DUPONT™ TYVEK® FLUID APPLIED SYSTEM HELPS PROTECT WORLD'S LARGEST RONALD MCDONALD HOUSE®

In 2009, the Ronald McDonald House Charities® of Chicagoland and Northwest Indiana kicked off its most ambitious project to date—building the world's largest Ronald McDonald House®, right in the heart of Chicago.

This massive project would require substantial fund raising efforts, a forward-thinking design, precision planning, skilled construction workers and high-performance materials, such as DuPont™ Tyvek® Fluid Applied Weather Barrier (WB).

HOME AWAY FROM HOME

This 100,000-square-foot, 15-story structure includes 86 bedrooms, each with a private bathroom, and numerous communal areas designed with a home-like feel to allow families to relax and rejuvenate during a very stressful time in their lives. There is even a rooftop garden that allows visiting families to be surrounded by nature and fresh air in a healing, meditative environment in the heart of the city.

Simply stated, this "home away from home" will serve as a haven of compassion and hope for families who travel from all parts of the globe to get their child the finest health care treatment available.

DONATIONS HELP MAKE IT POSSIBLE

In addition to cash donations, many companies, including DuPont Building Innovations, have made in-kind donations of products and services to help make this project—projected to cost $38.5 million—a reality.

"Ronald McDonald House Charities® asked us to look at using DuPont™ Tyvek® Fluid Applied WB as the weather barrier," said Chuck Kennedy, principal in charge at Antunovich Associates, the architectural firm selected to design this new house.

"It was our responsibility to decide if the product met or exceeded the specs for this project and if it was the most appropriate choice," explained Kennedy, who served as principal in charge. "If not, we would have turned down the donation."

TYVEK® FLUID APPLIED SYSTEM EXCEEDS SPECIFICATION

Project manager Michael Lucansky of Antunovich Associates was charged with evaluating the use of Tyvek® Fluid Applied WB for this 15-story, cavity wall/ brick veneer building designed to achieve Leadership in Energy and Environmental Design (LEED®) silver certification.

"Although we were very familiar with DuPont™ Tyvek® Weatherization Systems, we had no experience with the new DuPont™ Tyvek® Fluid Applied offering," said Lucansky, who wrote the original specifications and designed the building envelope after consulting with independent representatives from the Air Barrier Association of America and other organizations.

"After reviewing the technical information and comparing it to the requirements in our specifications, it was clear to me that Tyvek® Fluid Applied WB exceeded our performance specifications for air permeance, elongation, water vapor permeability and surface burning characteristics," explained Lucansky.

PERFORMANCE TESTING PROVES DUPONT™ TYVEK® FLUID APPLIED WB IS RIGHT CHOICE

"This was our first experience with Tyvek® Fluid Applied WB," said Mark Evans, executive vice president of operations at Bulley & Andrews, the general contractor for this project. "We had used other Tyvek® Weatherization Systems products on other projects in the past with great results, but this product was new to us."

Evans continued by explaining, "After Antunovich Associates determined that this new fluid applied weather barrier exceeded the project's specifications, we reached out to find a masonry contractor who was willing to become certified by DuPont to do the installation."

PROJECT CREDITS

Architect—Antunovich Associates

General Contractor—Bulley & Andrews

Installer—J.P. Larsen

Because of the lack of familiarity with Tyvek® Fluid Applied WB, one concern that was raised by the architect team was compatibility with the other materials and systems that were specified for use on this project. "The general contractor took the lead; however, we worked with DuPont directly to verify compatibility," explained Kennedy.

The team also conducted a mock-up at the window supplier's yard where they proved out compatibility under conditions appropriate to the new building. Any remaining doubts were quickly erased after this trial.

EASE OF APPLICATION—IN ALL KINDS OF WEATHER

Construction on the new Ronald McDonald House® began in January 2011 and the DuPont™ Tyvek® Fluid Applied WB was applied over a 4-month period beginning in September. During this timeframe, the installers encountered a wide range of weather conditions, including some very cold temperatures. The one constant was the ease of application they experienced.

"This building uses a brick and block wall system," stated Evans. "The Tyvek® Fluid Applied WB was applied on the block wall, then 2 inches of rigid insulation were installed on the face of the block, 2 inches were left as a void and then 4 inches of brick completed the wall."

According to Kennedy, "Although we encountered some challenges with other materials during construction, we had absolutely no problems with Tyvek® Fluid Applied WB. This made our job a lot easier."

Applied in a one-coat application by spraying or power rolling, DuPont™ Tyvek® Fluid Applied WB delivers superior protection, offers enhanced durability and saves time by providing two to three times the coverage of competitive fluid applied materials. The product can also withstand nine months of UV exposure and can be applied on damp walls at temperatures as low as 25°F. It will not wash off in rain while curing.

