




Need a breather?

FOR TRUE CONDENSATION CONTROL, UPGRADE TO VAPOUR PERMEABLE

For many years, traditional 'breather' style reflective wall wrap products have been the preferred choice to allow moisture to escape from building structures. However, the drive for more energy efficient construction has increased the requirement to better seal buildings as well as increase insulation levels to compensate for the greater use of lighter weight construction materials. These changes allow the external building structure to become colder and as a result management of internal water vapour becomes an important issue to avoid condensation formation. In this changing environment, selecting the right wall wrap is an important decision.

A close-up photograph of a green, textured mesh fabric, likely a vapour barrier. Several clear water droplets of various sizes are scattered across the surface, some resting on the mesh and others appearing to be in motion. The background is a blurred green mesh.

Superior
permeability,
outstanding
performance

The CSR logo consists of the letters "CSR" in a white, bold, sans-serif font, centered within a red square.

CSR

KNOW THE FACTS

'Breather' products

Traditional 'breather' products are vapour barrier (impermeable) products that have been perforated with tiny holes to allow the transfer of air and water vapour. The process of perforating the membrane also removes the ability of the membrane to withstand air and water penetration, making it unsuitable for use behind most lightweight cladding materials unless specified otherwise by the cladding manufacturer.

As illustrated below in Figure 1, once condensation (water vapour) exists in the building frame, traditional 'breather' products take a very long time to allow wood to dry-out to an acceptable level of moisture. This increases the risk of wood decay and mould growth within the building structure and increases the risk of associated health issues within the home.

KEY FACTS – 'BREATHER' PRODUCTS

- Low permeability in comparison to a truly vapour permeable product – typically hundreds of times less
- Unable to prevent water entry – not 'water barrier high' (unclassified) – not recommended for lightweight cladding
- Allows air transport, therefore may allow the entry of more water vapour from the outside environment

While datasheets clearly illustrate that vapour permeable membranes breathe better than perforated 'breather' foil products, the actual drying performance of wood is the key to protecting the building structure and reducing health issues associated with moisture content.

