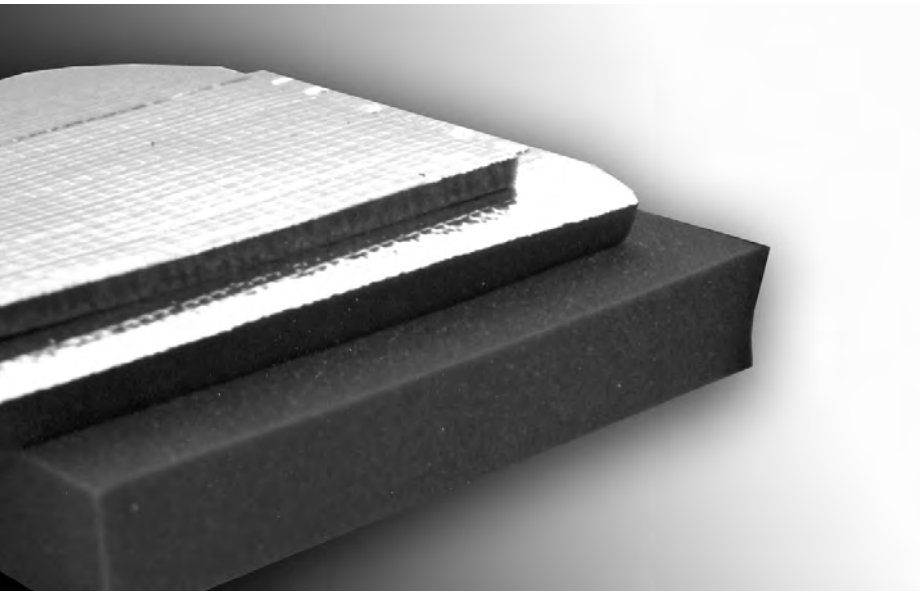
Technical Specifications

Acoustical Absorption Foam

Acoustical Open Cell Foam



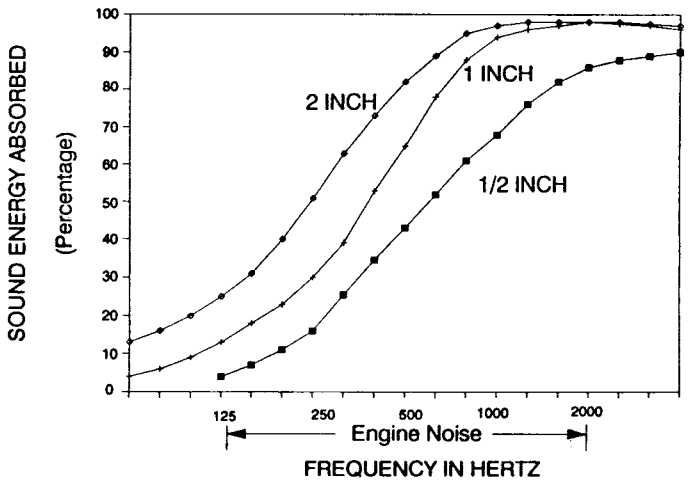


Fig. 2A Typical sound absorption values for fiberglass and foams of various thickness

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.

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Foam Material

The Material	Surface Density	Thickness
Soundown's Acoustic Foam is produced on 54" (1.37m) wide rolls. The length of rolls varies by product thickness	.07 lb/ft2	0.5" (12mm)
	.14 lb/ft2	1.0" (25mm)
	.21 lb/ft2	1.5" (38mm)
	.28 lb/ft2	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_2O 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

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

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