

The Smart 3-in-1 Package for Roofers

Featuring:

- **Permastop[®]**
Building Blanket
- **Safety Mesh**
- **Roof Rack[®]**

And now:

- **Roof Razor[®]**

System solutions to
satisfy BCA energy
efficiency requirements
including Section J

Nationwide distribution
and in-field support



www.insulation.com.au

1300 654 444

With one of Australia's widest distribution and sales coverage networks, Fletcher Insulation provides energy efficient and acoustic solutions to the residential, commercial and industrial markets. We manufacture and distribute the widest range of insulation products specially designed for thermal and acoustic systems.

At the forefront of innovation and development of new trends, cost effective and compliant products, Fletcher Insulation remains committed to offering valuable service to the architectural and specifier market. Our national sales force has the experience and knowledge to provide assistance for any project or development to meet fire resistance, acoustic and energy efficiency performance requirements.

The commercial roofing building sector demands products that enable buildings to meet stringent requirements set out in the National Construction Code (NCC) for thermal, acoustic and fire performance.

Our extensive product range ensures we are able to supply the most suitable product for any application.

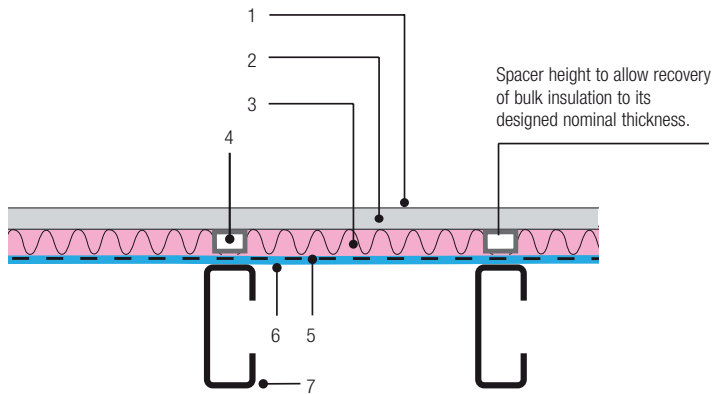
Sustainability

Measures that satisfy the needs of people today while enhancing the quality of life for future generations. The demands on non-renewable resources for the production of energy are not sustainable without compromising the environment. Insulation, correctly specified and installed, is one of the most critical products in improving energy efficiency and thereby reducing the growth of greenhouse gas emissions. Fletcher Insulation is committed to providing environmentally sustainable products and utilises up to 80% recycled glass in the production of glasswool insulation. Our products comply with the Green Star Insulant ODP Emissions credit requirement, avoiding the use of ozone depleting substances in both manufacture and composition.

It's the smart 3 in 1 package for roofers

- Wire Mesh in your choice of lengths and widths.
- High quality Permastop® Building Blanket with a foil finish, locally made in cut to length sizes.
- Roof Rack® or Roof Razor® insulation spacers - the fast, easy way to comply with energy efficiency requirements in Part J of the NCC.

Flat metal roof with no ceiling

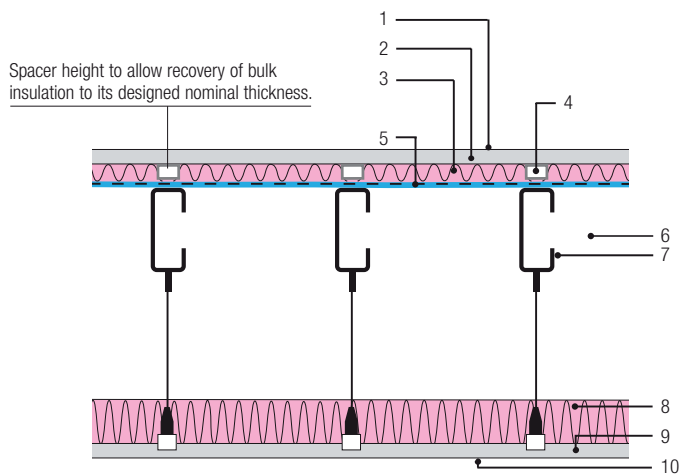


1. Outdoor air-film
2. Metal roof
3. Permastop® Building Blanket (reflective surface facing into the air space below)
4. Insulation spacer
5. Safety mesh
6. Indoor air-film (reflective surface)
7. Purlin

Permastop® Building Blanket installed over purlin support located between cladding and safety mesh incorporating Roof Rack® or Roof Razor® insulation spacers to allow for blanket recovery to nominal thickness. Metal roof at 0 to 5° pitch, purlins may be at various centres.

