



AUS HOME
INSULATION

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SuperQuilt

Multi-layer Insulation Blanket for Walls

Thermal Insulation in a 40mm thin, flexible, multi-layer membrane

Technical Manual V1.0



- High performance wall insulation
- Fully certified
- Thermally tested in accordance with DIN 52611-1 (Guarded Hot Box)
- Core thermal resistance of $R\text{-value}=1.5$
- Ideal for new build & refurbishment
- Effective solar over heating barrier
- Lightweight, flexible and only 40mm thin
- Fast and simple installation
- Vapour control layer

Thermally the best performing multi-foil on the market by far.



YBS Insulation
HIGH QUALITY PRODUCTS FOR THE BUILDING INDUSTRY



Thermally the best performing multi-foil on the market by far.



SuperQuilt is equivalent to 110mm of Glass Wool in a Wall Application.

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Insulation for use in walls

Benefits

- **Fully certified**
- **Fast and simple installation**
- **Thermally tested in accordance with DIN 52611-1**
- **Wall constructions with SuperQuilt as detailed in this technical manual achieve up to a Total R-Value of 3.1 (higher values can be achieved with additional insulation - calculated to NZS 4214:2000)**
- **Ideal for new build & refurbishment**
- **Lightweight, thin and flexible**
- **Fast and simple installation**
- **Vapour control layer**

SuperQuilt is a very flexible, easy to fit, multi-layer insulation, thermally tested in accordance with DIN 52611-1, achieving a high thermal resistance of R-value=1.5.

How does SuperQuilt work?

Due to the special composition of multi layers of insulation, SuperQuilt effectively deals with all forms of energy transfer (i.e. conduction, convection and radiation). SuperQuilt works most effectively by reflecting infra-red radiation. This means that not only is SuperQuilt effective in winter by reflecting heat back into the building and keeping cold out, but also in summer SuperQuilt is a very effective solar over-heating barrier reducing the need for artificial cooling systems and preventing uncomfortable build up of heat in the building.

General Fixing Instructions

Installation of SuperQuilt for Timber Frame and Masonry Wall applications should be in accordance with this technical manual and current good building practice.

When the SuperQuilt is cut to fit around openings, care must be taken to minimise gaps. SuperQuilt can be cut easily using sharp scissors or a knife.

The surfaces of the Masonry wall should be sound and free of loose material; large projections should be removed and holes filled and levelled. A survey of the wall may be required to establish the extent of packing that may be required to ensure a uniform plane for the materials to be fixed.

The depth of timber battens will determine the airspace achieved on either side of the SuperQuilt. 25mm battens minimum are required to achieve stated thermal values.

All joints and perforations in the products must be securely sealed with SuperQuilt Foil Tape and lapped 75mm minimum.

Services may be accommodated within the void created by the dry lining system.



Health & Safety

Electrocution

SuperQuilt insulation must be installed with extreme caution to avoid the metallic foil coming into contact with electricity and becoming electrified and posing a risk of electrocution or fire. Ensure that all wiring is kept well clear of the face of the SuperQuilt blanket and all metal fixings passing through the SuperQuilt will not contact any electrical wiring. All wiring that passes through the SuperQuilt Multi-layer Blanket needs to be protected from contact with the SuperQuilt by a suitable non-conductive conduit. Installers should identify all wiring and assess its condition, inspecting for any damage prior to beginning installation and take appropriate precautionary measures to safeguard themselves and the future building occupants from electrocution.

Ensure all risks have been identified to reduce the risk of electrocution during installation. Refer to the Australian/New Zealand Wiring Rules (AS/NZ 300:2007) for more detailed information.

Always wear protective gear when installing SuperQuilt.



