

0471P FLETCHER INSULATION THERMAL INSULATION AND PLIABLE MEMBRANES**Branded worksection**

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Worksection abstract

This branded worksection *Template* is applicable to **FLETCHER INSULATION** thermal insulation and pliable membranes for floors, walls, ceilings and roofs. It generally relies on AS 3999 (2015), AS 4200.1 (2017), AS 4200.2 (2017) and AS/NZS 4859.1 (2018). A pliable building membrane may be installed to act as a sarking membrane, vapour barrier, thermal insulation or any combination of the three. This worksection does not cover insulation for building services (e.g. for ductwork) or acoustic insulation.

Background

See NATSPEC TECHnote DES 004 and the *ABCB Condensation in buildings handbook (2023)* for information relating to the use of insulation and vapour control membranes to reduce condensation and moisture flow. Also see NATSPEC TECHnote DES 015 for information on the NCC energy efficiency provisions.

How to use this worksection

Customise this worksection *Template* for each project. See [A guide to NATSPEC worksections \(www.natspec.com.au\)](http://www.natspec.com.au) for information on *Template* structure, word styles and completing a worksection.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections, including:

- *0420 Roofing - combined* for insulated panel systems, safety mesh and insulation spacers.
- *0430 Cladding - combined* for exterior insulation and finish systems (EIFS) and insulated panel systems.
- *0472 Acoustic insulation* for insulation for floors, walls and ceilings against the transmission of airborne and impact generated sound.

Related branded worksections by **FLETCHER INSULATION**:

- *0472p FLETCHER INSULATION acoustic insulation*.

Material not provided by FLETCHER INSULATION

This branded worksection *Template* includes generic material which may not be provided by the Product Partner including:

- Thermal break strips.

Documenting this and related work

You may document this and related work as follows:

- Show extent, type, location, arrangement, fixing and support details on the drawings.
- If insulation and pliable building membranes are integral to other worksections, cross reference this worksection or take relevant text from here for inclusion in those other worksections.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Construction details for cool temperate climates.
- Guarantees and warranties.
- Thermal mass and insulation for temperate climates.
- Strategies and resources for material selection.

Specifying ESD

The following may be specified by retaining default text:

- Bio-soluble fibres in blankets and batts.
- Thermal break strips.

The following may be specified by using included options:

- Thermal performance to reduce heating/cooling load by specifying the required R-Value for roofs, ceilings, walls and floors.

- Recycled material content, e.g. recycled waste glass in glasswool insulation.
Refer to NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

Fletcher Insulation is an industry leader in insulation solutions for the Australian building sector. Working closely with architects and specifiers in addressing the complex challenges in building design across the range of performance parameters including energy efficiency, thermal comfort, acoustic comfort, moisture control, indoor air quality, thermal bridging, fire resistance and air tightness. Fletcher Insulation continually invest in more sustainable manufacturing processes and look to ways of bringing innovative products and services to the Australian market.

1.1 RESPONSIBILITIES

General

Requirement: Provide thermal insulation and pliable membrane systems, as documented.

Documented is defined in *0171 General requirements* as meaning contained in the contract documents.

It is the responsibility of the designer to nominate and detail insulation and pliable membranes conforming to the requirements of the NCC.

1.2 COMPANY CONTACTS

FLETCHER INSULATION technical contacts

Website: www.insulation.com.au/contact-us

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 MANUFACTURER'S DOCUMENTS

Technical manuals

Product information: www.insulation.com.au/products

1.5 INTERPRETATION

Definitions

General: For the purposes of this worksection, the definitions given in AS/NZS 4859.1 (2018) and the following apply:

- Batts: Flexible insulation supplied as factory cut pieces and composed of mineral fibre (glass and rock fibre) or polyester fibre.
- Bio-soluble: A product that dissolves in bodily fluids and is quickly cleared from the lungs.
- Blankets: Flexible insulation supplied as factory cut rolls and composed of mineral fibre (glass and rock fibre) or polyester fibre, and may be combined with reflective facings.
- Pliable building membrane: To AS 4200.1 (2017) and equivalent to sarking-type materials as defined in the NCC.

A pliable building membrane may be installed to act as a sarking membrane, vapour barrier, thermal insulation or any combination of the three.

- Vapour permeable (breathable) membrane: A flexible membrane material, normally used for secondary waterproofing that allows for the transmission of water vapour.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

1.6 SUBMISSIONS

Fire performance

Non-combustibility: Submit evidence of conformity to **FIRE PERFORMANCE, Non-combustibility**.