TOTAL R-value 100mm = R 2.9 (Winter) R 3.2 (Summer)
 TOTAL R-value 130mm = R 3.4 (Winter) R 3.7 (Summer)

Flat metal roof with suspended ceiling



1. Outdoor air-film
2. Metal roof
3. Permastop® Building Blanket (reflective surface facing into the air space below)
4. Insulation spacer
5. Safety mesh
6. Non-ventilated air space
7. Purlin
8. Pink Batts® ceiling insulation
9. 10mm standard plasterboard
10. Indoor air-film (non-reflective surface)

Permastop® Building Blanket installed over purlin support located between cladding & safety mesh incorporating Deckmate®, Roof Rack® or Roof Razor® insulation spacers to allow for blanket recovery to nominal thickness. Air space below foil assumed to be a non-ventilated 100mm to 600mm air space (flat metal roof at 0 to 5° pitch).

TOTAL R-value 55mm = R 2.2 (Winter) R 3.3 (Summer)
 TOTAL R-value 75mm = R 2.7 (Winter) R 3.8 (Summer)
 TOTAL R-value 100mm = R 3.4 (Winter) R 4.5 (Summer)

Permastop® Building Blanket

As more commercial buildings are built with metal deck roofing and metal wall cladding, the need to install the right insulation is crucial. To increase the comfort and energy efficiency of the buildings we work and live in, the right choice for effective insulation performance is Permastop® Building Blanket.

Permastop® Building Blanket is a glasswool building blanket faced with a Sisalation® reflective foil laminate.

Permastop® Building Blanket will:

- Increase the thermal comfort of building occupants.
- Provide cost savings as the demand for energy is reduced.
- Improve the energy efficiency of a building.
- Provide acoustic benefits by reducing noise from both internal and external sources.
- Control condensation under a metal deck roof.



Sound absorption

Permastop® Building Blanket has the following sound absorption co-efficients when tested in accordance with AS ISO 354 - 2006 by the Reverberation Room Method. Tests were carried out with no air space behind the samples. Figures tabled below are based on test reports supplied by RMIT University, School of Electrical and Computer Engineering.

Frequency (Hz)	Practical Sound Absorption Coefficients						
	125	250	500	1000	2000	4000	NRC
55mm R1.3 (Sisalation® LD foil)	0.25	0.80	1.00	0.55	0.25	0.15	0.70
75mm R1.8 (Sisalation® LD foil)	0.35	1.00	0.95	0.45	0.25	0.10	0.70
100mm R2.5 (Sisalation® LD foil)	0.50	1.00	0.90	0.50	0.30	0.10	0.75
130mm R3.0 (Sisalation® LD foil)	0.50	1.00	0.85	0.45	0.30	0.15	0.75
130mm R3.2 (Sisalation® LD foil)	0.60	1.00	0.75	0.45	0.25	0.10	0.65
130mm R3.6 (Sisalation® LD foil)	0.70	1.00	0.95	0.65	0.35	0.15	0.80

The Permastop® Building Blanket range

Product	Nominal thickness mm	Roll size m x mm	m ² per roll
R1.3	55	15 x 1200	18
		20 x 1200	24
		30 x 1200	36
R1.8	75	15 x 1400	18
		20 x 1200	24
		25 x 1200	30
R2.5	100	10 x 1200	12
15 x 1200		18	
R3.0	130	10 x 1200	12
R3.2		10 x 1200	12
R3.6		6.5 x 1200	7.8

White and black foil facing options are available upon request. Contact Fletcher Insulation for further details.

Cut to length Permastop® Building Blanket is available in the following maximum lengths.

