Government | Municipality

Case Study | 003

Fort Lewis

Washington

Challenge

RQ Construction, LLC (RQC) is a full-service contracting and design firm with extensive expertise in Department of Defense projects. In 2015, RQC won a contract to complete a U.S. Army Logistics Facility at Joint Base Lewis-McChord (JBLM), near Tacoma, Washington.

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>
> – Glenn Fisher, Georgia-Pacific building envelope manager

RQC awarded the construction work to Sessler, Inc., a local company that has served the Pacific Northwest since 1969. Sessler normally waterproofs commercial buildings using gypsum panels and a fluid-applied air barrier membrane – an approach that works fine under warm and dry weather conditions.

However, work on the JBLM facility coincided with Tacoma's rainy season. Sessler project manager Max Tooley admitted, "You can't apply a fluid-applied membrane when the panels are wet. That was our biggest issue, since it rains a lot at this time of year.

Value-Engineered Solution

Tooley met with Georgia-Pacific building envelope manager Glenn Fisher, who told him, "The DensElement™ Barrier System is ideal for this type of project and environment. It's much less weather sensitive than traditional strategies, and it lets you waterproof and dry-in, in one step. That's what you need when the weather and schedule are working against you."

The DensElement™ Barrier System has an improved fiberglass mat gypsum sheathing panel with an integrated layer of water-resistive and air-barrier material. Unlike other systems, workers only have to seal interfaces, fasteners, openings and penetrations. All sealing is done with PROSOCO R-Guard FastFlash® liquid flashing, which can be applied even when surfaces are damp. Faster application of the liquid flashing contributes to significant time and labor savings, according to a time-motion study conducted by Home Innovation Research Labs™.

Component Quantities:

DensElement™ Sheathing - 80,000 sq. ft.

PROSOCO R-Guard® FastFlash® liquid flashing - 45 cases

Key Organizations:

Developer:
U.S. Army Corps of Engineers

Architect:
RQ Construction, LLC

General Contractor:
RQ Construction, LLC

Sub-Contractor:
Sessler, Inc.

Distributor:
Gypsum Wallboard Supply

Based on this evidence and other research, Tooley proposed the DensElement™ Barrier System to RQC as a value-engineered alternative to the project's original sheathing specification.

"Being able to install in less time with half as many employees creates substantial savings."

Installation Advantages

"We were excited about using the DensElement™ Barrier System," said RQC project manager Brent Swanson. "We thought it would help us to address concerns about the schedule and weather."

"The DensElement™ Barrier System made a huge difference on this project. We are recommending the system on other projects because of its performance."

– Max Tooley, Sessler project manager

Sessler started drying-in the building at the end of August 2016. The project required 80,000 square feet of DensElement™ sheathing and 540 tubes (45 cases) of Fastflash® liquid flashing.

Tooley observed that his installers mastered the new system with ease. "They were used to installing gypsum panels and had lots of experience working with caulks, sealers and other flashing materials," he said. "With the DensElement™ Barrier System, it's a simpler process with fewer steps."

Learning to apply the FastFlash® liquid flashing requires less than an hour of practice. Prosoco building envelope technical specialist Pat Downey said, "The key is showing how to cover the substrate without wasting material. It is really an easy skill to pick up."

Installers prefer working with the FastFlash® liquid flashing since it bonds to damp substrates and doesn't need a layer of fiberglass mesh tape. Dry-in work can continue during inclement weather, and contractors can begin interior work even while a building's cladding is being installed.

System Savings

The crews were less dependent on weather conditions, which was fortunate, since the Tacoma, WA, area received twice its average rainfall during October 2016. Quality control was also straightforward, as the workers did not have to apply building wraps, thin or thick fluid-applied membranes, peel-and-stick membranes or other additional WRB-AB layers.

"The DensElement™ Barrier System made a huge difference on this project," Tooley said. "We are recommending the system on other projects because of its performance and cost advantages."

Visit DensElement.com

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