



New Army Reserve Complex

in Sloan, Nevada

Project Overview

The U.S. Army Corps of Engineers commissioned a new Army Reserve complex in Sloan, Nevada, a small community of Las Vegas. The Army Reserve Center has three buildings that include the Operation and Training Center, an Operation Maintenance Service Facility, and the Unit Storage Facility. The facilities total 96,118 square feet.

Challenge

The U.S. Army Corps of Engineers requires all their facilities to meet ASTM E 1827 standards, which test for pressurization. The rigorous performance requirements of this air-tightness test make an effective air barrier system imperative within the building envelope. The original construction documents specified three materials for the air barrier system; rigid insulation board, a sheet wrap, and bituminous damp proofing. Additionally, the Corps of Engineers also had an aggressive project schedule that would force the team to work much faster than normal design-bid-build delivery. The

requirement for a properly installed and tested air barrier system would add even more time to the tight construction schedule. The team also had to contend with particularly challenging site conditions: there was no electricity or water service to the site and its location on a desert plane at the base of a canyon caused constant, gusty winds.

Solution

The contractor and architect worked together to modify the initial air barrier concept. The contractor had previous success using spray polyurethane foam (SPF) insulation as an air barrier system and knew it could meet the strict ASTM performance standards. The contractor selected EcoBay® Closed-Cell (CC) SPF Insulation from Covestro LLC. EcoBay® CC with the addition of a transition membrane becomes an Air Barrier Association of America (ABAA) approved air barrier system. The switch to Eco Bay® CC allowed the project to meet the strict air-tightness requirements and save money by using one material with a transition membrane for the air barrier rather

than three materials. EcoBay® CC Closed-Cell SPF insulation also helped the project team meet the Corp of Engineers fast-paced project schedule because only one trade was required to install the air barrier system versus two or three trades that would have been needed to install the other air barrier system. The SPF contractor, Alcal Specialty Contracting, knew the proper protocol for spraying the EcoBay® CC SPF insulation to meet the ASTM requirements. Alcal was also able to address the windy conditions by moving their crew to different portions of the project to meet protocol.

Benefits

By using EcoBay® CC SPF Insulation, the Corp of Engineers realized both time and financial savings. Alcal was able to spray EcoBay® CC directly onto the CMU and gypsum board wall of all three facilities and achieve the required ASTM performance metrics and meet the schedule. Most importantly, EcoBay® CC met the air barrier requirement of the Corp of Engineers.

Project Name

Army Reserve Center

Architect

Mason and Hanger Architects

SPF Contractor

Alcal Specialty Contracting, Inc.

Project Schedule

Substantial Completion
9/19/2012

Owner

U.S. Army Corp of Engineers

General Contractor

M W Builders

Insulation System

EcoBay™ CC Closed- Cell SPF
Insulation

Project Cost

\$35 Million





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