	Light Duty Foil (LD)	Medium Duty Foil (MD)	Heavy Duty Foil (HD)
1200 wide			
55mm	27.0m	24.0m	23.6m
75mm	22.2m	20.1m	19.9m
100mm	14.1m	13.3m	13.1m
1400 wide			
55mm	23.1m	20.6m	20.2m
75mm	19.0m	17.2m	17.1m
100mm	12.1m	11.4m	11.2m

Permastop® Building Blanket's many benefits

Condensation and dust protection

Condensation occurs when moist air comes into contact with a surface that is at a lower temperature. This results in the release of excess moisture causing condensation. As more buildings are built with artificial heating and cooling devices, cladding materials are exposed to internal and external temperatures that are significantly different which increases the risk of condensation. Vapour barriers help prevent warm moist air from contacting a cooler surface to minimise the risk of condensation.

To aid in the control of condensation, Permastop® Building Blanket is faced with a moisture barrier of high quality Sisalation® reflective foil. Not only does the foil enhance the thermal quality of the blanket, it also acts as a non-permeable barrier to moisture when installed in accordance with AS/NZS 4200.2:1994. Another bonus is that the transmission of dust is reduced **and in bushfire prone areas Permastop® Building Blanket assists in preventing burning embers from entering the roof space.**

Meeting the National Construction Code (NCC) requirements

The NCC outlines Energy Efficiency Provisions for commercial buildings specifying minimum deemed-to-satisfy insulation levels. Insulation is a cost effective way of improving a buildings energy efficiency. Now most new homes built in Australia are required to incorporate wall and roof insulation. Commercial buildings with conditioned spaces, in most climate zones of Australia, require you to achieve a Total R-value of R3.2 for roofs and a Total R-value of R2.8 for walls. These provisions apply to class 5-9 buildings including offices, shops, warehouses, hospitals and assembly buildings with a conditioned space. Permastop® Building Blanket allows you to comply with the NCC Energy Efficiency Provisions for commercial buildings in all climate zones across Australia. It conforms to metal roofing manufacturer's specifications and is the cost-effective solution to satisfying Building Code requirements

Pink® Building Blanket

Fletcher Insulation also produces a general purpose Pink® Building Blanket made from lightweight, flexible and resilient glasswool in several nominal thicknesses. Pink® Building Blanket provides excellent thermal and acoustic insulation under metal deck roofs and in metal clad walls. Perforated facings can also be laminated to Pink® Building Blanket.

Declared material R-value	Nominal thickness mm	Roll size m x mm	m ² per roll
R1.3	55	15 x 1200	18
		20 x 1200	24
		30 x 1200	36
R1.8	75	15 x 1200	18
		20 x 1200	24
		25 x 1200	30
R2.5	100	10 x 1200	12
		15 x 1200	18
R3.0	130	10 x 1200	12
R3.2		10 x 1200	12
R3.6		6.5 x 1200	7.8

Quality and performance guaranteed

Permastop® Building Blanket is made in Australia to Australian standards using FBS-1 Glasswool Bio-Soluble Insulation®. It has the best possible fire rating when tested to AS1530.3. Early Fire Hazard requirements. The glasswool component is non-combustible and the Sisalation® reflective foil achieves a flammability index of less than 5 when tested to AS1530.2. Consequently, Permastop® Building Blanket is deemed to have a Flammability Index of no greater than 5.

The right service with cut to length rolls

Having the flexibility of ordering building blanket at short notice and to precise lengths is made possible by locally produced Permastop® Building Blanket. Locally produced rolls means efficiency of installation, less wastage and a better end result. The right product, on time and to your specification makes Permastop® Building Blanket the right choice everytime.

Cut to length blanket is available in the following maximum lengths.

	Light Duty Foil (LD)	Medium Duty Foil (MD)	Heavy Duty Foil (HD)
1200 wide			
55 mm	27.0 m	24.0 m	23.6 m
75 mm	22.2 m	20.1 m	19.9 m
100 mm	14.1 m	13.3 m	13.1 m
1400 wide			
55 mm	23.1 m	20.6 m	20.2 m
75 mm	19.0 m	17.2 m	17.1 m
100 mm	12.1 m	11.4 m	11.2 m

Roof Rack® - a new concept in smart roofing

To achieve a total system value of R3.2, insulation blanket must recover to its full nominal thickness.