"The fact that this product doesn't require a primer and features a single-coat application helped speed up application," said Lucansky. "And, because it has great elasticity, the Tyvek® Fluid Applied WB will stretch with building components as they expand and contract over time, which helps maintain the long-term integrity and performance of the air and water barrier."

DUPONT™ TYVEK® FLUID APPLIED WB OFFERS MULTIPLE BENEFITS

The design of the new Ronald McDonald House® in Chicago includes many inside corners and protrusions, as well as numerous surface irregularities due to its poured-in-place concrete and concrete block construction. "These features would present challenges for building wrap products," noted Kennedy, "but they were no issue at all for Tyvek® Fluid Applied WB."

Kennedy continued by saying, "In our opinion, Tyvek® Fluid Applied WB is an ideal air and water barrier solution for a project like this because no detail is too difficult to cover and you can easily see it."

Ease of application was another important advantage for this team. As Lucansky explained, "With the liquid applied system, the contractor has greater control over scheduling because it goes on quickly and can be covered quickly. We were never more than one floor ahead of the mason, but I liked the fact that Tyvek® Fluid Applied WB could be exposed to weather for up to nine months, which is significantly longer than other products."

Quick, problem-free application is important during the construction phase; however, providing superior protection against air and water infiltration during the life of the building are the key benefits of choosing DuPont™ Tyvek® Fluid Applied WB.

"The last thing we want is a leaky building," said Evans. "Tyvek® Fluid Applied WB will help keep water out of the building and prevent mold from forming. It also will help serve as an air barrier, which is a huge part of meeting energy requirements."

To ensure the most effective installation, the construction team worked closely with members of the DuPont™ Tyvek® Specialist Network, an elite team of highly skilled field representatives unique to the industry, who offered on-site consulting and training.

DUPONT™ TYVEK® WEATHERIZATION SYSTEMS PRODUCTS USED ON THIS PROJECT:

- DuPont™ Tyvek® Fluid Applied Weather Barrier (WB)
- DuPont™ Tyvek® Fluid Applied Flashing & Joint Compound
- DuPont Sealant for Tyvek® Fluid Applied System
- DuPont™ StraightFlash™

The miracles of science™

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KEY ADVANTAGES OF THE DUPONT™ TYVEK® FLUID APPLIED SYSTEM:

- Performance: Offers an ideal combination of air and water holdout with industry-leading vapor permeability of 25 perms at 25 mils thickness.
- Ease of Installation: Tyvek® Fluid Applied WB-- Single component, one-coat application that may be sprayed or power rolled for fast and easy application.
- Enhanced Durability: Easily withstands high wind loads and offers nine months of UV resistance.
- Low Shrinkage: Exhibits extremely low shrinkage during cure reducing cracking and the amount of product needed to complete the installation.
- Elastomeric results: Provides excellent elongation and elastic recovery resulting in minimal cracking during thermal expansion and contraction of building components.
- Energy Efficiency: Controls air leakage and helps provide an airtight building enclosure, allowing for more energy-efficient structures by reducing the amount of energy required for heating and cooling.
- Excellent Coverage: Offers two-to-three times the coverage of traditional competitive products – approximately 50 to 70 sq. ft. per gallon in one coat – saving time in the installation process.
- Indoor Air Quality: Provides protection from water accumulation in the wall system, which can lead to the growth of mold and mildew which can compromise indoor air quality.
- Installation Flexibility: DuPont™ Tyvek® Fluid Applied products can be applied at temperatures as low as 25°F (-4°C) and can be applied over damp surfaces. Will not wash off in rain while curing.
- Tyvek® Fluid Applied products may be over-coated and exterior insulation or cladding may be installed once a touch-free skin has formed. Skin time is 1-2 hours and cures in 24 hours at 70°F (20°C), 50% relative humidity.
- DuPont™ Tyvek® Fluid Applied products have low VOC's.
- The Tyvek® Specialists Network and DuPont™ Certified Installers are available nationwide to provide on-site training and installation expertise.
- Air barrier assemblies made with Tyvek® Fluid Applied WB have air leakage rates significantly below ASHRAE 90.1 and IECC requirements even after the rigorous ASTM E 2357 test conditions.
- Tyvek® Fluid Applied WB is "ABAA Evaluated".
- Tyvek® Fluid Applied System is backed by a 10-year product limited warranty.

THE DUPONT™ TYVEK® FLUID APPLIED AIR AND WATER BARRIER SYSTEM CONSISTS OF:

- DuPont™ Tyvek® Fluid Applied Weather Barrier (WB)
- DuPont™ Tyvek® Fluid Applied Flashing & Joint Compound
- DuPont Sealant for Tyvek® Fluid Applied System
- DuPont™ Tyvek® Fluid Applied Flashing-Brush Formulation

For more information on DuPont™ Tyvek® Weatherization Systems, please call 1-800-44-TYVEK or visit www.fluidapplied.tyvek.com

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