

Prime7-F^e™

Decorative Hardwood Acoustical Diffuser-Absorber

AVL Systems' Prime7-F^e™ Diffuser-Absorber

is an attractive, furniture-grade hardwood wall system that is easily installed to most any architectural surface. Its decorative finishes and profiled design combine to provide single-dimension mid-high frequency diffusion for control of flutter echo, while preserving the natural ambience of the space.



Type-LFA (optional) has rear reliefs engineered to provide additional absorption below the frequency range of the diffuser cut-off frequency. Installation mounting is by traditional screw/glue methods directly to most architectural surfaces. Additionally, plank profiles can be installed with a rear air space, slight separations, and a glass or polyester fiber back-layer for increased low frequency absorption.

This product is a quadratic residue design derived from mathematical number theory sequences for reflection phase grate principles, then precisely manufactured to provide a combination of mid-high frequency diffusion with optional low frequency absorption. Finished profiles have solid core materials to prevent resonances and resist damage. Finishes are factory applied to standard or customer specified wood species.

Applications

AVL Systems' Prime7-F^e™ Diffuser-Absorber is an ideal solution for rooms and spaces where flutter echo is a consideration. The design of these products allows the specifier to provide a combination of diffusion and absorption to enhance the listening enjoyment for both music and speech.

Technical Features & Information

- Provide Diffusion for Control of Flutter Echo Without Deadening the Room
- Furniture-Grade Wood Acoustical Moldings for Ceiling & Walls
- Helmholtz Mounting Option for Added Low-Frequency Absorption
- Thickness (Nominal): 1" (102 mm)
- Sizes (Nominal): 4" x 96" for Most Wood Species
- Special Sizes: Available Upon Request
- Installation: Nail, Screw, Adhesive, Or As Required

Acoustical Performance - Absorption Coefficients

Frequency (Hz)	125	250	500	1K	2K	4K	NRC
Type A Mounting	0.04	0.05	0.06	0.08	0.09	0.04	0.05

Acoustical Performance - Diffusion* and Scattering

Frequency Range ±0° Angle	2606 Hz to 17200 Hz
Frequency Range ±30° Angle	2606 Hz to 14895 Hz
Frequency Range ±60° Angle	2606 Hz to 8599 Hz
Diffusion	5213 Hz up to 17200 Hz
Scattering	2606 Hz up to 17200 Hz
Usable Frequency Range	2606 Hz to 17200 Hz
Design Frequency	5213 Hz
f-period	3780 Hz

* Unlike sound absorption testing (ASTM C423) and sound transmission testing (ASTM E90), no standardized test exists for sound diffusion, and there are none recognized by the American Society for Testing of Materials (ASTM) standards. The Audio Engineering Society has suggested a test for diffusion characteristics developed primarily by a manufacturer for their products. The procedures are from informational paper AES-4id2001 but are not applicable for comparison of performance since there is no enforceable standard for the actual test or methods, or the reporting of results which are a product of each manufacturer's interpretations and application of the paper. The science of diffuser design with know mathematical computations and proven results yield accurate performance predictions, and those are shown above for this product.

Warranty

AVL Systems' *Limited Warranty* extends for ONE FULL YEAR from the original date of shipment. AVL Systems' literature, presentations and published data are correct to the best of our knowledge at time of publication. AVL Systems, Inc. reserves the right to change or amend any of the products or the information presented or published without liability or notice.



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