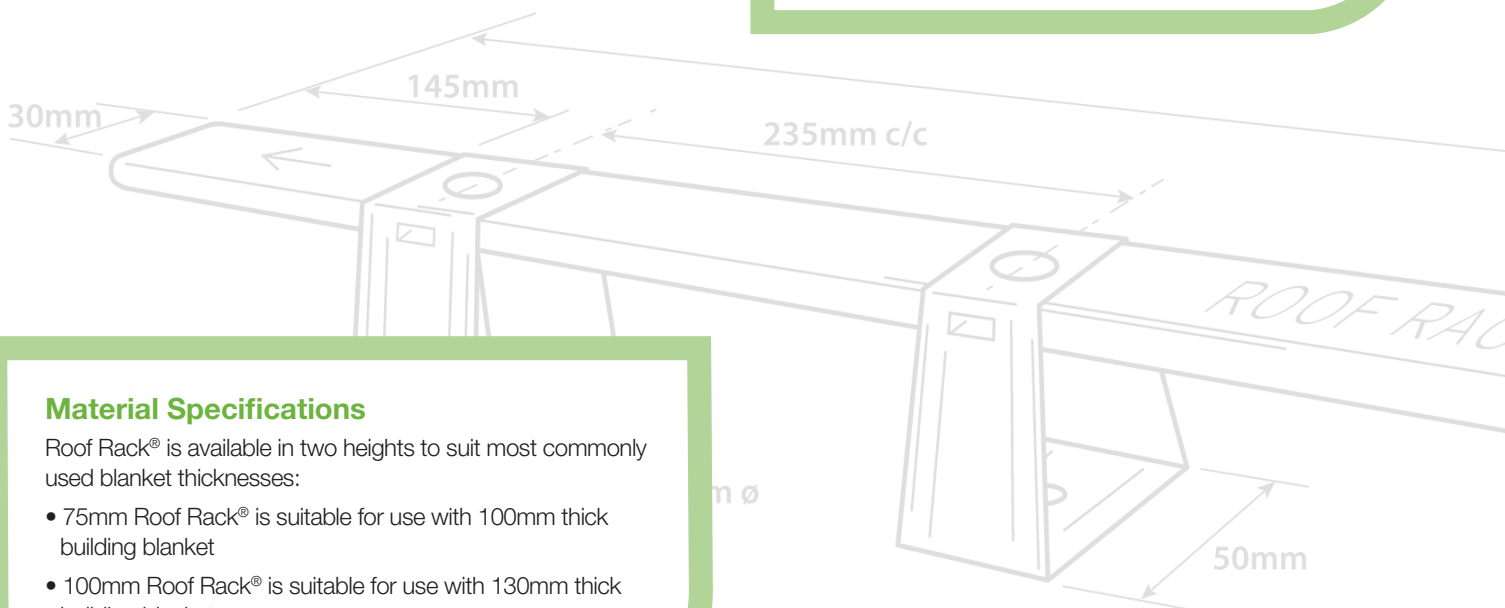
This needs to be achieved in a cost effective manner that does not reduce the productivity and safety of roofing installers. Fletcher Insulation's patented Roof Rack® insulation spacer effectively raises the roof, allowing insulation blanket to recover to its full nominal thickness between purlins. This is required to achieve minimum Total R-ratings as prescribed in the NCC.

Specially designed for concealed fix systems, Roof Rack® is quick and easy to install. Roof Rack® provides installers the option of attaching the roofing clip prior to commencing the roof install or alternatively, roofers may attach the clip whilst on the roof. Once the clip bar is attached, the assembly is simply fixed to the purlins atop the Permastop® Building Blanket using 12 x 30mm TEK screws.

Roof Rack® is simple to install, safe to work with and fast to use but most importantly it is the answer to achieving compliance with Part J of the NCC.

Key benefits of Roof Rack®

- Eliminates the need to change typical methods of fixing roof panels.
- A PATENTED solution that is endorsed by all leading roofing manufacturer's.
- Easily installed over Permastop® Building Blanket to comply with energy efficiency requirements outlined in Part J of the NCC.
- Roofing clips may be attached off-site or whilst on the roof.
- Uses easy-to-source self drilling screws.
- Is manufactured from high tensile galvanised steel.



