Simple demonstration leads to added protection for new Corporate center

CASE HISTORY

In Septmber 1997, David Winans, AIA, Project Architect for Good, Fulton & Farrell Architects of Dallas, Texas was attending the annual meeting of the Texas Society of Architects (TSA). He attended a demonstration on the performance characteristics of DuPont™ Tyvek® HomeWrap® and its ability to prevent moisture from entering a wall construction while allowing moisture vapor to escape.

"Applying it properly is the key to it's effectiveness. DuPont™ Tyvek® CommercialWrap® is lightweight, even in the heavier grade and installs with ease."

"It was a simple demonstration," recalled Winans. "The DuPont™ Tyvek® Specialist had a small Mason jar filled with water, and the metal lid was substituted with one made of DuPont™ Tyvek®. The representative just turned the jar upside down and shook it, simulating wind-driven rain. The DuPont™ Tyvek® surface remained dry and free of any penetrating water. The DuPont™ Tyvek® Specialist explained that while no water drops penetrated through DuPont™ Tyvek® on the lid, DuPont™ Tyvek® would eventually let the water in the jar evaporate. Vapor molecules are smaller than water drops and can escape through DuPont™ Tyvek® because DuPont™ Tyvek® breathes. The demonstration was simple, but effective."

Good, Fulton & Farrell was in the process of completing the design of the Plano Corporate Center in Plano, Texas. Phase 1 of the project included two, 3-story office wings joined by a central lobby, providing more than 150,000 square feet of shell space for customizing to tenant specifications. The building skin is a brick and burnished block veneer with cast stone accents and large, insulated glass window panels.

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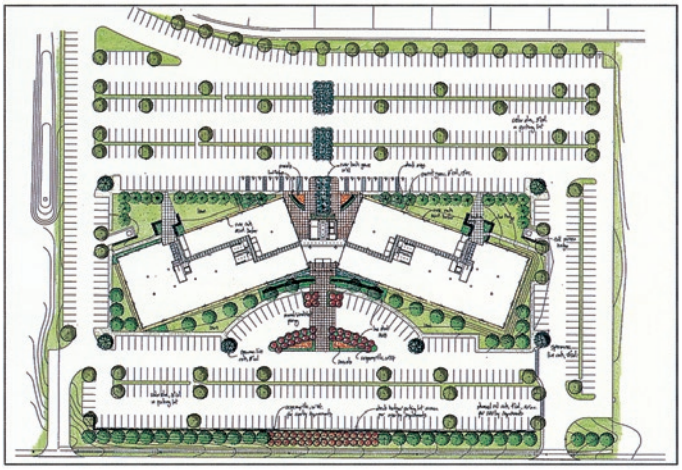
According to Winans, "Our client had expressed their concern for making this building as energy efficient and air and water-tight as possible. I knew DuPont™ Tyvek® was used extensively in residential building, and asked the DuPont™ Tyvek® Specialist at the TSA meeting about their commercial grade product, DuPont™ Tyvek® CommercialWrap®. I did some homework, checked the product specs and consulted with others at my office and the owners. We all agreed DuPont™ Tyvek® could provide us with a measure of added protection for this project, that we didn't think #15 felt could match. DuPont™ Tyvek® CommercialWrap® was a heavier, tough product and we felt it would hold up to construction traffic. We also agreed that the added cost of DuPont™ Tyvek® on a building this size would be easily offset by the environmental protection benefits and reduced energy costs."

Building construction consisted of a concrete frame with metal studs and structural steel infill at the exterior walls. DuPont™ Tyvek® CommercialWrap® was specified for application over 1/2-inch gypsum sheathing and the concrete frame in lieu of #15 felt. In between the metal stud walls, R-13, commercial grade, foil-faced batt insulation was used. The air cavity between the masonry veneer and the DuPont™ Tyvek® was approximately 3.5 inches on the first floor and 2 inches on the upper two floors to allow any moisture that entered the wall cavity to either drain out the bottom or evaporate.

"We found that DuPont™ Tyvek® is still a relatively new product for large-scale commercial applications," explained Winans. "In fact, when the contractor began applying it, one of the local building inspectors came out to the site and asked to review the product specs. He knew of its use in residential construction, but wasn't sure it met the more stringent code requirements for commercial construction. The product information provided was all we needed to obtain a quick approval," said Winans. "Because DuPont™ Tyvek® CommercialWrap® was new to us and the contractor, we had to watch the application carefully. Applying it properly is the key to its effectiveness, especially around doors and windows. Proper taping of vertical and horizontal seams is also important.

The contractor applying the product had a bit of a learning curve to master, but generally we're pleased with the product. It's lightweight, even in the heavier grade, and seems to install with ease. Long term performance remains to be seen, but we're confident it will work as billed. In fact, other architects in our office have asked me for the DuPont™ Tyvek® specs for some of their projects. With some simple training from the manufacturer and a preconstruction conference to explain the importance of proper installation, I intend to use it as a base spec on most of my future projects," added Winans.



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