RPG
ACOUSTICAL SYSTEMS - LLC

Abffusor®

The Best Broadband Hybrid Absorber/Diffusor
From The Acoustical Industry's Leading Innovator

The Abffusor® is the industry's first absorption phase grating and the best broad bandwidth hybrid absorptive/diffusive surface available. It is an extension of RPG®'s research on the reflection phase grating (RPG), which provides sound diffusion from a series of divided reflective wells of equal width and different depths. This absorption phase grating topology offers efficient glancing angle reflection control and broad band absorption to create a natural sounding, attractive room treatment. Reflective surfaces, such as sheetrock or wood paneling, can cause imaging and frequency response problems. Traditional treatments, such as purely absorptive, flat panels or stretch fabric systems, are typically over done and can result in an acoustically "dead" room, which does not contribute to the envelopment required in a surround sound environment. In addition, if the density of the absorption is too high, flat purely absorptive panels can still reflect glancing incident sound to the listening positions. The Abffusor®, with it's modulating surface topology, offers the perfect combination of absorption and diffusion to tame reflections from the front wall, side walls between the speakers, and listening position and also directly behind a sofa placed against the rear wall of the room. The Abffusor® is a hybrid surface, absorbing some of the incident sound, while diffusing any energy that is reflected.

Problem and Solution

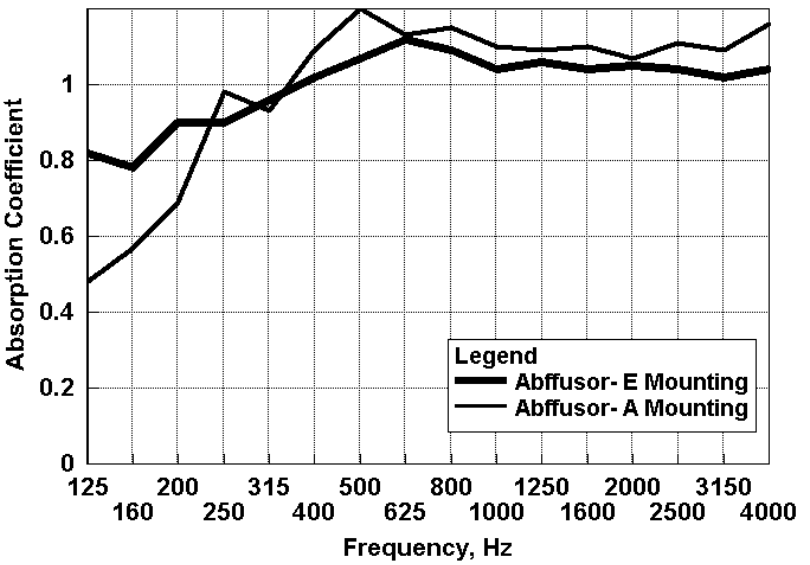
Problems

There is a need for a single surface treatment that can control strong first order reflections over a wide range of frequencies.

Solution

The Abffusor® solves this problem by using two absorption mechanisms and an optimized surface topology. The combined absorption mechanisms extend the functionality to lower frequencies than flat porous absorbers. The optimized surface topology further reduces any specular energies!

Performance Specifications



Absorption

The graph illustrates the absorption efficiency of the Abffusor® for an A mounting directly on a wall and an E mounting with a rear cavity depth of 16 inches. Note the excellent low frequency absorption the Abffusor® offers when attached directly to a wall and the improvement that is possible when a rear air cavity can be employed.

Installation

The Abffusor® can be mounted on a wall, in a T-bar ceiling grid, or left free standing. Type E flush mounting provides improved absorption. Hardwood feet are available for free standing installation.

FEATURES

- *Frictional dissipation and pressure gradient absorption mechanisms*
- *Number theory surface topology*
- *Modular and versatile*
- *Attractive design element*

BENEFITS

- *Frictional dissipation and pressure gradient absorption mechanisms offer extended broad bandwidth random incidence absorption for uniform attenuation*
- *Irregular number theory surface topology effectively absorbs and diffuses glancing incidence reflections more effectively than a flat porous absober providing natural sounding reflection control*
- *Modular construction makes wall, drop ceiling, or floor mounting simple and attractive*
- *Wide variety of custom fabric finishes makes the Abffusor® a decorative design element as well as a powerful acoustic tool*

APPLICATIONS

Home theaters, Home Listening and Media Rooms, Recording studios, Post production studios, Auditoria

SPECIFICATIONS

- *Sizes:*
  47-1/4" (H) x 23-5/8" (W) x 4" (D)
  23-5/8" (H) x 23-5/8" (W) x 4" (D)
- *Custom sizes available*
- *Weight:*
  4' x 2': 18 lbs.
  2' x 2': 10 lbs.
- *Custom fabrics available*