Material Specifications

Roof Rack® is available in two heights to suit most commonly used blanket thicknesses:

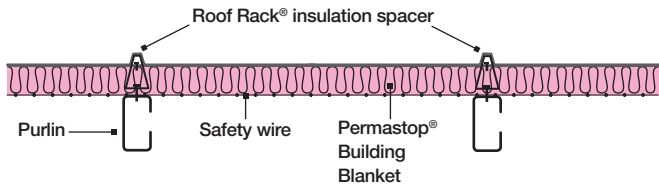
- 75mm Roof Rack® is suitable for use with 100mm thick building blanket
- 100mm Roof Rack® is suitable for use with 130mm thick building blanket



Roof Rack's many benefits

Application: warehouse flat metal roof 0 to 5° pitch

Install Permastop® Building Blanket over the purlins after Safety Mesh has been secured. The reflective foil facing should face into the air space below and will act as a vapour barrier when installed in accordance with AS 4200.2. Roof Rack® insulation spacer should then be placed on top of the blanket and secured to the purlin using roofing screws as per the roof manufacturer's recommendations. The roof sheet can then be secured to the clips (which have been attached to the spacer) as per standard procedures.



Proven performance

Roof Rack® insulation spacers have been tested at NATA accredited laboratories (with and without concealed roof sheeting attached) for wind uplift, serviceability and foot traffic / load limits according to AS1562.1. Testing demonstrated that the use of the spacer does not diminish the performance of the roofing system.

Material specifications

Roof Rack® insulation spacer is made from high tensile galvanised steel. The top channel is manufactured from 1.2mm, G500 (500MPa yield) with AZ150 (150g/m² coating mass). The legs are manufactured from 1.2mm, G2 with AZ150.

Specifications

When specifying, state the following:

Application: Incorporate Roof Rack® insulation spacer over Permastop® Building Blanket along the purlin line to achieve the recovered thickness of the insulation blanket.

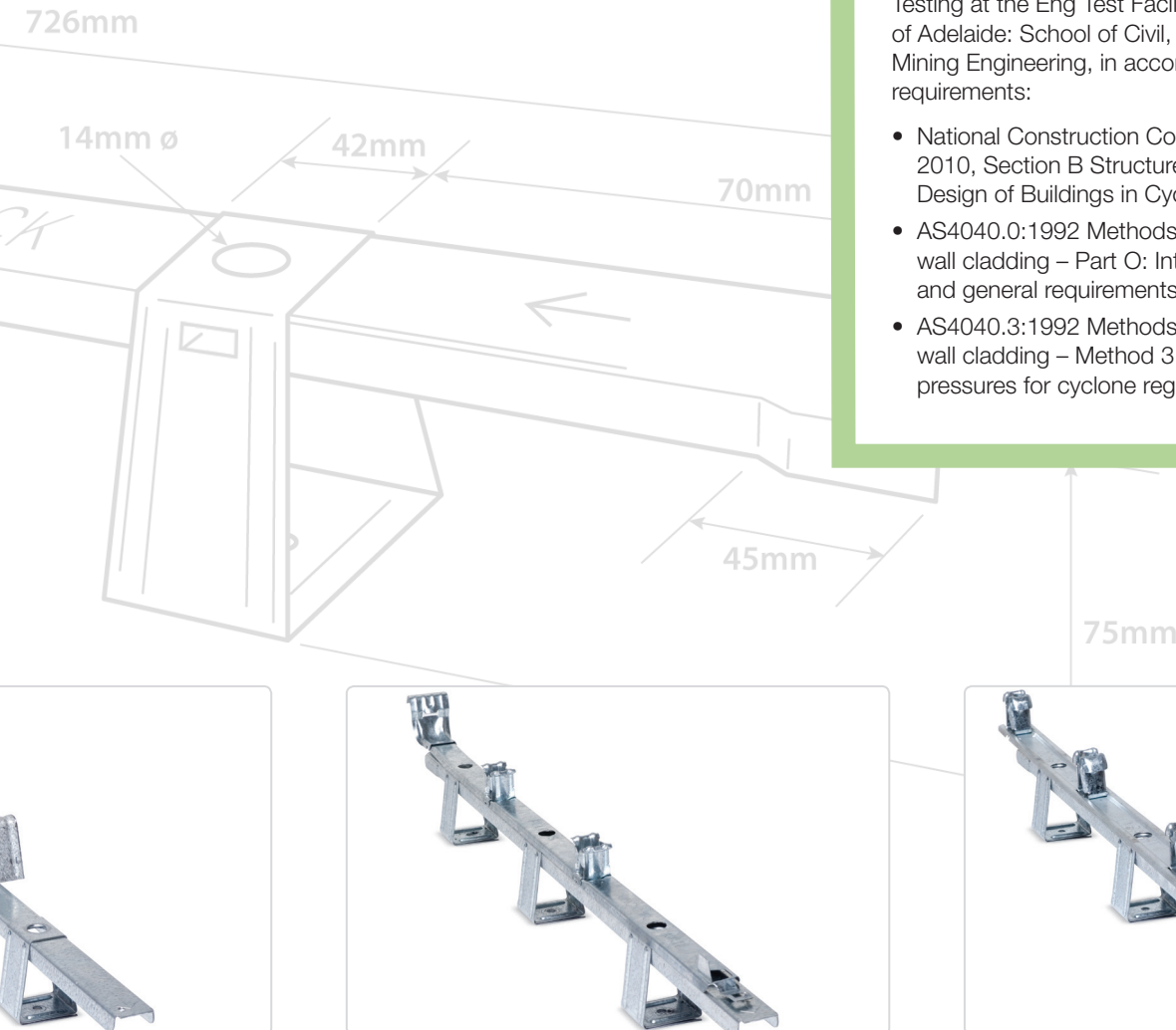
Product name: Fletcher Insulation 75mm Roof Rack® insulation spacer or Fletcher Insulation 100mm Roof Rack® insulation spacer.

