

EXTREME MAKEOVER

APA headquarters is given extensive weatherization treatment

PRODUCTS FEATURED: Slicker Classic



Introduction

The international headquarters for APA—The Engineered Wood Association in Tacoma, Washington, underwent an extensive exterior makeover recently as 25-year-old panel siding was replaced with engineered wood lap siding.

“Our ultimate goal was to improve our building envelope performance by incorporating better construction details and products that protect against moisture intrusion,” said Ed Keith, Senior Engineer, Technical Services Division. As an accredited research lab and wood products certification agency, the Association is considered the voice of the engineered wood products industry. If the Association is the voice, then its headquarters is the face and that face needed a lift after years of exposure to famous Northwest rain.

Moisture Details

The siding held up reasonably well considering design encumbrances such as a lack of overhangs, deep set window bays and minimal flashing and caulking materials used on openings and wall-to-roof intersections.

“Building designers and contractors knew little about moisture transmission science when the building was originally constructed in 1979,” said Keith. “Contractors put up the building the way it was designed, applied the building paper and flashed the windows and that was about it for moisture details.” The walls of the building acted essentially like giant wooden sails collecting wind-driven rain in every unprotected crevice, crack and joint. The result: moisture intrusion and insect encroachment on windward building faces.

In the fall of 2004, APA selected United Roofing and Siding, a contractor with a track record in remedial moisture control and construction. They understood the science behind moisture intrusion, and were willing to experiment with materials and ideas that APA brought to the project. Roughly 20% of the old sheathing was replaced. A borate solution was sprayed over the entire structure to prevent mold and repel insects. In addition, at the lower horizontal drip edges, the sheathing was brushed with a six-inch-wide coat of roofing mastic to further protect the edges from moisture intrusion.

APA used a two-pronged approach on the weather-resistive assembly. First a weather-resistive membrane was installed per manufacturers’ recommendations, using T30 wire staples. Each joint, seam and hole was taped. Then a nylon matrix rainscreen with channels for moisture evacuation was fastened over the membrane. “The rainscreen addressed many of our concerns,” said Keith. “The 1/4-inch air space provided a capillary break which helped equalize the pressure between the front and rear of the siding. This permitted water that penetrated the siding to drain, enhancing the entire assembly’s ability to dry itself out.” Common window screen material was overlapped at the top and bottom of the rainscreen to prevent insect intrusion behind the siding.





PROJECT SUMMARY

LAP SIDING AND TRIM

LP SmartSide products
www.lpsmartside.com

PLYWOOD SHEATHING

Murphy Plywood

WEATHER RESISTIVE BARRIER

Typar, BBA Fiberweb
www.bbafiberweb.com

RAINSCREEN

Slicker Classic, Benjamin Obdyke
www.benjaminobdyke.com

CAULK

SIDE Winder, DAP Inc. www.dap.com

FASTENERS

8d galvanized ring shank and stainless steel screws, Senco

FASTENING SYSTEMS

SCN 56 siding coil nailers and DuraSpin screw guns, Senco www.senco.com

PAINT

ACRY-SHIELD Exterior Low Sheen Paint and ACRY-SHIELD 100% Acrylic Exterior Wood Primer, Kelly-Moore www.kellymoore.com

CONTRACTOR

United Roofing and Siding

On each wall, 3" x 1/4"-thick strips of polyethylene were fastened to both sides of each inside and outside corner to prevent wind wash-wind pressure behind the siding which drives rain around corners.

With the sheathing protected, the next phase involved the installation of LP engineered wood lap siding, trim and fascia components. The product comes fully primed with a resin-saturated paint based overlay and boasts new formulations for insect and decay resistance. United Roofing and Sidings Rob Sims was impressed with the look, weight and workability of LP's latest siding products. "We use the fiber cement siding but it does not look as good as the LP product," said Sims. "They (LP) are willing to back this with a pretty strong guarantee, so we will use it on future projects."

The long lengths minimized the number of seams, another advantage over cement siding products. Following the manufacturer's recommendations, all cut edges of the trim and siding were well primed prior to installation. The boards were blind nailed with galvanized 8d .113 ring shank nails 24 inches on center. The trim package was fastened with stainless steel strip screws. Any exposed heads were caulked and primed.

To properly seal the gaps and joints, a polymer-based caulk was chosen for its workability over wet lumber and metal. The product was applied by pushing the bead into the gaps. Special attention was paid to forming an hourglass contour, which allows a smaller cross section in the middle of the caulked joint. This allows differential movement within the joint, alleviating stress concentration at the mating surface between the caulk and the surface to which it is applied.

The entire building received two coats of 100% acrylic paint with a titanium oxide opaquing agent especially formulated for low temperature application. The paint crew sprayed through the three-week period leading up to Christmas when the average temperatures were in the high 30s with humidity levels of 81%.

With far greater emphasis on moisture control details and carefully selected products to protect and seal the building envelope, APA is confident that the building will look as good on its 50th birthday party as it does today.

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Ed Keith,
Senior Engineer

About Benjamin Obdyke

Since 1868, Benjamin Obdyke has been a leading designer and provider of moisture management solutions. Our founder, Benjamin P. Obdyke, pioneered the first-generation corrugated downspout. This innovation ultimately led to the modern day Benjamin Obdyke. Benjamin Obdyke's pioneering spirit remains the hallmark of our company today.

www.BenjaminObdyke.com
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