Brick Veneer Wall

Fixing Instructions

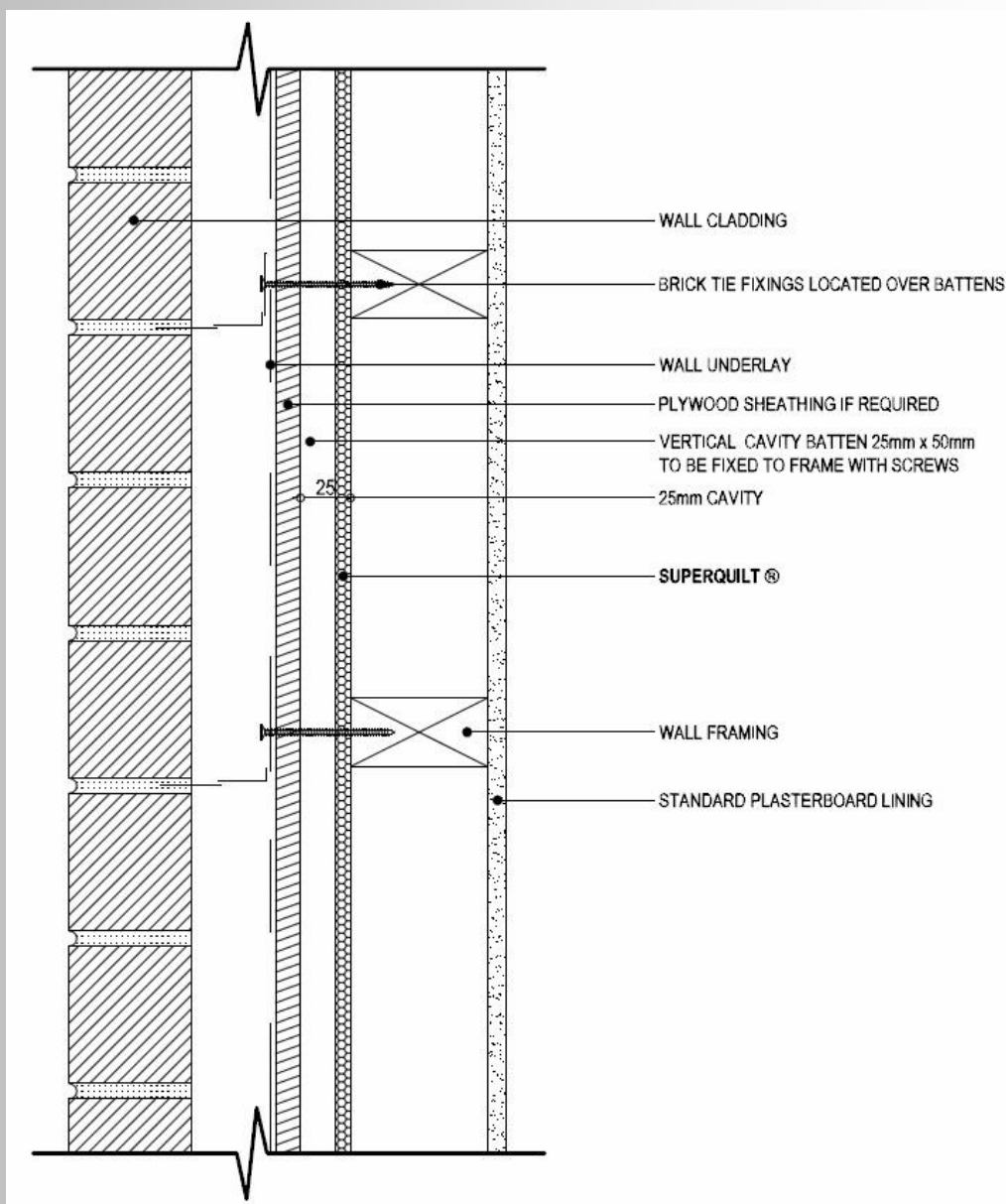
SuperQuilt is applied directly from the roll either vertically or horizontally depending on the wall height, pulled tight and stapled onto the timber studs at 300mm CRS min.

SuperQuilt should be overlapped at each joint by approximately 75mm minimum and stapled onto the battens. The joints should be sealed using SuperQuilt Foil Tape.

Vertical cavity battens, recommended 25mm x 50mm are fixed to the wall. Battens must always be placed at the top and bottom of the wall and around the perimeter of the openings.

A 25mm minimum airspace is required on both sides of the SuperQuilt insulation to achieve the stated R-value.

**R VALUE
= 3.1***



*Standard assumptions from AS/NZS 4859.1 were used.

Cavity Wall

Fixing Instructions

A spider clip is fitted on to the wall tie against the inner leaf and this creates the maximum cavity between the product and the block work.

