



# Curtis R. Priem EMPAC



## The Challenge

The Curtis R. Priem Experimental Media and Performing Arts Center (EMPAC) is a multi-venue arts center located on the campus of Rensselaer Polytechnic Institute in Troy, NY. Its main concert hall has been lauded as one of the

most acoustically perfect concert halls in the world. The ability of surfaces to diffuse sound rather than reflect it was a critical element in the aesthetic and acoustic design of all the center's venues.

## The Solution

Selected for use on the sidewalls of the seating gallery located along both sides of the concert hall were CastWorks™ Glass Fiber Reinforced Gypsum (GRG) panels. The wall panels are all custom molded, have a subtle convex curvature, and feature a dimpled surface pattern.

A total of 310 wall panels (approximately 4,000 square feet) were cast.

CastWorks GRG panels from Armstrong were also selected for the gallery ceilings and underside of the balcony at the rear of the hall. A total of 106 custom-molded ceiling panels (approximately 3,000 square feet) were cast. Each of these panels features an egg-shaped surface pattern.

In addition to the concert hall, EMPAC also houses two multi-purpose recital halls or studios. Studio 1 measures 3,500 square feet with a 40-foot high ceiling and walls that are lined with 643 CastWorks GRG diffuser panels. Studio 2 measures 2,500 square feet with a 28-foot high ceiling and walls that are lined with 660 CastWorks GRG diffuser panels.

Hundreds of cylindrical holes of varying diameters and depths are drilled into each wall panel. It is the randomness of the surface holes and their depths that ensures that sound is diffused in all directions instead of reflected in one direction.

All of the panels measure 22" x 22" and have a slight convex curvature. The panels in Studio 1 are shades of black so that the walls "disappear," while those in Studio 2 are white. The panels in Studio 1 were tinted black at the factory. Otherwise, the panels would have had to be field painted which would fill the holes and affect their acoustic performance. Acoustician Zackery Belanger explains one of the reasons GRG panels were chosen for the studios and concert hall gallery was their ability to be customized. "GRG is an especially well-suited material for installations like this," Belanger states. "By working closely with Armstrong's CastWorks plant, we were able to achieve the shapes we desired and, by doing so, meet both the aesthetic and acoustic intent of the center's design."

## Case Study

- Location:** Troy, NY  
**Product:** CastWorks™ GRG Panels  
**Architect:** Grimshaw Architects, New York, NY, and Davis Brody Bond, New York, NY  
**Acoustician:** Kirkegaard Associates, Chicago, IL



877 276-7876  
[armstrongceilings.com/castworks](http://armstrongceilings.com/castworks)

BPCS-6321-125

**Armstrong®**  
World Industries