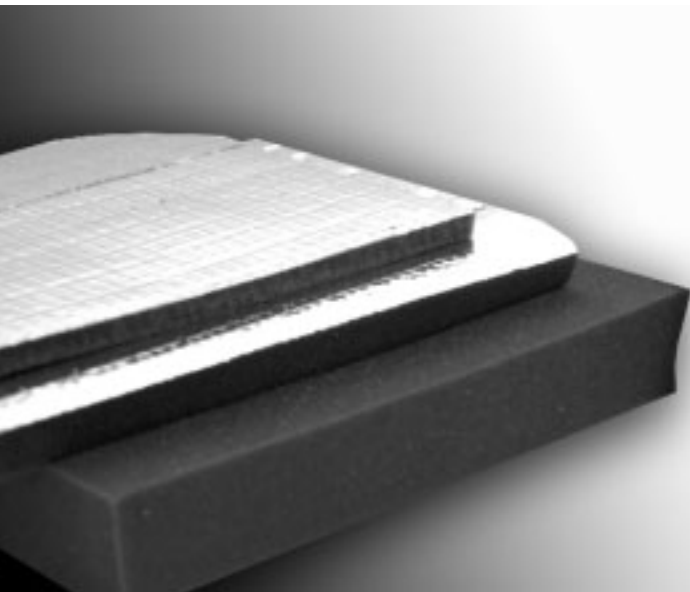
*Absorption values for unfaced materials



Technical Specifications

Acoustical Absorption Foam

Acoustical Open Cell Foam



Soundown offers the highest quality acoustical foam product available today. Our acoustical absorptive foam materials are available with a multitude of facings such as Mylar, Urethane, and Vinyl. Pressure-Sensitive Adhesives (PSA) is also

available as an adhesive backing eliminating the use of the strong odor spray adhesives. Soundown's acoustic foam is a polyether formulation that will outlast inferior polyester foams available on the market today. This polyether foam provides the highest level of hydrolytic stability in the harsh marine environment, as the dampness found in the marine environment will promote polyester foam disintegration drastically reducing the life of the foam.

Soundown's Absorbing foams come in a variety of thickness to accommodate the needs of the builder and or boat

owner. Our material range from 1/4" to 2" thick, offering a high level of sound energy absorption. Acoustic insulation materials work by two processes: Absorption of sound energy, which dissipates sound as heat energy, and reflection, which reflects noise away from a location where quieting is desired. The effectiveness of absorptive material increases directly with thickness, in both the amount of energy absorbed and the range of frequencies over which absorption occurs (See fig. 2A). Bass frequencies require thicker absorptive layers. For engine noise 1/2" is generally a minimum useful thickness while 1" is good and 1-1.2" to 2" approaches the optimum with the practical considerations of effectiveness and space available.

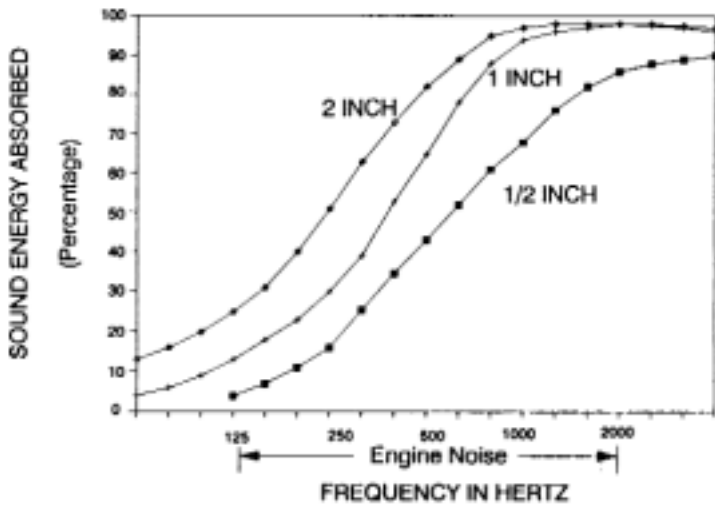


Fig. 2A Typical sound absorption values for fiberglass and foams of various thickness



SOUNDOWN CORPORATION

ACOUSTIC INSULATION DETAIL

(203,2mm) ENGINE EXHAUST PIPE

DUAL-LIFT (0.123m)

Foam Material

The Material

Soundown's Acoustic Foam is produced on 54" (1.37m) wide rolls. The length of rolls varies by product thickness

Surface Density

.07 lb/ft²
 .14 lb/ft²
 .21 lb/ft²
 .28 lb/ft²

Thickness

0.5" (12mm)
 1.0" (25mm)
 1.5" (38mm)
 2.0" (50mm)

Typical Physical Properties

	Polyether
Resilience (Ball Rebound)	45% to 60%
Load Bearing Range (@ 25% Compression)	0.20 to 0.45 pal (much higher on specialty polyether foams)
Hydrosis Resistance (Activation Energy)	Excellent 32,000 cal./mole
Oxidation Resistance	Excellent
Resistance to Air Flow (1/2" H ₂ O Pressure Drop)	2 to 5 cfm
"K" Factor	0.25 to 0.30
Noise Reduction Coefficient (1" thickness)	0.85
Tensile Strength	14 to 20 psi
Elongation	150% to 250%
Tear Resistance	1.5 to 3.0 ppi
Compression Set... (@ 50% deflection) (@ 90% deflection)	Max. 10% Max. 20%
Solvent Resistance	Moderate Swelling (Recovers on Drying)
Water Absorption	Hydrophobic

Typical Acoustic Properties

Average Normal Incidence, listed as Noise Reduction Coefficient (NRC)		
Frequency	.500" thick	1.0" thick
125 cps	0.05	0.07
250 cps	0.07	0.12
500 cps	0.15	0.28
1000 cps	0.24	0.60
1600 cps	0.37	0.80
2000 cps	0.50	0.93
3150 cps	0.73	0.85
4000 cps	0.88	0.83
6300 cps	0.80	0.85