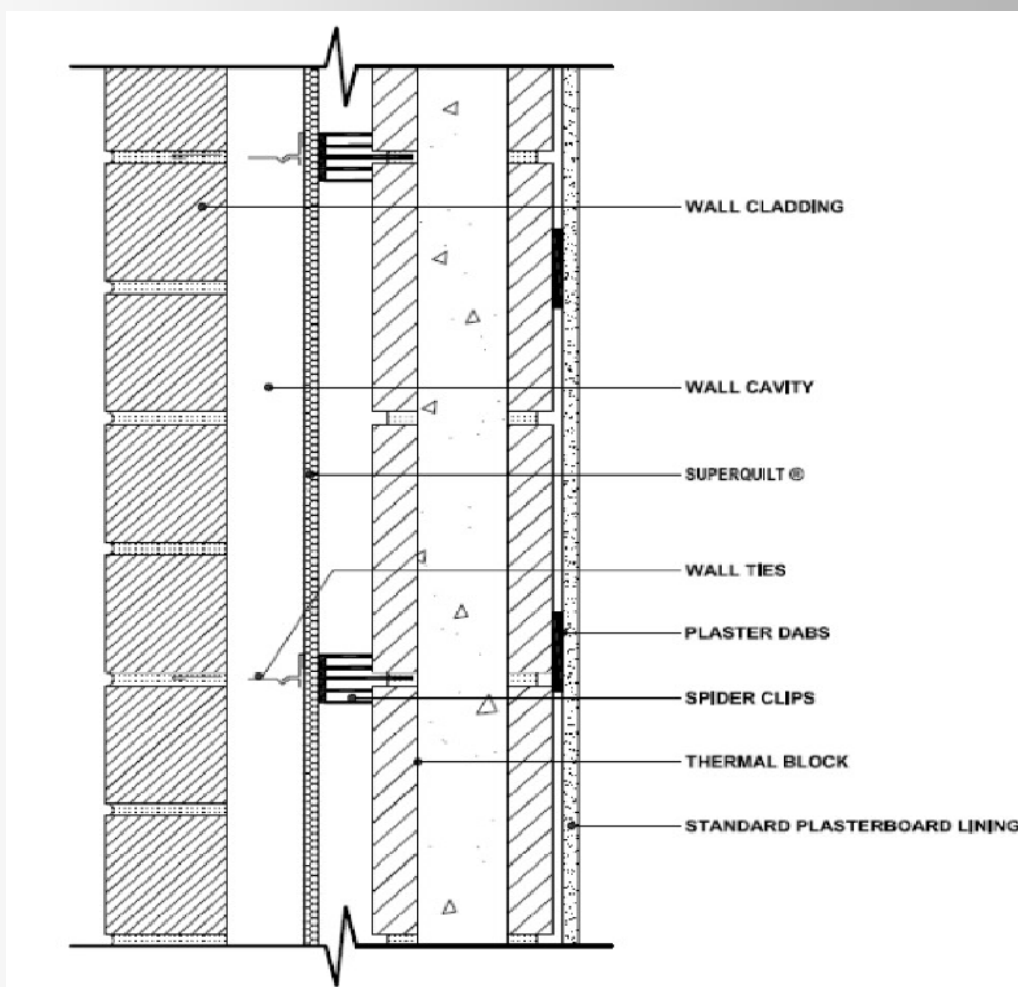
The initial run of SuperQuilt is positioned over the spider clips, ensuring that it is kept taut but with sufficient drop to below floor insulation. SuperQuilt can be cut with a sharp blade to fit onto spider clips. The top edge of the material should be a minimum of 75mm over the top row of the spider clips providing a weathered lap joint.

When a full run is in position, the retaining clip is fixed to the spider clip to keep the SuperQuilt central to the cavity.

The second leaf is built up to the topmost line of the wall ties (or two courses below) and the second run of SuperQuilt installed ensuring a minimum lap of 75mm. Vertical joints in the SuperQuilt should always be on a line of wall ties, ensuring a 100mm lap (i.e. 50mm either side of the wall tie) and sealed using SuperQuilt Foil Tape.

At internal and external corners a 25mm airspace must be maintained.

**R VALUE
= 3.1***



* Standard assumptions from AS/NZS 4859.1 were used.

