

**GENERAL:**

Water vapor is water in gaseous form, contained in air. Warm air can hold more water vapor than cold air, and therefore, in most cases, has a higher vapor pressure than adjacent cooler air. Given a thermal insulation that separates air at different temperatures, and therefore at different vapor pressures, water vapor at the higher pressure (warmer) side will be driven toward the lower pressure (colder) side.

The purpose of the vapor retarder is to retard or block this transfer of moisture vapor. Water vapor that passes into the insulation or other components of a structure can condense inside of the insulation or structure, impairing the longevity and performance of those materials, and possibly causing significant damage.

**EXPLANATION OF TERMS USED:**

*MVTR*- Moisture Vapor Transmission Rate, or *WVTR*- Water Vapor Transmission Rate:

The rate of moisture vapor transmission, by weight through unit area, over unit time.

*PERMEANCE*- the *MVTR* per unit vapor pressure differential. Performance measurement of a product.

Permeance is the measurement that is applied to vapor retarders in the insulation and construction industries, and used in standards that cover these products.

*PERMEABILITY*- the Permeance per unit thickness. Property of homogenous material

**APPLICATIONS:**

Compac vapor retarders, also known as *facings*, have been designed for use in various insulation applications to serve as the impediment to moisture vapor ingress. Some examples are shown:

Below-ambient mechanical insulation (pipes and equipment)

HVAC ducting

Metal Building Insulation

Residential building insulation

Commercial building insulation

**FURTHER INFORMATION:**

Please contact our Technical Service Manager for further information or with specific application questions at 1-877-5COMPAC (1-877-526-6722).