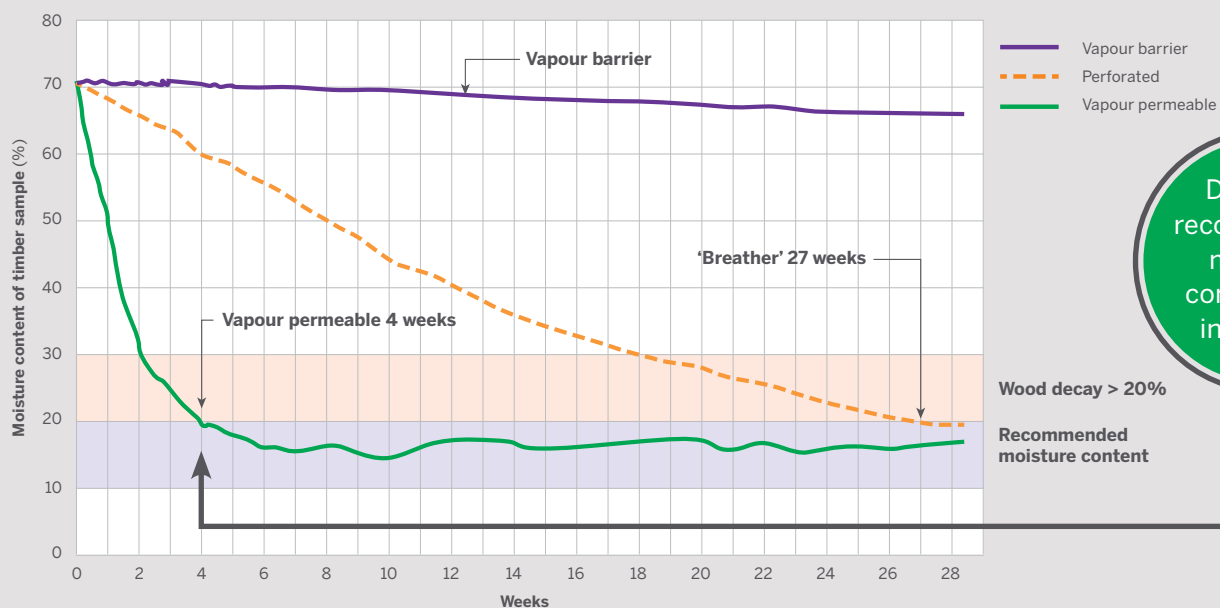


Figure 1: The drying performance of membranes

Drying performance of membranes experiment notes: 1. Experiment conducted by CSR Building Products Ltd. 2. Products tested included CSR Bradford and competitor products – 16 samples plus one control sample were tested over 30 weeks. 3. All samples were weighed at the commencement of the test and weekly to determine the change in moisture content. 4. All samples were exposed to the same ambient weather conditions and all joints were lapped and taped. 5. All results remain the property of CSR Building Products Ltd.

CONSEQUENCES OF POOR DRYING CYCLES

- Mould growth – hidden in the build frame can be difficult to see and remove
- Swelling of wood – can distort internal linings and frames
- Wood decay – over longer periods, particularly around metal fasteners, this can loosen fasteners
- Staining of internal linings due to moisture from the building frame



KNOW THE BENEFITS

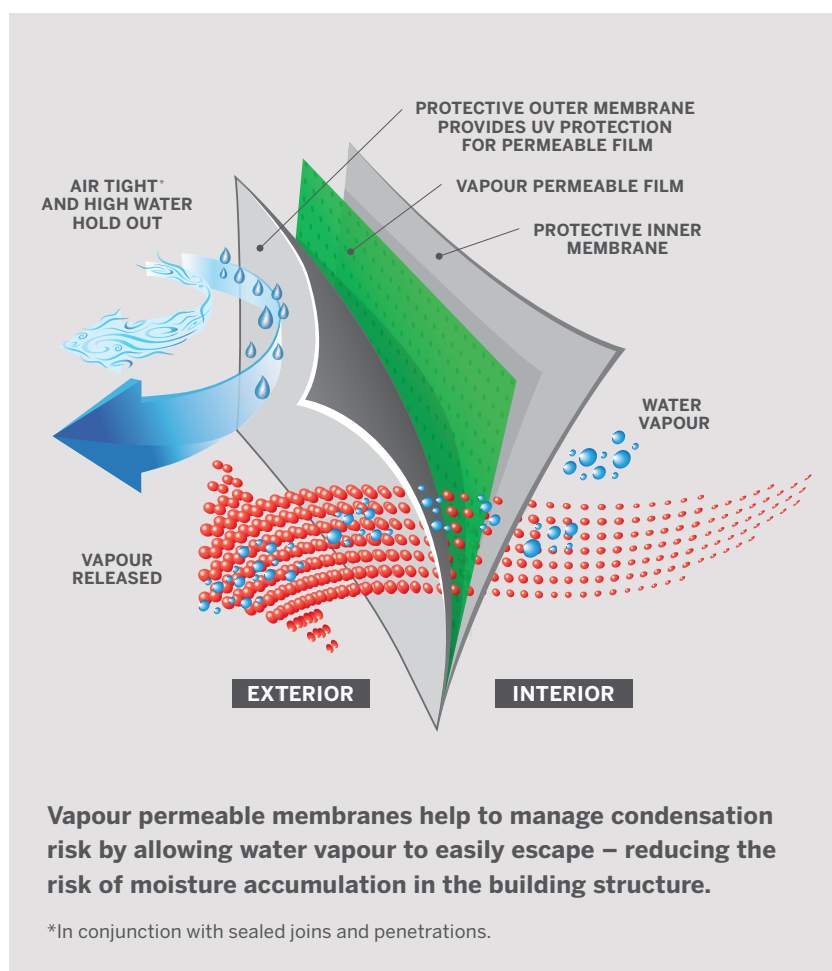
Vapour permeable products

Vapour permeable products combine high-tech vapour permeable films with non-woven spun bond fabrics for protection. The vapour permeable film contains millions of microscopic holes that are large enough to allow water vapour molecules to pass through them, but too small for liquid water to penetrate.