Roof Rack® for use in cyclonic regions

It is the safe and trusted choice when it comes to selecting a spacer for use in cyclonic regions.

Roof Rack® has successfully passed Cyclic LHL Testing at the Eng Test Facility through the University of Adelaide: School of Civil, Environmental and Mining Engineering, in accordance with the following requirements:

- National Construction Code Volume 1 – NCC 2010, Section B Structures, Specification B1.2 Design of Buildings in Cyclonic Areas.
- AS4040.0:1992 Methods of testing sheet roof and wall cladding – Part O: Introduction, list of methods and general requirements.
- AS4040.3:1992 Methods of testing sheet roof and wall cladding – Method 3: Resistance to wind and pressures for cyclone regions.



Roof Razor® - the solution to Section J



**ROOF
RAZOR**

Product Description

Roof Razor® is an insulation spacer specifically designed for Australian metal roof construction. It sits between the roof structure and the external cladding membrane, creating a space for insulation to recover to its full nominal thickness between the purlins. It is a solution to the Section J requirement of the NCC that insulation must maintain its position and thickness between purlins. Roof Razor® is compatible with both pierced and concealed fix roof cladding.

Roof Razor® is specifically designed for fixing to metal purlins. For applications requiring a spacer solution suitable for timber battens, Roof Razor® is supplied without pre-loaded screws:

- For 85mm Roof Razor® Fletcher Insulation recommends screws that are 62mm long + penetration depth
- For 115mm Roof Razor® Fletcher Insulation recommends screws that are 92mm long + penetration depth

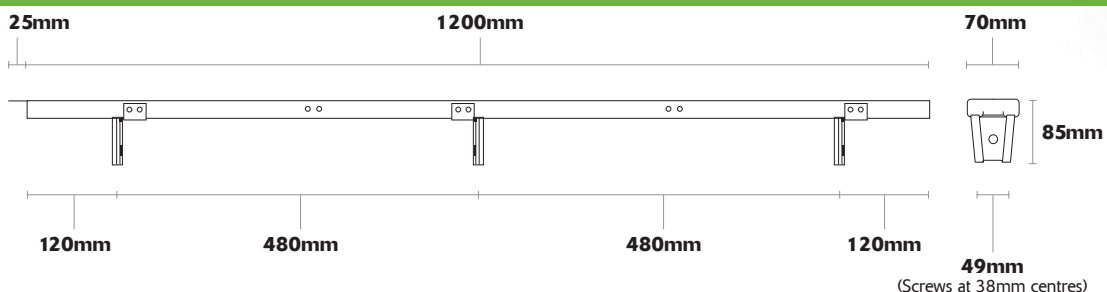
Penetration depth is determined based on the type of timber used in addition to the screw manufacturer's recommendations.

