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 outside views and natural lighting. Now a new acoustical technology is available to address these acoustical needs, while maintaining the transparent design intent. Clearsorber™ Panel is based on new patented technology utilizing microperforations in a transparent or translucent panel. When the Clearsorber™ Panel 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!
**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 ambiance, causing fatigue, and corrupting speech intelligibility.

**Solution**
To address these acoustical problems, while maintaining natural lighting and visibility, RPG introduces Clearsorber™ Panel, a microperforated acrylic or polycarbonate panel. 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, when an air cavity is provided between the Clearsorber™ Panel 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™ Panel offers an acoustical solution when a clear sound absorber is required.

**Performance Specifications**

The graph illustrates the absorption coefficient for variety of thicknesses (t), hole diameters (d), hole spacings (b) and distance (D), from the glass.

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

**Benefits**
- Patented sub-millimeter microperforation technology in a transparent or translucent panel provides 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™ Panel and the vision glass
- Because the microperforations provide absorption without the need for a backing porous material, the Clearsorber™ Panel can be made transparent or translucent, allowing natural lighting and visibility from a clear absorber
- The acrylic panels are 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 or used as lay in panels

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

**Specifications**
- Material: Polycarbonate or Acrylic PVC
- Sizes: Custom sizes available
- Thickness: 2 - 15 mm
- Density: 75 lbs per cubic foot
- Color: Clear, Colored, or Translucent