## Hot Tip of the Month The role of vapor retarders on building performance

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Exterior building assemblies are not water tight, and moisture will enter the building. Moisture, even in its smallest form – vapor – can have devastating results if not properly controlled. In addition to property and structural damage, moisture is a breeding ground for mold, mildew and insects, which bring with them exposure to health-related issues.

Water vapor is ever-present and very challenging to control. A better understanding of how water moves and how building envelopes interact with HVAC systems and the environment will allow architects and engineers to specify the right mechanical systems and manage moisture intrusion through the building envelope design. It's important to ensure that just as there is a way for water to enter the building, there is also a way out.



Vaper barrer installation with self-adhered sheets.



Water vapor travels from the warm to cold side of the building and from high to low pressure. Installing or not installing a vapor retarder in the correct location is the first defense in building a durable and healthy wall system. The goal is to keep the interior, warm, moist air from getting to a cold exterior surface. Vapor retarders in the wrong location could prevent assemblies from drying out.

All building materials and systems that impact or are impacted by moisture content should be taken into consideration and a custom plan should be developed. Air-conditioned enclosures, below grade spaces and an exterior vapor retarder change the building conditions.

For specialty buildings, such as a natatorium, sauna and refrigeration warehouse, the vapor retarder along with an air barrier should be located based on computer analysis of the exterior and interior wall assembly. Depending on its location in the wall, vapor retarder could trap the moisture or allow the moisture to move freely throughout the facility causing extensive moisture damage of the facility.

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## Hot Tip of the Month Vapor Retarders (cont.)



Vaper barrer installation with spray or roll-on.

Double vapor retarders, or vapor retarders on both sides of an assembly, should never be installed. Water must be able to exit in at least one direction to facilitate assembly drying.

Understanding the role of protective materials and systems, and how they function separately and together within a wall system will help you make the best choices for your client's long-term building performance. Correctly controlling water vapor with retarders is healthier for the building and its occupants; and, will save the owner money because it will be cheaper to maintain while preventing costly fixes.

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