Material Specifications

Roof Razor® is available in two heights to suit most commonly used blanket thicknesses:

- 85mm Roof Razor® is suitable for use with 100-120mm thick building blanket
- 115mm Roof Razor® is suitable for use with 130-145mm thick building blanket

85MM HIGH TO SUIT BLANKETS 100-120MM



Roof Razor's many benefits

	ROOF RAZOR® STANDARD	ROOF RAZOR® CYCLONIC
Cover	1200mm	1200mm
Weight	2kg	3kg
Wind Regions	A&B	C&D
Roof Sheet Fastener Yield Capacity	0.583 kN per 12g 14TPI (not supplied)	1.43 kN per 14g 10TPI (not supplied)
Batten Material	1.15BMT G550 Z275	1.15BMT G550 Z275
Cyclonic Insert	N/A	1.15BMT G550 Z275
Pre-loaded Fasteners (for fixing to purlin)	6 x 12g 14TPI Class 4	6 x 14g 10TPI Class 4
Minimum Purlin Thickness	1.2 BMT	1.5 BMT
Minimum Purlin Width	50mm	50mm
Fastener Centres	38mm	38mm
Dead Load Capacity	205kg between legs irrespective of span	205kg between legs irrespective of span

Note: Roof Razor® is suitable for use with most Cee and Zed purlin applications but care should be taken to ensure that the top flange of the purlin exceeds 51mm.

Compliance

- Compliant with section J of the NCC Clause J1.2(c)
- Structurally engineered and certified for use
- Roof Razor® Cyclonic is Low-High-Low (LHL) tested in accordance with the NCC Volume 1 Specification B1.2.

Roof Razor® for use in Cyclonic Regions

To perform in Australia's cyclonic regions, Roof Razor® CYCLONIC is Low-High-Low (LHL) tested and provides increased fastener yield over Roof Razor® STANDARD.

Roof Sheet Fastener Yield Capacity	
Non-Cyclonic	Cyclonic
0.583kN per 12 gauge 14 TPI roof sheet fastener (not supplied)	1.43kN per 14 gauge 10 TPI roof sheet fastener (not supplied)

Roof Razor® CYCLONIC is equipped with an extra batten insert to increase the fastener yield capacity, and is pre-loaded with 6 x 14 gauge 10TPI class 4 fasteners.

Specifications

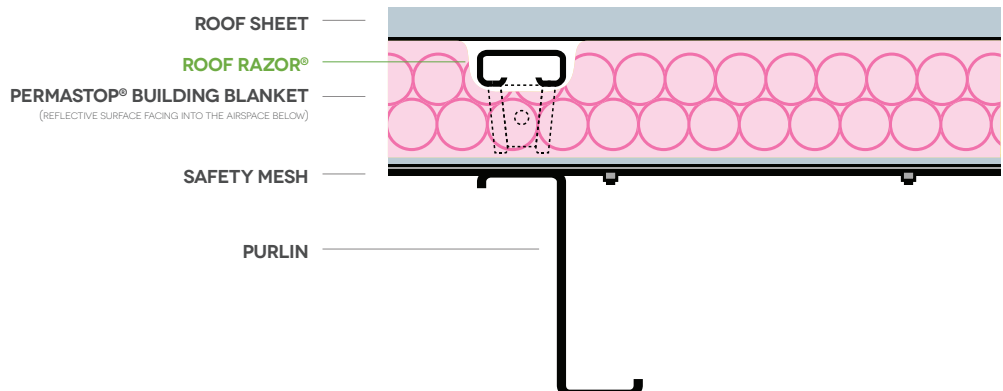
When specifying, state the following:

Application: Incorporate Roof Razor® insulation spacer over Permastop® Building Blanket along the purlin line to achieve the recovered thickness of the insulation blanket.

