

HEALTHIER WALLS THROUGH RAINSCREEN & SEPERATION & VENTIATION

CREATE SPACE BETWEEN YOUR BUILDING AND THE ELEMENTS

Fundamental theory in cladding integrity prevents liquid water from penetrating vertical walls, ideally through appropriate materials selection, architectural detailing and professional installation consistent with specifications and construction documents.

Unfortunately, we can all attest to the increased frequency of problems arising from water infiltration and deterioration in exterior envelopes. Particularly, buildings constructed to more stringent codes, appear increasingly susceptible to problems unlike older, drafty and un-insulated walls built decades ago. Avoiding deterioration in older buildings is not a consequence of better resistance to water intrusion, but rather a better ability to dissipate the moisture. Forensic evaluations note compromise from moisture penetration increase significantly if water is unable to evaporate or drain, causing accelerated consequential damage. Absent perfect design, execution, materials performance and continued maintenance, inevitably problems can develop.

If we are more susceptible to decay, let's consider requirements for mold growth:

- #1. Spores – In wet or humid climates, mold spores are present everywhere.
- #2. Temperatures - Generally above 40 degrees F.
- #3. Food Source – Most organic materials including wood and paper products.
- #4. Oxygen – Even with low permeance building materials.
- #5. Water – Varies by species, but growth occurs at levels between 20% - 40%.

Depending on project location and climate, the moisture content of even protected building products may fluctuate at levels just below the minimum required for fungal growth. And if one considers four of the five elements needed for mold development are inevitably present at all times, even a small amount of additional water can result in decay, causing deterioration.

If modern construction techniques reduce water vapor diffusion and agree moisture will likely penetrate outside walls, it is important to incorporate a defensive strategy to mitigate the effects of water intrusion and prevent rot.

“CREATE SPACE WITH VERTICAL WALL DRAINAGE & VENTILATION MATS”

WaterWay Rainscreen Drainage Mats provide that separation and space for drainage. They also contribute to air circulation and ventilation when properly designed. The combination of water drainage and increased air flow will enhance drying and in turn reduce the damaging effects of water penetration. Building papers and house-wraps are well established in providing some protection against substrate damage. Traditional barriers offer a marginal safeguard, but they do not always provide an adequate path for drainage. With siding materials tightly installed against weather resistive barriers, opportunities for drainage and ventilation can be inadequate or even blocked.

The Building Code (ICC and IRC) mandate:

“Exterior wall envelopes are required to be weather- resistant and provide a means for draining water that enters the assembly”

Engineers and designers are exploring various configurations to accommodate the code and remove water from the exterior walls while incorporating some mechanism of ventilation. Enhanced air flow and managing entrapped moisture make sense; the challenge lies in a simple, efficient and cost effective approach.

From Boston to Seattle, WaterWay drainage mats are finding acceptance with some of the most recognized and distinguished building enclosure specialists in North America. In both new construction and cases of cladding remediation, Drainage Mats accommodate essential criteria in today's construction environment.

“WaterWay Drainage Mats” consist of a Nylon / Polymer core of fused, entangled filaments in varying thicknesses from a nominal 1/8 inch to 3/4 inch, depending on desired cavity space and cladding selection. Certain profiles are available with a protective filter fabric bonded to the outer side that functions like an additional layer of house-wrap. “WaterWay” Rainscreen mats are equally effective for stucco, manufactured & natural stone, fiber-cement, brick, standard lap & cedar sidings, EIFS and other wall system materials.

This technique achieves desired results with limited additional expense. The incorporation of WaterWay Rainscreen Drainage Mats can run as little as \$.45 a square foot for materials. With varying labor rates it's difficult to offer a specific cost for installation, although it should not be more that \$.65 - \$1.50 (labor & materials) per square foot. With over 40 million feet currently in service and an exponential increase in demand, you can feel confident in this effective concept.

For additional information on the “WaterWay Rainscreen Drainage & Ventilation Mats” including product data sheets, profile samples, test reports, detail drawings, specifications and an animated DVD presentation.

Contact Stuc-O-Flex International, Inc. @ 1-800-305-1045
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