Weatherboard Cladding & Dormer Cheek Application

Fixing Instructions

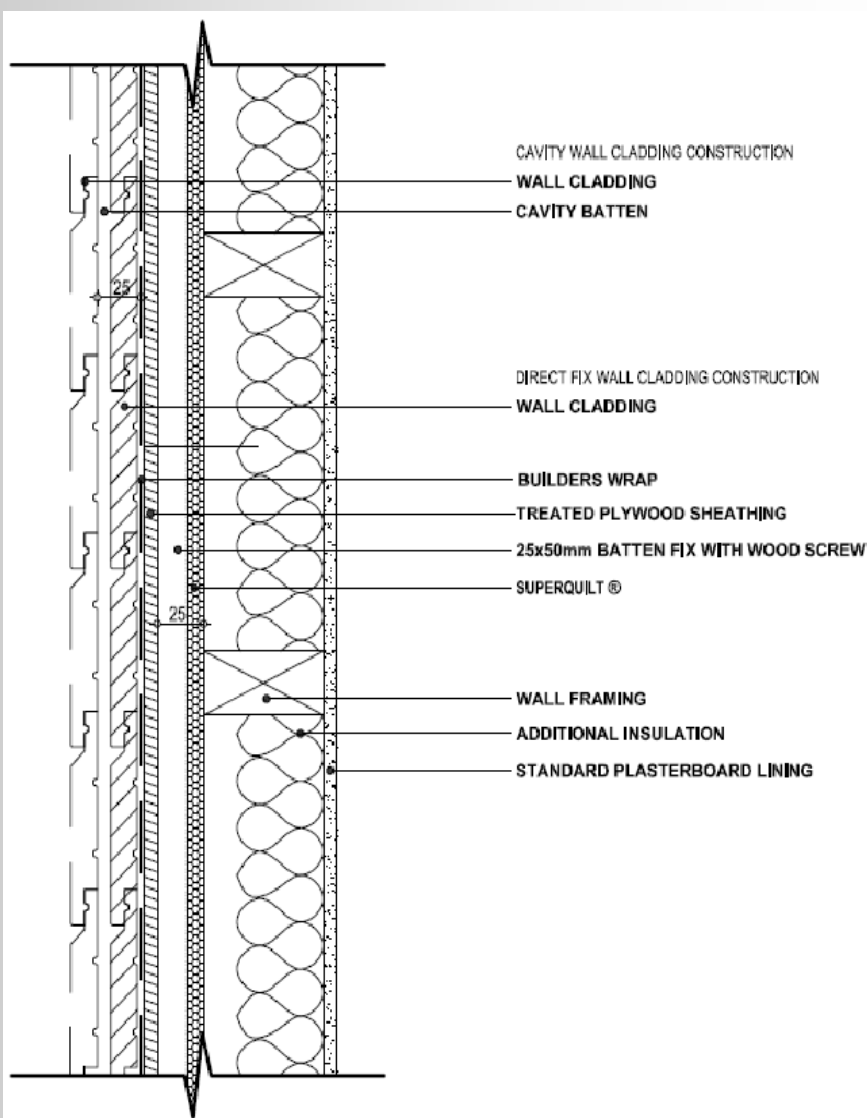
Installation of SuperQuilt for Timber frame wall applications and additional insulation products should be in accordance with this technical manual and current good building practice.

SuperQuilt is applied directly from the roll either vertically or horizontally depending on the wall height, pulled tight and stapled onto the timber studs at minimum 300mm centres.

SuperQuilt should be overlapped at every joint by 75mm minimum and stapled onto the battens, the joints should be sealed using 75mm SuperQuilt Foil Tape.

Vertical counter battens, recommended 25mm by 50mm are fixed to the wall. Battens must always be placed at the top and bottom of the wall and around the perimeter of joinery openings.

Cavity battens when used should align with SuperQuilt Battens.



R-Value Table: SuperQuilt with Stud Wall (R VALUE = 2.86)

Layer	Description	Area Percentage	R-Value	R-Value	Effective R-Value
1	Outer Surface		R-0.03		R-0.01
2	Weatherboard		R-0.16		R-0.07
5	9mm Construction Plywood				R-0.07
6	Builder's Wrap				R-0.01
6	Combi Layer				R-2.56
6a	Studs & Battens: 25x50mm Batten @ 600mm & compressed SuperQuilt & 94x47mm Timber Framing @ 600mm	8%		R-1.36	
	25mm Battens		R-0.21		
	SuperQuilt (50% compressed)		R-0.37		
	94mm Studs and Nogs		R-0.78		
6b	Nogs: Air Gap & SuperQuilt & 94x47mm Timber Framing @ 600mm centers	5%		R-2.83	
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 12°C)		R-0.56		
	SuperQuilt		R-1.49		
	94mm Studs and Nogs		R-0.78		
6c	Cavity: Two Still Air Gap with one reflective Side each (E=0.03) with SuperQuilt inbetween	87%		R-2.77	
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 6°C)		R-0.64		
	SuperQuilt		R-1.49		
	Additional Insulation		R-0.00		
	90mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 6°C)		R-0.64		
7	10mm Plasterboard				R-0.04
8	Inner Surface				R-0.09
Total R-Value					R-2.86

Weatherboard Cladding continued...