The result is a product that allows the transport of many times more water vapour than a 'breather' product, prevents the entry of liquid water (rain) and also has the ability to prevent the transport of air which limits the passage of uncontrolled water vapour and dust.

KEY FACTS – 'VAPOUR PERMEABLE' PRODUCTS

- Highly permeable in comparison to 'breather' products – typically hundreds of times more
- Membrane prevents water entry – 'water barrier high' – suitable for use behind lightweight cladding
- Prevents air transport, thereby limiting the entry of more water vapour by air from the external environment



BENEFITS DURING CONSTRUCTION

- Protects the frame and roof structure from the elements prior to the application of external cladding.
- Improves on-site work flow efficiency by allowing internal trades to commence work before the external cladding is applied.

BENEFITS AFTER CONSTRUCTION

- Reduces the risk of moisture and mould related issues compromising the structural integrity and health of the occupants.
- Improves air tightness which in turn improves energy efficiency, but still allows vapour to escape without condensing on the inside of the building frame.
- Protects the interior of the building from moisture and dust entry from the outside environment.

If in doubt choose vapour permeable

As condensation risk is difficult to predict and the consequences of condensation are not easy to manage after construction is completed, selecting a vapour permeable product is the recommended default solution.

Further advice and project specific condensation prediction advice is available by contacting CSR Bradford on **1300 850 305** or email bradfordenquiries.com.au

ENVIROSEAL PROCTORWRAP

Superior permeability, better performance

APPLICATION	PRODUCT
<p>WALL – RESIDENTIAL</p> <p>Enviroseal ProctorWrap Residential Wall (RW) is a light duty* vapour permeable wall wrap designed for use in residential timber and steel frame wall construction. Enviroseal ProctorWrap RW is durable and lightweight, with a 'soft' construction designed to reduce noise when exposed to the wind, even when exposed to coastal regions. Available in 1.5m or 2.75m widths.</p> <p>*Light duty: Based on burst strength criteria set out in AS4200.1</p>	<p>RESIDENTIAL WALL (RW)</p> 
<p>WALL – COMMERCIAL</p> <p>Enviroseal ProctorWrap Commercial Wall (CW) is a light duty*, triple layer construction, vapour permeable wall wrap designed for use in commercial steel and timber frame wall construction. Enviroseal ProctorWrap CW can be left exposed for up to 2 months during construction, offering temporary rain screen protection to allow other trades to continue work whilst the external cladding is applied.</p> <p>*Light duty: Based on burst strength criteria set out in AS4200.1</p>	<p>COMMERCIAL WALL (CW)</p> 
<p>EXPOSED JOINT WALL – COMMERCIAL AND RESIDENTIAL</p> <p>Enviroseal ProctorWrap Black Label (BL-IT) is a high water hold-out, vapour permeable membrane with a unique functional coating that offers excellent resistance against UV and high temperatures up to 120°C. Developed primarily as a vapour permeable underlay for use behind open joint rain screen facades. Enviroseal ProctorWrap BL-IT offers a combination of durability and high water holdout without compromising vapour permeability.</p> <p>Note: This product is supplied with integrated tape (IT) already installed for fast and secure taping of lap joints.</p>	<p>BLACK LABEL (BL-IT)</p> 
<p>ROOF – COMMERCIAL AND RESIDENTIAL</p> <p>Enviroseal ProctorWrap HT-R is a highly durable, UV stabilised high water hold-out, vapour permeable roof underlay for use in residential or commercial tiled, slate and metal roof applications. It has been designed to meet the compulsory and stringent AS/NZS 4200.1 requirement for classification as a medium duty membrane for use under tiled and metal roofs.</p>	<p>HIGH TENSILE ROOF (HT-R)</p> 

Need to know more

CSR Bradford offer a range of technical services including thermal system analysis and condensation modelling for project or climate specific applications, as well as general product and project technical support.

For more information please contact CSR Bradford on **1300 850 305** or bradfordenquiries@csr.com.au

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