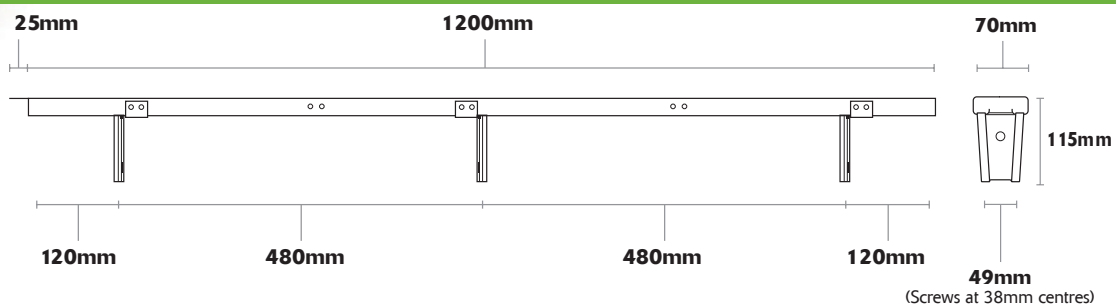
Product name: Fletcher Insulation 85mm Roof Razor® insulation spacer or Fletcher Insulation 115mm Roof Razor® insulation spacer.



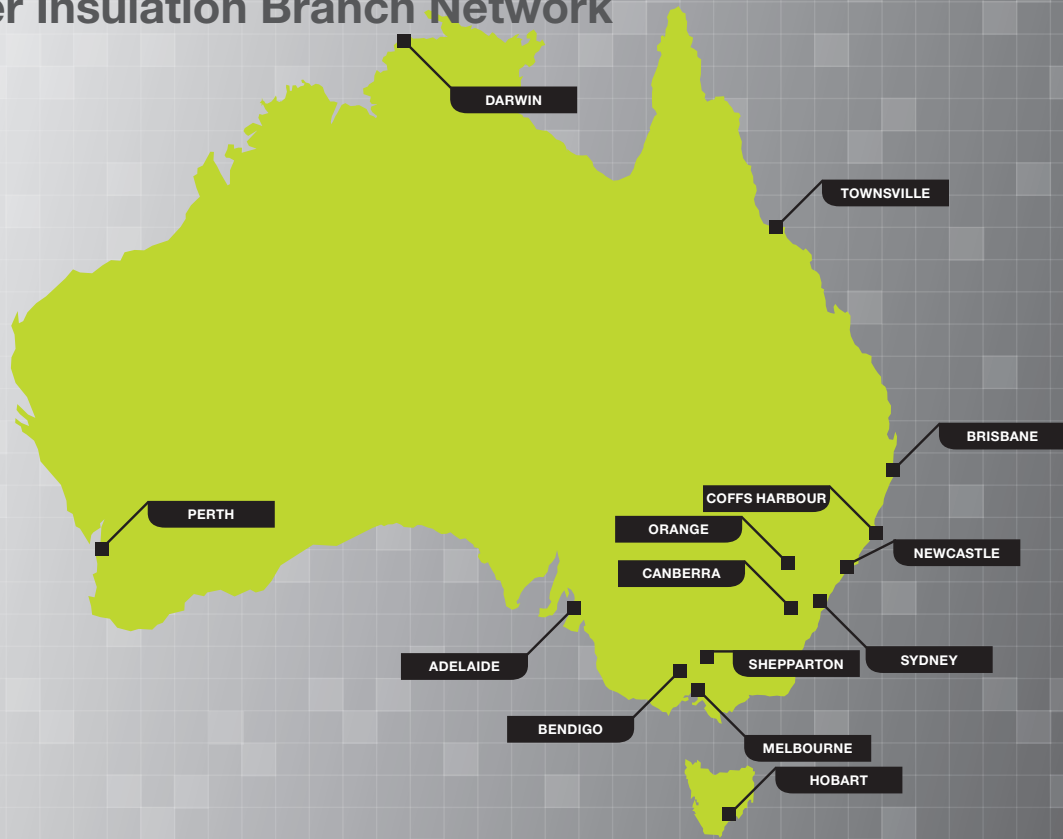
Typical Roof Razor® system cross section



115MM HIGH TO SUIT BLANKETS 130-145MM



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NEED HELP?

For further information on Total R-value calculations for typical roof and wall systems performance please contact Fletcher Insulation on:

Phone: 1300 654 444 e: info@insulation.com.au w: www.insulation.com.au

Additional assistance on Total R-values can also be found in the ICANZ Insulation Handbook at www.icanz.org.au

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