

ACOUSTICAL SOLUTIONS



Absorbing • Damping • Transmission Loss

Overview

FXI acoustical materials are designed to perform a number of functions including sound absorption and vibration damping. FXI low-density foam materials are ideal for sound absorption while higher-density or lower permeability materials can be excellent for vibration damping. In addition to their acoustic capabilities, all FXI foams are moldable and meet various fire ratings for different industry uses, insulation and operating temperature requirements. FXI acoustical foam solutions provide an efficient, consistent, and predictable performance simplifying installation and material handling, reducing costs of finished part production and reliable performance over-time in high-stress environments and applications.

Benefits

- Provides predictable sound absorption in a broad frequency range
- Has a long service life due to the ability to maintain structure and acoustic properties despite heat-aging, wear, and abrasion
- Manufacturing friendly with the ability to hold loft and form which improves installation and handling
- Increased design flexibility due to the ability to fabricate to achieve form and fit

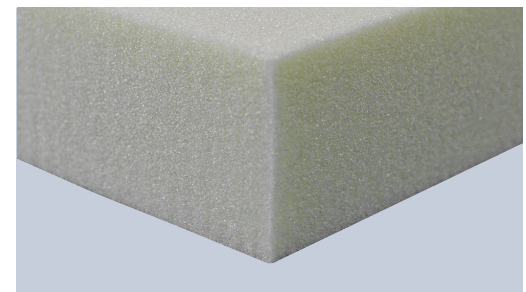
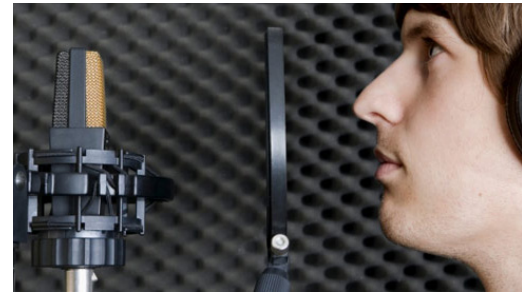
- Structural integrity
- No airborne particles
- Better mass to performance ratio
- Environmentally friendly options
- Scalable for multiple sizes & dimensions
- Form availability right to your production

Sound Absorption Applications:

- Engine covers for vehicle engines, portable air compressors and power units
- Interior firewalls and door panels for automobiles
- Cabin panels for Class 8 trucks
- HVAC ventilation ducts
- Panels for data processing equipment & CNC machine centers
- Absorption blankets for appliances
- Anechoic and Semi-anechoic test chambers
- Recording studios and home theater environments
- Vehicle hood insulators
- Headliners
- Enclosure panels for portable air compressors, power units, appliances, etc
- Vehicle floors and consoles

Vibration Damping Applications:

- Sinks and water fountains
- Industrial machinery & equipment
- Engine compartments
- Vehicle floors and consoles



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Sound Absorption

Noise transmission sound barriers are used to reduce the noise level being transmitted through a housing when the housing itself does not satisfactorily perform that function. When noise levels are severe, an additional high mass transmission reduction wall or septum is often required. Acoustical foam is applied as a decoupler between the housing and the inner septum, and as an absorber on the outer septum wall, to effectively absorb and reduce noise energy.

Vibration Damping

Acoustical foams are used to reduce vibrations of physical structures that, in turn, produce noise due to that vibration. In some cases, for maximum vibration reduction, acoustical foams are used in conjunction with a damping layer, such as a viscoelastic material.

Sound Fidelity

Reticulated acoustical foams have been proven virtually acoustically transparent; effectively invisible to sound waves in audible frequencies. This is true even of foam two inches thick. A leading California stereo speaker manufacturer made this fact well-known by introducing a line of speakers that offered nearly perfect sound transparency through high performance foam grilles in a variety of colors.

PRODUCT/FAMILY	DESCRIPTION	COMPLIANCE (FR)	DENSITY (PCF)	SAA	NRC AT 20mm
AEROFONIC®	Extended Performance Under Environmental Pressures with Open Cell Structure and Felting	FAR 25.853	5.4	0.64	0.60
HYFONIC™	Extended Performance Under Environmental Pressures UL 94 HF-1	UL94 HF1	1.9	0.50	0.45
HYFONIC™ Natural	Sound Absorption Properties with a Renewable Chemical Profile as Compared to Other Foams	UL94-HF1	1.9	0.62	0.60
Qylite™	Lightweight, High Performance Foam for Sound Absorption				
200		FMVSS-302	1.2	0.446	0.40
400		FMVSS-302	1.4	0.49	0.45
DURABSORB™	High Density Acoustic Ethers That Absorb What Matters				
100		FMVSS 302	3.5	0.53	0.50
200			5.0		
SIF®	Acoustically Transparent Allowing Perfect Sound Transmission Foam	UL900	1.9	0.191	0.187
SIF Felt			6.1	0.395	0.388
PYRELL™	Intumescent Sound Absorbing and Fire Retardant Foam UL 94 HF-1	UL94 HF1 & Halogen-Free, FMVSS 302	2.0	0.48	0.45
ARESTO™	Absorbing and Insulating Foam UL 94 HF-1				
2#		UL94-HF1 & FMVSS-302	2.0	0.5	0.45
4#		UL94-HF1 & FMVSS-302	4.0	0.56	0.55

*Typical physicals not to be used for specification purposes. Please contact your account rep for specification information. Test procedure ASTM D-3574, C423

IMPORTANT NOTICE REGARDING FLAMMABILITY – All polyurethane foams including combustion modified foams will burn and generate smoke and gases. Performance conditions and corresponding data refer to typical performance in spec tests, such as UL-94 and MVSS-302, and should not be construed to imply the behavior of this or any other product under other re conditions. All data regarding these products were obtained using spec test methods under controlled laboratory conditions intended to measure performance against specifications. Due to the great number and variety of applications for which FXI products are purchased, FXI does not recommend specific applications or assume any responsibility for use results obtained or suitability for specific applications. FXI warrants its products only to direct buyers. (See FXI's Standard Terms of Sales for FXI's warranty.) IN NO EVENT SHALL FXI BE RESPONSIBLE FOR ANY CLAIM IN EXCESS OF FXI'S SALE PRICE OF THE PRODUCT TO WHICH THE CLAIM RELATES.

About FXI:

FXI is a leading producer of foam innovation in the Bedding, Furniture, Industrial, Home & Office, Healthcare and Transportation Markets. Our focus is on finding tailored solutions for our customers that are driven by consumer insights and industry trends. Our products include finished goods, sub-assemblies, services and raw materials for OEMs, fabricators and retailers. You will find FXI's foam innovations inside, around and under yourself in countless applications. We protect automobile passengers on the highway, help consumers sleep sounder and furniture manufacturers create comfort. We provide for sharper images in digital printers and help consumers keep their homes clean. We provide critical components for filters, gaskets and seals in everything from blood oxygenators to computer disk drives. Everywhere foam goes; FXI's innovations lead the way.

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