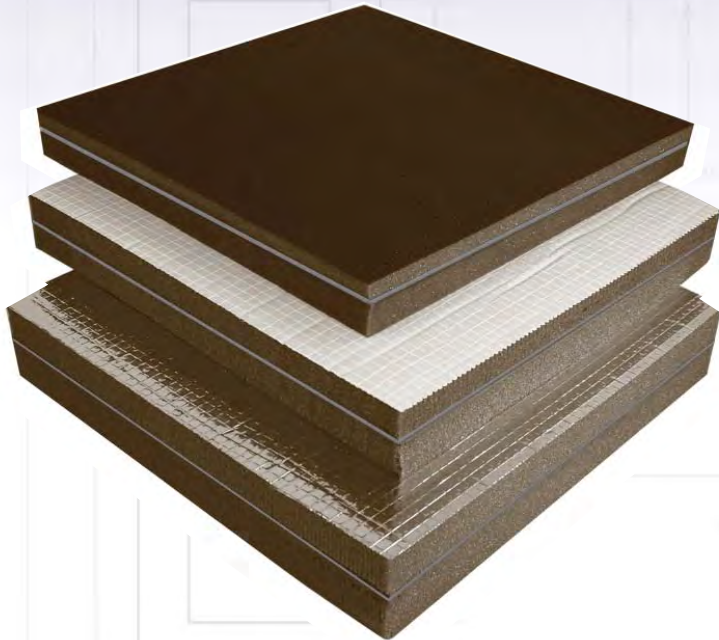


Technical Specifications

Vinyl/Foam Barrier Composite



Applications

- Machinery enclosures
- Mobile equipment
- Medical equipment
- Cars, buses and specialty vehicles
- Recreational vehicles
- Appliance

Advantages

- Increase transmission loss by up to 40dB
- Composites from 0.5" to 3"
- Custom configurations available
- Available as rolls, sheets, or precut kits

SOUNDOWN'S Vinyl/Foam composite insulation (IVF) is designed to reduce airborne noise that radiates from engines, and other machinery. The standard composite consists of a layer of TuffMass loaded vinyl sandwiched between two layers of fire retardant, polyether foam and with a vapor barrier facing. Soundown composites are produced specifically for attenuation of sounds from machines such as engines, generators, pumps, and other equipment which may have significant base and mid-range frequency components. Our standard construction centers the acoustic vinyl between equal thicknesses of foam, front and back to optimize the mid and bass frequency sound isolation. Where high frequency noises are of concern Soundown can fabricate specialized composites.

Soundown's processes run using raw materials selected to optimize performance and durability. IVF is produced by combining two layers of polyether foam around a TuffMass septum. The absorption layer is then covered by a facing material specified to provide the finish most suitable to the application. PSA can be applied to any of the configurations for ease of installation.

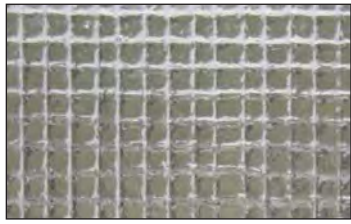
TuffMass is a mass loaded vinyl product that features high noise reduction (STC and Rw) ratings, superior tear resistance, and consistent surface density. As the barrier in IVF it provides more consistent attenuation properties than cast barriers which generally vary in thickness. Soundown's process of bonding the barrier also results in longer materials life than products produced by casting the barrier, which exposes the foam to molten plastics

The polyether foam used in IVF is chosen for its acoustic properties, fire resistance and ability to hold up in harsh environments. Polyether foams exhibit higher levels of hydrolytic stability than polyester foams. This allows for longer service life in applications such as portable power, pumps and other mobile equipment particularly where there is exposure to weather.

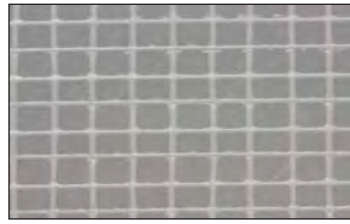
Vinyl/Foam composite insulation is available in a number of formats for optimal sound attenuation within the available space. Soundown is able to tune this attenuation by utilizing a TuffMass barrier with surface density 0.5 lb., 1 lb., 1.5 lbs., or 2 lbs/ft² in composites of 0.5" to 3" thick. In areas where space for insulation is limited and the use of thicker composites is not possible we are able to substitute heavier barrier material so that performance is not compromised. Likewise, in weight critical applications, lighter barriers may be used in thicker composites.



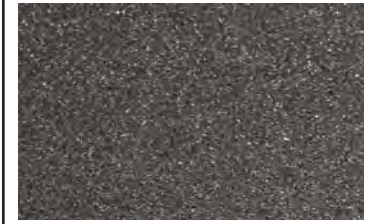
Facing Options



Aluminized Mylar Facing



White Mylar Facing



Black Urethane Facing

Typical Physical Properties

Thickness	1/2" to 4"
Weight (per ft ²)	.55lbs to 2.5lbs
Flammability (Foam only) 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) ASTM D 412	407
Elongation, % (Barrier) ASTM D 412	120
Tear, lbs/1" (Barrier) ASTM D 624	77
Temp Range, °F (Composite)	-40° to 225°

Acoustic Performance

Octave band Center Frequency, Hz	Transmission loss of Composite by Weight Per ASTM E90-90		Sound Ansrption Per ASTM C 423-84A
	1lb/ft2	2lb/ft2	1" Foam
125	17	23	0.14
250	17	24	0.37
500	22	26	0.69
1000	27	31	0.61
2000	32	38	0.79
4000	36	43	0.48
STC	26	33	N/A
NRC	N/A	N/A	0.6

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