Representative Precast Projects

Using Staycell® Spray Foam Insulation Systems

PSI
PREFERRED SOLUTIONS, INC.

- **Abington Hospital**
- **Ally Bank**
- **Bay Health Hospital**
- **Cleveland Clinic**
- **Cleveland Museum of Art**
- **Franciscan Health Hospital**
- **General Services Administration**
- **Global Center for Health Innovation**
- **Georgia Tech**
- **Hilton Hotels**
- **Kimpton Hotels**
- **Lockheed Martin**
- **Ohio State University**
- **Omni Hotels**
- **Prentice Hospital**
- **Princeton University Art Museum**
- **Pro Football Hall of Fame**
- **Rutgers University**
- **Savannah College of Art and Design**
- **Susquehanna Health Hospital**
- **University of Cincinnati**
- **University of Pennsylvania**
- **Valvoline**
- **Williamsport Hospital**

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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® 502 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® 502

- 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® 502 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.

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PROJECT PROFILE

GLOBAL CENTER FOR HEALTH INNOVATION

Staycell® HYBRID Spray Foam Insulation System

Location: Cleveland, OH
Project Size: 63,000 square feet

PROJECT OVERVIEW:

Situated near Lake Erie in downtown Cleveland, the 235,000 square foot Global Center for Health Innovation is part of $465 million building project to construct a permanent showroom of medical, surgical and hospital goods along with a new convention center. The goal of the project is to leverage Cleveland's reputation as a world class medical research hub (anchored by the Cleveland Clinic and University Hospitals) by bringing medical shows and conventions to the city.

Efficient Building Envelope

The exterior curtain walls consist of energy efficient windows (patterned to represent a DNA profile) set in 6" thick rectangular pre-cast concrete assemblies. The walls were originally specified to be insulated with mineral wool covered with a sheet vapor barrier. After careful performance and cost analysis, the specification was switched to the Staycell® HYBRID System as it provides superior thermal insula-tion, moisture/condensation control and air infiltration control.

The Staycell® HYBRID System application consisted of 3.5" Staycell® 504-1.7 covered with 1" Staycell ONE STEP® 502. Prior to start, PSI conducted a WUFI analysis (hygrothermal 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 the Staycell® HYBRID System

- Provides superior R-value compared to other traditional materials such as mineral wool
- Creates seamless air barrier that eliminates energy loss through air leakage
- Provides vapor retarder that controls moisture problems
- 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.

The Staycell HYBRID® System was specified as it complies with the code and fire safety requirements of the International Building Code (IBC) when left exposed in occupied spaces without thermal barriers.

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PROJECT PROFILE

THE RICHARD E. LINDNER CENTER

STAYFLEX® Thermal Insulation Systems

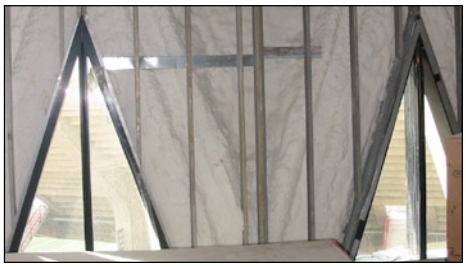
Owner:	University of Cincinnati Cincinnati, OH
Project Size:	68,000 square feet

PROJECT OVERVIEW:

The Richard E. Lindner Center is the jewel in Varsity Village's crown. The LEED Silver-Rated eight-story structure, designed by signature architect Bernard Tschumi and Glaseworks, will serve as the hub for all things athletic at the University of Cincinnati, including a ticket office and gift shop.

The building envelope consisted of energy-efficient windows set in triangular pre-cast concrete assemblies bolted to the structural frame. To achieve maximum energy efficiency, 4" STAYCELL® 245-2.0 Spray Polyurethane Foam Insulation was sprayed to the inside cavity of all panels. To minimize moisture accumulation within the foam, it was cov-ered by 1/16'' STAYFLEX® 2505 Thermal Barrier Coating, having a permeability rating of .09 perms @1/16". In addition, the STAYFLEX® 2505 provided additional fire protection to the cavity existing between the face of the foam and the backside of the finish drywall.

Coordination with the various contractors on the jobsite demanded the materials to be applied on nights, weekends and often required 24/7 application.



Richard E. Lindner Center

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PROJECT PROFILE

WILLIAMSPORT REGIONAL MEDICAL CENTER – SUSQUEHANNA TOWER

Staycell ONE STEP® 502 Spray Foam Insulation

Location: Williamsport, PA
Project Size: 50,000 square feet

PROJECT OVERVIEW:

Williamsport Regional Medical Center, a state-of-the-art facility that's part of the Susquehanna Health System, underwent a $250 million dollar construction and renovation project to improve and expand patient services in central Pennsylvania.

Efficient Building Envelope

The exterior walls of the newly constructed Susquehanna Tower consist of energy efficient windows set in 5" thick rectangular pre-cast concrete assemblies bolted to a structural frame.

The original specifications called for a spray-applied air/moisture barrier insulated with rigid foil-faced insulation. After careful performance and cost analysis the specification was switched to spray polyurethane foam insulation, which provided the client higher performance at a significantly lower cost.

The application called for 3" Staycell ONE STEP® 502 closed-cell foam applied to all interior surfaces of the wall assemblies. Prior to application, PSI conducted a WUFI analysis (hygrothermal 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 Staycell ONE STEP® 502:

- Superior fire performance. Building code compliant without thermal barriers, ensuring fire safety before and after drywall is installed
- Consistent application in difficult access areas such as behind columns and roof/wall/floor joints
- 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

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