



POLYAIR™ UNICELL

General Description

Bradford Polyair Unicell is an extra heavy duty sarking and reflective insulation material in one product. It is designed for use in a range of roof, wall and floor applications in both commercial and residential buildings.

Product Description

Bradford Polyair Unicell is manufactured with two external layers of extra strong reflective aluminium foils with the external layer coated in a special antiglare that can reflect up to 95% of the sun's radiant heat. Bradford Polyair Unicell incorporates a 4mm thick internal cell structure that provides an engineered air cavity within the product. This cell structure reduces heat transfer from the antiglare outer foil surface to the inner silver foil surface. Bradford Polyair Unicell is available in 1350mm and 1500mm wide rolls and is available with a self adhesive strip to the edge overlap.

General Installation:

- Install with antiglare surface facing outwards
- Sealing overlaps, penetrations and damaged areas with a reinforced aluminium foil tape (or approved self adhesive strip) is recommended especially when aiming to achieve a consistent:
 - stated thermal performance
 - seal against draughts
 - seal against vapour infiltration
 - seal against water entry into the building
- Overlaps should be a minimum 50mm when a reinforced aluminium foil tape (or approved self adhesive strip) is used.
- Overlaps should be a minimum of 150mm if no tape is used
- Follow all relevant OHS and statutory regulations – eye protection from sun glare is recommended

Applications

Bradford Polyair Unicell is a versatile reflective insulation product that can be used in a number of roof, wall and floor applications in both commercial and residential buildings. Some of these applications include:

- Metal roofs
- Tiled roofs
- Metal clad walls
- Brick veneer walls
- Masonry/concrete walls
- Framed floors

Safety Instructions:

Bradford Polyair Unicell is safe to handle, no protective clothing, gloves or mask is required. It is the responsibility of the installer to observe and comply with all relevant OHS and statutory regulations. Please read the electrical safety warning (below) and install in accordance with AS/NZS4200.2. Contact CSR Bradford on 1300 850 305 or visit bradfordinsulation.com.au for a material safety data sheet.

Electrical Safety Warning:

This product contains aluminium foil which conducts electricity. To avoid electrocution, care should be taken to ensure that this product or conductive fasteners used to secure this product, do not come into contact or close proximity with electrical wiring during installation or use. This product should not be installed in an existing structure in a horizontal orientation such as a ceiling or sub-floor application due to the presence of electrical wiring in the framing.

Product Classification:

Reflective Insulation and sarking

AS/NZS 4859.1:2002/Amdt.1 Section 9 – Group 1 type reflective insulation

Specification:

	Thickness (mm)	Roll Size (m x mm)	m ² Per Roll (m ²)	Roll Diameter (mm)	Roll Weight (kg)	Product Code
Unicell	4	40 x 1350	54	430	21	127418
Unicell - 1.5m wide	4	25 x 1500	37.5	370	15	130301
Unicell - Self adhesive	4	40 x 1350	54	430	21	130304

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Compliance:

Bradford Polyair Unicell complies with AS/NZS 4859.1:2002/Amdt.1

Reflective Performance:

Silver Face: 0.03 emittance / 97% Reflectance

Antiglare Face: 0.05 emittance / 95% Reflectance

Total R-Value Performance:

Pitched Tiled Roof

Tiled roof 22.5° pitch
40mm airspace
Bradford Polyair Unicell
(with moderate dust cover)
Attic cavity non-ventilated
10mm plasterboard ceiling
Heat flow in (summer) = R_T1.9
Heat flow out (winter) = R_T1.2

Pitched Tiled Roof (Ventilated)

Tiled roof 22.5° pitch
40mm airspace
Bradford Polyair Unicell
(with moderate dust cover)
Attic cavity ventilated*
10mm plasterboard ceiling
Heat flow in (summer) = R_T2.1
Heat flow out (winter) = R_T1.0

*Ventilated attic space based on incorporating minimum 2x wind driven ventilators such as Edmonds WindMaster 300mm throat ventilator (total aggregate area 0.14m²) in conjunction with eave vents of not less than 0.2% of the plan ceiling area. Refer to explanation in the BCA 3.12.1.2(b)(ii)

Reflective Insulation:

The contribution of this product to a Total R-Value depends on the installation and environmental conditions. The Total R-Value will be reduced in the event of the accumulation of dust on upward facing surfaces and in those cavities that are ventilated.

Thermal calculations are based on Australian parameters and in accordance with AS/NZS 4859.1:2002/Amdt.1. The contribution of this product towards the Total R-Value depends on installation and environmental conditions. For upward facing surfaces of horizontal or sloping reflective insulation in non-vented cavities where no special precautions for prevention of dust ingress have been included, the Total R-Value is calculated based on an emittance for the case of slight dust cover in accordance with AS/NZS4859.1 Paragraph K3.2(a)(ii). For calculation purposes, the air gaps are assumed as still parallel air gaps unless otherwise stated and the membrane continuous.

Classifications

Classification in accordance with AS/NZS 4200.1:1994

PROPERTY	REFERENCE	RESULT
Duty	Table 1 - AS/NZS 4200.1:1994	Extra heavy duty
Vapour Barrier	ASTM E96	Medium
Emittance	AS/NZS 4201.5:1994/ASTM E408	Double-sided reflective Antiglare Face E0.05 Silver Face E0.03
Material thermal resistance	ASTM C518	0.1m ² K/W
Water Barrier	AS/NZS 4201.4:1994	High
Absorbency	AS/NZS 4201.6:1994	Unclassified
Shrinkage	AS/NZS 4201.3:1994	<0.5%
Resistance to dry delamination	AS/NZS 4201.1:1994	Pass
Resistance to wet delamination	AS/NZS 4201.2:1994	Pass
Surface corrosion	AS/NZS 4859.1:2002	Pass
Flammability index	AS 1530.2	Low (≤5)
Early fire hazard Indices	AS/NZS 1530.3	
Ignitability	AS/NZS 1530.3	0
Spread of flame	AS/NZS 1530.3	0
Heat evolved	AS/NZS 1530.3	0
Smoke developed	AS/NZS 1530.3	2

Bradford™
for smarter environments

CSR Bradford Insulation

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