BarriAir
AIR BARRIER AND VAPOUR CONTROL LAYER

Protect BarriAir is a high performance and multi purpose coated non-woven membrane which provides a highly effective air leakage barrier along with vapour control qualities. Protect BarriAir installed on the warm side of the structure immediately adjacent to the insulation can be used on walls and ceilings to significantly reduce air leakage in any construction helping to meet Building Regulations and Standards requirements for air tightness.

Performance

	MD	CD
Nail Tear strength (N) to EN 12310-1 with mods	170	170
Tensile strength (N/50mm) to EN 12311 with mods	230	220
Air permeability at 200Pa	0.0 l/m²/s	
Water vapour resistance to EN 1931	95 MNs/g	
Weight	120gsm	

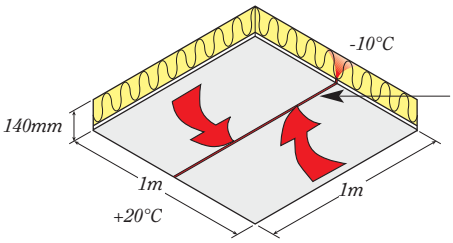
Benefits

- Provides an airtight system when installed with sealed laps.
- Dramatically reduces heat loss through the building fabric.
- Improves the thermal performance of all insulants by reducing convection flows.
- Tough, durable with high tear resistance.
- Easy to cut and lightweight to handle in 1.5 x 50m rolls.
- Provides support to mineral wool and rock fibre when fixed to timber frame studs or rafters.
- Helps to avoid interstitial condensation risk within insulation in accordance with BS 5250.

Uncontrolled air leakage from all types of buildings is one of the major causes of energy loss and $C0_2$ emissions. Building Regulations and Standards recognise this and set minimum performance levels albeit relatively low compared to continental Europe. Air leakage is one of the most significant factors in inefficiently heated buildings and studies have confirmed that air leakage can account for up to a third of all heat losses in modern buildings.
Air leakage also significantly increases the potential for interstitial condensation to occur within building elements. This can lead to insulation and structural degradation.

Airtightness

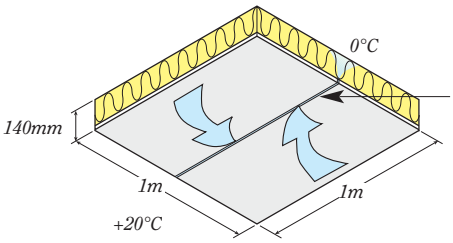
One of the most effective ways of increasing energy efficiency in buildings and reducing heating bills is to utilise insulation that can perform effectively. To achieve this a good quality insulation with measurable and known performance is required along with ensuring that the structure is as airtight as possible. The UK climate is not as extreme as in continental Europe and Scandinavia in relation to temperature levels but being influenced by the Atlantic Ocean it is a climate which is exposed to extremes in wind pressure. The average wind speeds in the UK are some of the highest in Europe. The performance of a fibrous insulation material is only optimised as long as it is airtightly sealed from the warm side of the building. The Fraunhofer Institute in Germany has measured the effects of air leakage on the performance of insulation and moisture penetration into the building fabric. In one study, the thermal performance of 140mm of insulation with a perfectly sealed air barrier/vapour check was measured at 0.30W/m² K. The thermal performance was measured again with leakages of various widths in the air barrier/vapour check at various pressure differences likely to be experienced around a building. With a leakage gap of 1mm there was a reduction in the insulation performance to 1.4430W/m²K, a 481% drop in performance. This shows beyond doubt that air leakage can lead to a reduction in the performance of thermal insulation increasing the energy demand and consequently $C0_2$ emissions of buildings and increasing the risk of condensation formation in the fabric at the same time.



No joints
Heat transfer coefficient: 0.3W/m²k
With 1mm joint
Heat transfer coefficient: 1.44W/m²k
*Worsening by a factor of **4.8***

Measurement carried out by
Institute for Building Physics Stuttgart:
+20°C indoors and -10°C outdoors,
a pressure difference of 20Pa (equivalent to wind force 2-3)
using conventional, fibrous insulating material.
Source: DBZ 12/89.pp1639

The moisture penetration through the same 1mm gap showed that the moisture penetration by convection (air flow) was 800gm/m².



No joints
0.5g water/m² x 24hr (diffusion)
With 1mm joint
800g water/m² x 24hr (convection)
*Moisture increase by a factor of **1600***

Measurement carried out by:
Institute for Building Physics Stuttgart
+20°C indoors and 0°C outdoors,
a pressure difference of 20Pa (equivalent to wind force 3-4)
using conventional, fibrous insulating material.
Source: DBZ 12/89.pp1639

GLIDEVALE LIMITED
2 Brooklands Road, Sale, Cheshire M33 3SS Tel: 0161-905 5700 Fax: 0161-905 2085
Email: info@glidevale.com Web: www.glidevale.com