R-Value Table: SuperQuilt with additional R-1.40 Wall Batt (R VALUE = 3.81)

Layer	Description	Area Percentage	R-Value	R-Value	Effective R-Value
1	Outer Surface		R-0.03		R-0.01
2	Weatherboard		R-0.16		R-0.07
5	9mm Construction Plywood				R-0.07
6	Builder's Wrap				R-0.01
6	Combi Layer				R-3.51
6a	Studs & Battens: 25x50mm Batten @ 600mm & compressed SuperQuilt & 94x47mm Timber Framing @ 600mm	8%		R-1.36	
	25mm Battens		R-0.21		
	SuperQuilt (50% compressed)		R-0.37		
	94mm Studs and Nogs		R-0.78		
6b	Nogs: Air Gap & SuperQuilt & 94x47mm Timber Framing @ 600mm centers	5%		R-2.83	
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 12°C)		R-0.56		
	SuperQuilt		R-1.49		
	94mm Studs and Nogs		R-0.78		
6c	Cavity: Two Still Air Gap with one reflective Side each (E=0.03) with SuperQuilt inbetween	87%		R-4.17	
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 6°C)		R-0.64		
	SuperQuilt		R-1.49		
	Additional Insulation		R-1.40		
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 6°C)		R-0.64		
7	10mm Plasterboard				R-0.04
8	Inner Surface				R-0.09
	Total R-Value				R-3.81

R-Value Table: SuperQuilt with additional R-2.20 Wall Batt (R VALUE = 4.27)

<i>Wall 6: Weatherboard Cladding</i>					
Layer	Description	Area Percentage	R-Value	R-Value	Effective R-Value
1	Outer Surface		R-0.03		R-0.01
2	Weatherboard		R-0.16		R-0.07
5	9mm Construction Plywood				R-0.07
6	Builder's Wrap				R-0.01
6	Combi Layer				R-3.98
6a	Studs & Battens: 25x50mm Batten @ 600mm & compressed SuperQuilt & 94x47mm Timber Framing @ 600mm	8%		R-1.36	
	25mm Battens		R-0.21		
	SuperQuilt (50% compressed)		R-0.37		
	94mm Studs and Nogs		R-0.78		
6b	Nogs: Air Gap & SuperQuilt & 94x47mm Timber Framing @ 600mm centers	5%		R-2.83	
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 12°C)		R-0.56		
	SuperQuilt		R-1.49		
	94mm Studs and Nogs		R-0.78		
6c	Cavity: Two Still Air Gap with one reflective Side each (E=0.03) with SuperQuilt inbetween	87%		R-4.97	
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 6°C)		R-0.64		
	SuperQuilt		R-1.49		
	Additional Insulation		R-2.20		
	25mm vertical Air Gap with one reflective Side (E=0.03, DeltaT: 6°C)		R-0.64		
7	10mm Plasterboard				R-0.04
8	Inner Surface				R-0.09
	Total R-Value				R-4.27

