TECHNICAL BULLETIN



VITRULAN® WALL SYSTEMS PERFORMANCE IN WARM AND HUMID CLIMATES

The predominant issue with buildings in warm and humid climates is migration of water vapor through the building envelope. Water vapor migrates from hot & humid to cold & dry areas. That condition is typically found in those warm and humid climates where buildings are air conditioned. That means water vapor will move from the outside of the building to the inside. In cold climates, it's the reverse.

If water vapor then hits a vapor barrier (e.g. vinyl wall covering) on the interior of the walls facing the exterior, moisture collects on that barrier and if warm temperatures and organic matter are present, mold & mildew has a chance to grow. In case of vinyl wall coverings this happens behind the vinyl and feeds on the drywall paper. If there is a vapor barrier present elsewhere within a wall cavity, as required by building codes, moisture will collect on it and mold & mildew will feed on anything organic in that wall cavity if warm temperature is present.

SOLUTIONS

Increasingly in many buildings, but predominantly in hospitals, most vinyl wall coverings are being removed from exterior walls (walls facing the outside and inside of the building) and they are being just painted in order to eliminate water and water condensation from wall assembly. This eliminates materials from the assembly that are water vapor barriers. In addition, a vapor barrier should be placed on the very outside of the wall assembly in a warm climate.

Materials that are water vapor permeable should ideally be used and, if possible, use of materials that are inorganic makes sense. Usually, a coat of latex paint as an interior wall finish solves the problem, but when higher wall performance is required such as in hospitals, or if a wall covering look is desired, then the solution is:

Vitrulan Glass Textile Wall Systems:

Our fabrics are highly water vapor permeable (93.6 perms according to ASTM E-96). Even when painted with latex paint, the perm rate is still 65.1 perms. Our glass fabrics therefore do not reduce the perm rating of other wall assembly materials. Even our 'plusCoat 200' epoxy and 'plusCoats 400 & 500' polyurethane, while having a much reduced perm rating, are still considered permeable.

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