

CASE STUDY

Portland International Jetport, Portland, ME

Most energy-efficient airport in U.S. is airtight thanks to Standard Waterproofing, CCW Air & Vapor Barrier

Portland International Jetport in Portland, Maine has been described as Maine's busiest and New England's fastest-growing airport. After February 2012, the Jetport can add a national superlative to its Wikipedia entry: Nation's Most Energy-Efficient Airport.

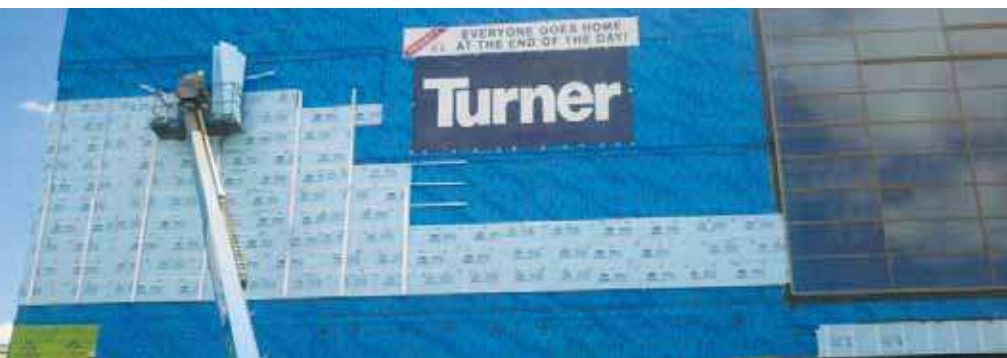
February 2012 is the target completion date for the \$60 million, federally funded Jetport Expansion Project. When the addition opens, passengers and employees will be ushered into a renovated and expanded terminal nearly double the size of the old terminal. New construction includes an additional 125,000 square feet of space, five new gates, and expanded baggage and passenger screening areas designed to accommodate a 14 percent rise in Jetport passenger traffic since 2008.

Airport visitors and employees are more likely to feel, rather than see, one of the airport's most impressive improvements: a geothermal heating and cooling system that runs 500 feet under an employee parking lot. The system consists of 120 wells and an 11-mile-long series of fluid-filled pipes. In summer, fluid in the pipes will help provide cool air to the terminal; in winter, the fluid will help heat air to 55°F before the building's heating system takes over.

The City of Portland, which owns the airport, estimates that the system will generate energy savings of \$200,000 per year and more than \$8 million over the life of the system. The airport funded the installation of the heating system with a \$2.5 million grant from the Federal Aviation Administration's Voluntary Airport Low Emission program.

Energy savings for the Portland Jetport don't end with the geothermal heating and cooling system, however. Up to 40 percent of all building heating and cooling costs are wasted by uncontrolled air movement through wall assemblies. Waterproofing experts like Theresa Thompson know that a correctly installed air and vapor barrier system eliminates that energy and monetary waste. She is vice president of Standard Waterproofing, Inc., a 20-year-old business owned by her mother, Marie, and the only female-owned waterproofing business in New England.

"This project's aggressive timeline required an installation of AVB year round and it was critical to have a certified contractor comfortable with Maine's harsh winters," said Varnum. "Standard Waterproofing's level of experience gives Carlisle, Turner Construction and the owners the assurance that the product is installed properly and will perform as expected."



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As a project manager, Thompson was charged with recommending an air and vapor barrier that would best achieve the building's energy savings goal. She said that although many good air and vapor barriers are on the market, the high-profile project led her to choose a product that comes with fast, personal customer support – a product manufactured by Carlisle Coatings & Waterproofing. Thompson and sales representative Don Varnum of Boston-based Pace Representatives have worked together for more than six years.

“To me Carlisle was the perfect choice because if an issue arises on the jobsite, I get a quick response from Don or Carlisle tech support,” Thompson said. “If I need a letter, I get it in a timely fashion. When I need an onsite visit from Carlisle, I get it. That keeps small issues from becoming big issues.”

CCW 705 Air & Vapor Barrier is a 40-mil-thick, self-adhering membrane consisting of a tough, cross-laminated HDPE film fully coated with polymer-modified asphalt adhesive. The membrane has a disposable silicone paper release liner that is removed during a peel-and-stick application. It can be applied to diverse substrates like concrete block, gypsum sheathing, plywood and OSB, to name a few.

Last winter, Standard Waterproofing began installing 62,000 square feet of CCW 705 on a Georgia-Pacific DensGlass® surface. Winter temperatures made it especially important to make sure the substrate remained free from frost, and that ambient and surface temperatures were appropriate for installation.

After checking that the substrate was clean and dry, the crew applied CCW-702 Primer, allowed it to flash properly, and then rolled out CCW 705 membrane sheets. Once the waterproofing crew was finished, a window crew installed curtain wall frames. After the curtain walls were in place, the waterproofing crew returned and installed Elastofoam® flashing into the glazing pockets.

“We found CCW 705 very easy to install,” said Thompson. “The CCW-702 Primer also worked well for us in winter conditions and gave us very good adhesion to the substrate.”

Thompson said ease of installation was especially important as her crew battled cold winter temperatures.

“They were installing the CCW 705 on an exterior ceiling area that was approximately 20,000 square feet,” she said. “That was a challenge because they were working overhead all day in what was basically a refrigerated air tunnel. Under those circumstances, you really need something that is easy to install.”

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For more information about CCW Air & Vapor Barriers, please contact your local sales representative.

