WRAPSHIELD® RS RAIN SCREEN

Streamlines
STUCCO
Restoration

Luxury Residence Suffers Extensive Moisture Damage

VaproShield®
Breathable Membrane Systems for Roofs & Walls

BACKGROUND

Over 5,000 sq. ft of WrapShield RS Rain Screen 3mm was installed in the remediation of a high-end Texas residence that suffered significant water intrusion and damage as a result of a failed exterior stucco system. Shortly after purchase and just prior to occupancy by a new owner, a sprinkler line in the ceiling of the second-floor kitchen ruptured—flooding the north end of the luxury home.

During water mitigation from the sprinkler line rupture, the contractor opened up the interior side of some exterior walls and discovered extensive moisture damage that was not caused by the ruptured sprinkler line.

Issues Discovered:

- Biological growth on the interior face of the exterior walls behind the casework
- Deteriorated wall studs and sheathing
- Decayed floor sheathing
- Lack of drainage cavity behind stucco
- Improper flashing & drainage mechanisms
- Inadequate weather barrier and detailing
- Three failed window units in need of replacement

Remediation

Pie Consulting & Engineering was retained on the project to provide an assessment of the as-built conditions/damages, act as the designer-of-record for a full exterior re-cladding, as well as to provide quality assurance and testing services during the work. Throughout the design and remediation, Pie worked closely with VaproShield's Technical Team to create a rainscreen system that would provide a long-term performance solution for the client.

WrapShield RS Rain Screen 3mm was selected as the material of choice, due to its built-in 3mm rainscreen drainage matrix and integrated tape at the horizontal seams. The material properties offered an unimpeded vertical drainage plane behind the stucco, as well as higher drying capacity.

WrapShield RS Rain Screen was selected as the material of choice, due to its built-in rainscreen drainage matrix and ease of installation.

One Step Rain Screen
WRB

Designed with factory installed drainage matrix

- Mechanically attached water resistive (WRB), vapor permeable air barrier (AB)

- Built-in 3mm rain screen drainage matrix creates unimpeded drainage plane behind stucco

- Factory-installed horizontal tape easily creates shingle effect overlaps

- Fully tested rough opening flashing accessories eliminates purchase of additional tapes/sealants
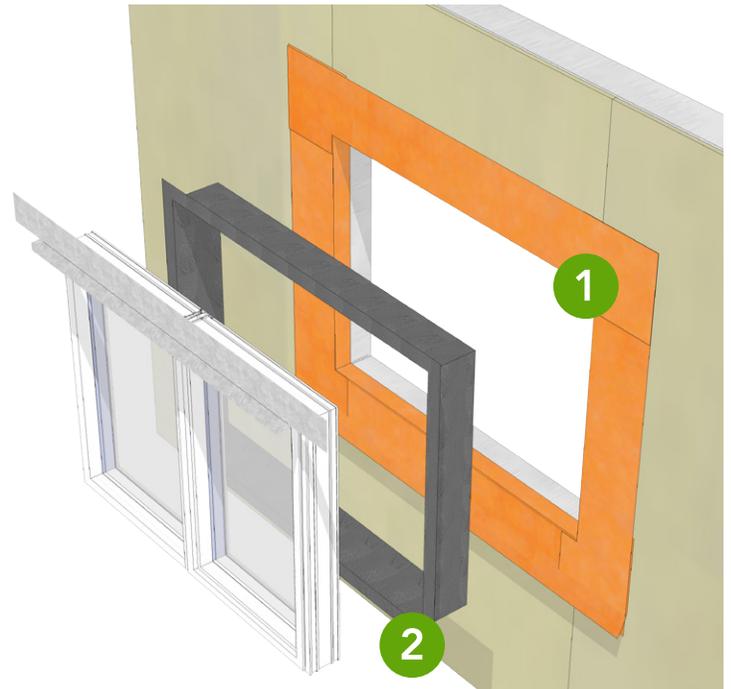
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Window
& REPLACEMENT Flashing

The home's windows were suspected to be a contributing factor for additional moisture damage, so the consultant performed window spray tests to confirm the leak sources. Three window units were identified as leaking and were removed and replaced.

Using the Two-Part Simplified flashing system from VaproShield, the window penetrations were expertly installed to ensure long term moisture resistance.

1 VaproFlashing SA Self-Adhered

2 VaproLiqui-Flash

Technical Support

VaproShield's Technical Team was instrumental in providing timely and proactive material and interface recommendations and support to Pie Consulting & Engineering for the successful implementation and best practices of their unique WrapShield RS Rain Screen and Two-Part simplified flashing systems.

Pie Consulting communicated daily with VaproShield technical experts until installation best practices were understood and performed per specification.

Conclusion

With the combined expertise of Pie Consulting & Engineering, VaproShield's Technical Team, and the exceptional material performance of WrapShield RS Rain Screen and VaproShield Flashing Accessories, successful remediation of the luxury property was achieved—ultimately giving peace of mind to the new homeowners.

The VaproShield solution offered:

- A first-class air barrier, water resistive barrier, and lightweight polypropylene drainage matrix in one material

- A drainage plane behind the cementitious stucco that will allow moisture to freely drain down the wall cavity and away from the home.

- A redundant flashing solution that will address homeowners concern of moisture infiltration through windows.