

Clearsorber™ Foil

Absorption



*Transparent Microperforated Foils
From The Acoustical Industry's Leading Innovator*

There are many applications where glass is used extensively, such as atria, lobbies, offices, museums, board rooms, etc. Excessive reverberation and interfering reflections are often the result. However, traditional sound absorptive materials applied over these surfaces would defeat the initial intent to provide outdoor views and natural lighting. Now a new acoustical technology is available to address these acoustical needs, while maintaining the transparent design intent. Clearsorber™ Foil is based on new patented technology, utilizing microperforations in a transparent or translucent sheet. When the foil is spaced off vision glass, these microperforations produce significant viscous losses, providing the necessary sound absorption. Applications are only limited by the imagination.

The Future Is Clear!



The Sound of Innovation™

Problem and Solution

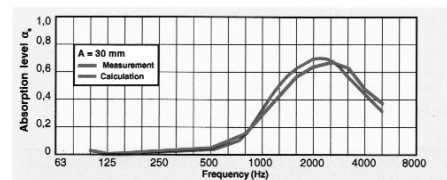
Problem

Projects designed with extensive use of glass surfaces can produce strong interfering reflections and excessive reverberation, which create an uncomfortably loud ambience causing fatigue and corrupting speech intelligibility.

Solution

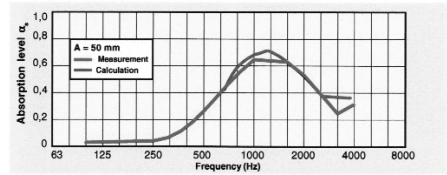
To address these acoustical problems, while maintaining natural lighting and views to the outside, RPG introduces Clearsorber™ Foil, made from microperforated polycarbonate. If the perforations in a Helmholtz resonator are made sub-millimeter in diameter, they are comparable to the thickness of a boundary layer of air. As sound passes through these microperforations, sound absorption will occur due to viscous boundary layer effects in the perforations, as long as an air cavity is provided between the foil and the vision glass. It is then possible to achieve sound absorption without the need for additional porous material in the cavity behind the microperforated sheet, thus allowing the panel to be transparent or translucent. Therefore, the Clearsorber™ Foil offers an acoustical solution when a clear absorber is required.

Performance Specifications



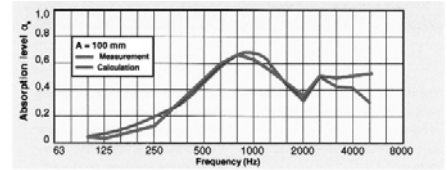
Single-Layer:

Thickness: 0.1 mm
Hole Diameter: 0.2 mm
Distance to Glass: 30 mm



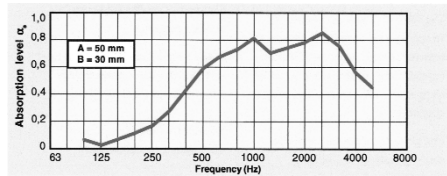
Single-Layer:

Thickness: 0.1 mm
Hole Diameter: 0.2 mm
Distance to Glass: 50 mm



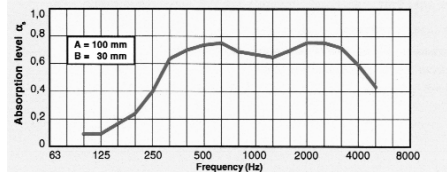
Single-Layer:

Thickness: 0.1 mm
Hole Diameter: 0.2 mm
Distance to Glass: 100 mm



Double-Layer:

Thickness: 0.1 mm
Hole Diameter: 0.2 mm
Distance to Glass: 50 mm
Distance Between Foils: 30 mm



Double-Layer:

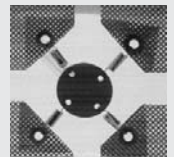
Thickness: 0.1 mm
Hole Diameter: 0.2 mm
Distance to Glass: 100 mm
Distance Between Foils: 30 mm

Installation

Clearsorber™ Foil can be mounted single or double layer, with double layer providing broader bandwidth sound absorption. The foils are held in tension with springs stretched between a metal eye bolt and grommet in the corner of the foil. Panels can be tiled using the 4-way attachment, shown at far right.



Grommet Mounting



4-way Attachment

FEATURES

- Microperforated
- Fiber-free
- High Sound Absorption
- Transparent, Translucent, or Metallic
- Moisture, bacteria, and fungi resistant
- UV stable
- Class A Fire Rating
- Easy to install

BENEFITS

- Patented sub-millimeter microperforation technology in a transparent sheet provides sound absorption
- Eliminates potential danger from particulates
- High sound absorption is a result of viscous boundary layer effects in the perforations, when a rear air cavity is provided between the Clearsorber™ Foil and the vision glass
- Because the microperforations provide sound absorption without the need for a backing porous material, the foil can be made transparent or translucent, allowing natural lighting and visibility from a clear absorber
- The foil is resistant to moisture, bacteria, and fungi and so can be used in place of traditional fabric upholstered systems
- UV stability insures the panels will not discolor nor decompose over time
- Polycarbonate can be used in those facilities requiring a Class A/1 rating
- Quick and easy installation saves time and money
- Panels can be simply mounted or hung with decorative hardware selected by the architect

APPLICATIONS

Atria, Botanical Gardens, Lobbies, Auditoriums, Commercial facilities, Swimming Pools, Clean Rooms, Food Processing Plants, Food Prep Areas, Cafeterias, and Restaurants

SPECIFICATIONS

- Material: Polycarbonate
- Width: 1 m
- Thickness: 0.1 mm foil
- Density: 0.03 lbs/sf
- Color: Clear