



PROJECT PROFILE

CLEVELAND MUSEUM OF ART EXPANSION AND RENOVATION

PROJECT OVERVIEW:

Having one of the finest collections of art in the world, the museum's \$350 million building project (including complete renovation of the original 1916 Beaux Arts Building and the 1971 Breuer Building) is the largest cultural project in Ohio's history.

The project, which began in 2005 and scheduled for completion in 2013, includes the construction of the new East and West Galleries as well as the enclosure of the atrium courtyard under a soaring glass canopy. It brings the museum's total floor space to 592,000 square feet (an increase of approximately 65%).

Efficient Building Envelope

Due to the sensitivity of fine art to temperature and humidity, a high-performance building envelope is necessary to provide a stable building environment. Towards that end, spray-applied polyurethane foam insulation was the architect's ideal choice to provide highly efficient thermal insulation, moisture/condensation control and air infiltration control in a single product.

3.5" Staycell ONE STEP® 255 spray foam insulation was applied to all interior surfaces of the wall assemblies consisting of 6" pre-cast concrete panels covered on the exterior with 2" granite and marble veneer. Prior to application, PSI conducted a WUFI analysis (hygro-thermal building modeling program used to predict moisture and thermal transport in building envelope systems over a period of time) to confirm thickness and performance.

Benefits of Staycell ONE STEP® 255

- Provides superior R-value compared to other traditional materials such as fiberglass
- Creates seamless air barrier that eliminates energy loss through air leakage
- Strengthens roofs and walls, increasing structural integrity
- Provides vapor retarder that controls moisture problems
- Environmentally friendly, containing no ozone depleting materials
- Installed by PSI trained Authorized Applicators

In addition to performance attributes, one critical issue that concerned the architects regarded fire safety, with two primary factors in mind:

1. Fire safety during construction; i.e. after the foam is applied but before the drywall is installed to protect from torches and welding sparks.
2. Protect against fires that may occur in the future behind the drywall caused by electrical shorts or maintenance activities.

Staycell ONE STEP® 255 was specified since it's the only spray foam insulation that meets the code and fire safety requirements of the International Building Code (IBC) when left exposed in occupied spaces without thermal barriers, providing the lowest installed cost of any spray foam system available.