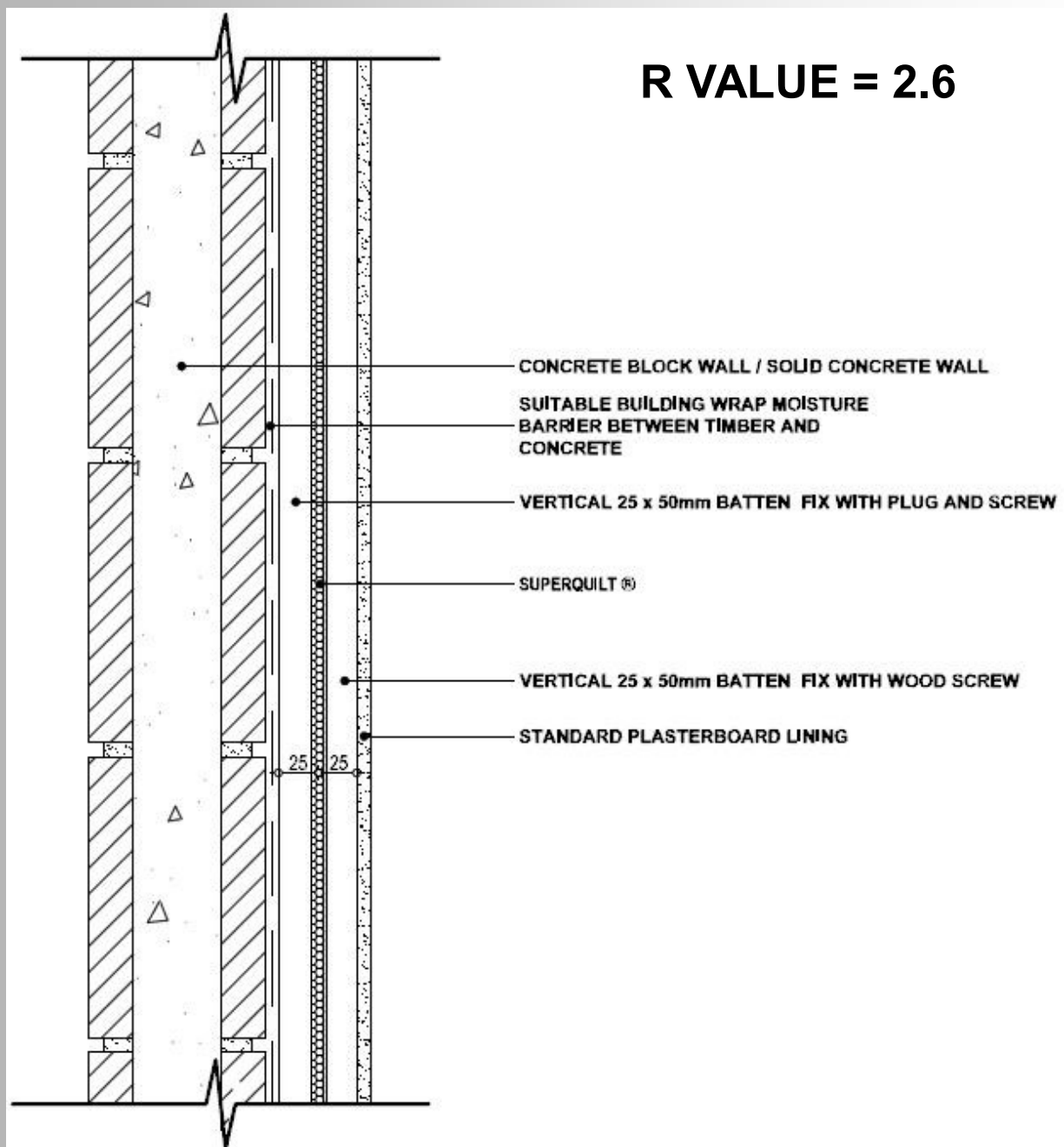
Concrete Block Wall Detail

Fixing Instructions

Vertical counter battens, minimum 25mm x 38mm battens are fixed over the DPC to the wall at 400mm CRS. Battens must always be placed at the top and bottom of the wall and around any joinery openings.

SuperQuilt is applied directly from the roll either vertically or horizontally depending upon the wall height, pulled tight and stapled onto the timber studs at 300mm CRS min.

SuperQuilt should be overlapped at each joint by approx 75mm minimum and stapled onto the battens. The joins should be sealed using YBS foil tape.



Dwarf Wall

Fixing Instructions

SuperQuilt is applied directly from the roll either vertically or horizontally depending on the wall height, pulled tight and stapled onto the timber studs at minimum 300mm centres.

SuperQuilt should be overlapped at each joint by 75mm minimum and stapled onto the battens. The joints should be sealed using 75mm SuperQuilt Foil Tape.

Vertical counter battens, recommended 25mm X 50mm are fixed to the wall. Battens must always be placed at the top and bottom of the wall and around the perimeter of joinery openings.

Plasterboard can then be fixed directly onto the battens in the usual manner.

* Calculations are based on the assumption that the roof space is non-ventilated and that all framing was 90x45 @ 600crs, wall framing had horizontals @ 600crs and 25x45mm battens are perpendicular to framing @ 600crs. Standard assumptions from AS/NZS 4859.1 were used.

