

Construction the Specifier

Preventing Moisture Penetration: San Jose Airport

Interesting wall designs present interesting moisture intrusion challenges. Architects and contractors faced just such a challenge at the San Jose (CA) Airport North Concourse project.

“The façade features a series of metal panels that ‘float’ outboard of the exterior wall,” says project architect Steven Hergert of Gensler. “To support these panels, we have hundreds of steel outriggers and thousands of fasteners. To prevent water intrusion at these penetrations, we needed an air barrier that would seal around them.”

The answer came in the form of an innovative air barrier solution: Perm-A-Barrier® VP from Grace Construction Products. This spray-applied, vapor permeable barrier forms a continuous, fully bonded membrane that prevents air and water intrusion, while allowing moisture vapor to escape, preventing condensation in the wall.

Building contractor Pacific Erectors subjected Perm-A-Barrier VP to an ASTM standard “air bag” test. An independent lab tested two wall mock-ups with cladding materials and wall penetrations similar to those at the project site. Perm-A-Barrier VP was applied and allowed to cure, then fasteners were screwed through the membrane. The wall was then subjected to extremes of air and water under differential pressure.

“Both walls performed beautifully,” says Michael Thomas of Pacific Erectors. “The Perm-A-Barrier VP sealed around all the penetrations, including the post-applied fasteners. We had absolutely no water intrusion.”

The test also revealed excellent air infiltration performance, a critical factor for energy efficiency. According to a study



by the National Institute of Standards and Technology (NIST), preventing air infiltration can increase energy efficiency by 30% to 35%.

Thomas was also impressed by Perm-A-Barrier VP’s durability, including its six-month exposure rating. “We’ve been delayed with the cladding, so having that longevity is definitely a benefit to us,” he says.

Once Perm-A-Barrier VP got the green light, things happened fast.

“The fact that it’s spray applied is a real benefit in terms of application speed,” says architect Steven Hergert. “It’s going so fast, they’re just cruising.”

Perm-A-Barrier VP quickly earned the respect of architects and project managers alike.

“We’re really liking it,” Hergert says. “Based on our positive experience with Perm-A-Barrier VP at the San Jose Airport project, we’re starting to integrate it into other projects.”

Hergert notes that while many project managers are focused on value engineering, it is important to look at the total cost of an air barrier solution.

“We’re seeing Perm-A-Barrier VP’s cost benefits in terms of both water intrusion performance and speed of application,” he says.



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