

FLUTTERFREE STRIPS



- Absorptive fabric wrapped panels are the traditional treatment for flutter echoes which are caused by repetitive reflections between hard parallel walls.
- While absorption reduces flutter echoes, it also produces an acoustically “dead” space. The resulting lack of ambiance makes the room seem psycho-acoustically smaller and reduces the support of acoustic speech levels which makes conversation difficult.



- FlutterFree is a handsome, furniture grade, acoustical hardwood molding that provides flutter echo control as well as bass absorption.
- Its application converts small rooms with flat parallel surfaces into functional spaces with good speech intelligibility, sound quality, and a natural, comfortable ambiance.

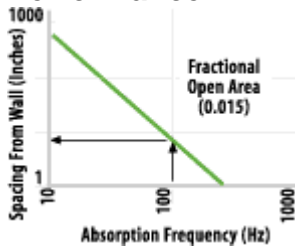
Problem

Repetitive reflections from hard parallel surfaces produce flutter echoes that are perceived as timbre coloration and degrade sound quality and speech intelligibility. Absorptive surfaces are often used to control this annoying problem, with the unfortunate side effect of making the room too “dead”.

Solution

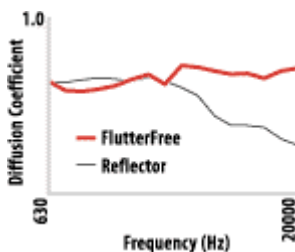
FlutterFree is the first acoustical hardwood molding that controls flutter echo by diffusion, maintaining the natural ambiance of the room. When adjacent panels are spaced and mounted with an air cavity, low frequency absorption can also be achieved.

Performance



Absorption

When FlutterFree panels are mounted 1/16" apart, the graph can be used to determine the spacing from the mounting wall for the desired absorption frequency. For example, to achieve bass absorption at 100 Hz, follow the vertical 100 Hz frequency line until it intersects the leftward sloping fractional open area line. Follow the horizontal line to the 8" intersection point.



Diffusion

The graph illustrates how FlutterFree provides useful diffusion above the diffraction limit of roughly 3400 Hz compared to a flat reflective surface. The chart represents the mean diffusion coefficient, which is the normalized standard deviation of the 1/3 octave polar responses for angles of incidence between 0° and 90°.

Installation

FlutterFree strips are molded on a 5 head wood molder from hardwood that is kiln dried to 6-8% moisture content.

FlutterFree strips can either be nailed or glued directly to a wall surface or mounted with a rear air cavity for low frequency absorption. In this Helmholtz mounting, a semi rigid fiberglass panel is mounted 1/4" behind the FlutterFree strips.

To standardize and maintain the proper spacing, lamella biscuits are included. When used as wall panels, a hardwood frame—not supplied—is suggested.