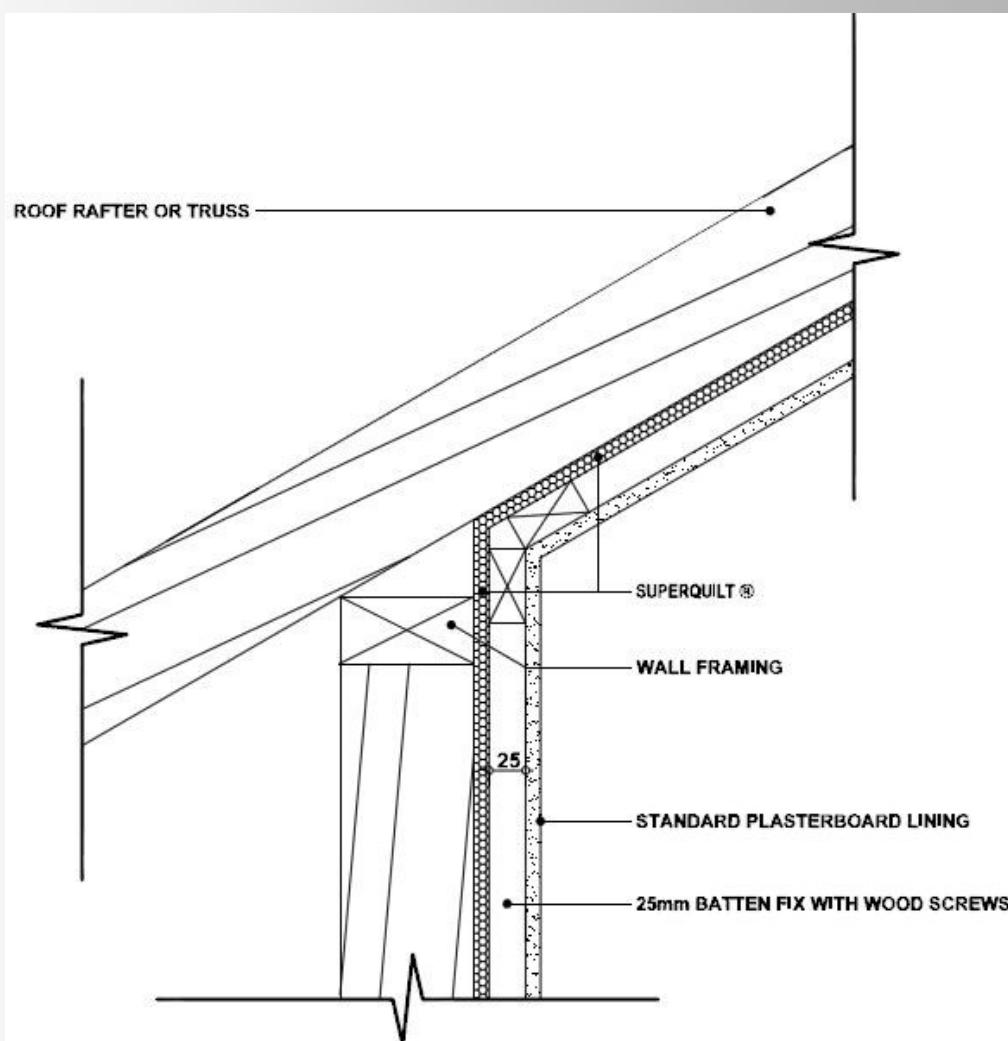
WALL R VALUE = 2.5*

**SLOPING CEILING HEAT FLOW UP
R VALUE = 2.3***

**SLOPING CEILING HEAT FLOW
DOWN R VALUE = 2.6***

**FLAT CEILING HEAT FLOW UP R
VALUE = 2.2***

**FLAT CEILING HEAT FLOW DOWN
R VALUE = 3.1***



SuperQuilt

TECHNICAL PROPERTIES

PRODUCT DESCRIPTION

19 Components

Thickness 40mm approx.

Weight 800g/m²

Mechanical Properties	Value	Reference Standard
Core Thermal Resistance	R value = 1.5	DIN 52611-1
Water vapour resistance	1569MNs/g	BS EN 12572
Emission coefficients of surfaces	0.03	Fraunhofer Institut
Tensile strength	142KPA	DIN EN 1608

Packaging 15m²

Width 1.5m

Length 10m

Weight 12.5kg

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