Fire hazard properties: Submit evidence of conformity to **FIRE PERFORMANCE, Fire hazard properties**.

Products and materials

Thermal insulation properties: Submit evidence of conformity to AS/NZS 4859.1 (2018) and AS/NZS 4859.2 (2018).

This is primarily to verify claimed Total R-Value for NCC compliance.

AS/NZS 4859.1 (2018) is applicable to the R-Value of bulk insulation only and excludes insulation built up from layers of different materials and the effects of air spaces and surface resistance. If the system or total R-Value relies on layers of different materials, air spaces or reflective surfaces, the R-Value must be calculated to AS/NZS 4859.2 (2018).

AS/NZS 4859.2 (2018) includes standard assumptions for calculating R-Values including de-rating of the insulation performance to compensate for dust, labelling ink and so on. The effect of the de-rating may be significant and in situations where reflective foil is used in combination with bulk insulation, a conservative approach would be to ignore the reflective surface effect, i.e. treat the surface as high emittance. Calculations performed to AS/NZS 4859.2 (2018) are not to be used for the purposes of labelling. See NATSPEC TECHnote DES 031 for information on specifying R-Values.

Evidence of delivery: Submit delivery docket as evidence of delivery of [complete/delete]

If evidence of delivery to site is required for particular products, consider including this *Optional* style text by changing to *Normal* style.

Subcontractors

General: Submit names and contact details of proposed subcontractors, together with evidence of their experience and qualifications.

If the submission of subcontractor details is a project requirement, change this *Optional* style text to *Normal* style text.

Warranties

Requirement: Submit warranties to **COMPLETION, Warranties**.

1.7 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Insulation or pliable membrane materials after installation and before concealment.

Edit to suit the project adding critical stage inspections required.

Hold points, if required, should be inserted here.

2 PRODUCTS

2.1 GENERAL

Product substitution

Other products: Conform to **SUBSTITUTIONS** in *0171 General requirements*.

SUBSTITUTIONS in *0171 General requirements* sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

Storage and handling

Labelling: Deliver mineral fibre products to site in packaging with third party mark of conformity indicating product is bio-soluble and not listed as hazardous material in the Safe Work Australia *Hazardous Chemical Information System* (HCIS).

See NATSPEC TECHnote PRO 002 for more information on the manufacture, properties and safety issues related to the use of mineral fibre. Australian products are identified by the ICANZ FBS-1 label. For imported products, check availability of evidence such as EUCEB certification.

2.2 FIRE PERFORMANCE

Non-combustibility

Insulation: Tested to the NCC cited AS 1530.1 (1994).

The NCC cites AS 1530.1 (1994). The current edition is AS 1530.1 (2024).

Check if your construction is required to be non-combustible. Refer to BCA (2022) Section C.

Non-combustible construction required: [complete/delete]

List any parts of the project that the NCC requires to be non-combustible or delete, if none. The NCC requires that construction required to be non-combustible (e.g. fire walls and spandrels with a specific FRL) must be constructed wholly of materials that are not deemed combustible. See BCA (2022) C2D10(6). In other situations the NCC does not prohibit the use of combustible insulation materials provided they meet the other fire properties.

If non-combustible construction is required, change this *Optional* style text to *Normal* style text.

Fire hazard properties

See NATSPEC TECHnote DES 003 for more information on the fire hazard properties of insulation materials and NATSPEC TECHnote DES 020 on fire behaviour of building materials and assemblies. See also BCA (2022) Table S7C7.

Insulation materials: Tested to AS/NZS 1530.3 (1999). Fire hazard indices as follows:

- Spread-of-Flame Index: ≤ 9 .
- Smoke-Developed Index: ≤ 8 if Spread-of-Flame Index is more than 5.
- Heat Evolved Index: 0.
- Ignitability Index: 0.

Materials with reflective facing: Tested to AS/NZS 1530.3 (1999) and the recommendations of Appendix A6.

AS/NZS 1530.3 (1999) Informative Appendix clause A6 recommends that reflective surfaces of test specimens (which would otherwise generally pass this test) be blackened and diagonally scored in order to simulate soot deposition onto reflective surfaces in a real fire situation. Note that AS/NZS 1530.3 (1999) clause 4.12.2(c) requires insulation materials faced with reflective surface materials to incorporate a representative vertical joint in three test specimens.

Pliable membranes: Flammability Index no more than 5 when tested to AS 1530.2 (1993).

Flammability Index is determined under AS 1530.2 (1993). There has been some debate about the adequacy of the test procedure in predicting performance of material in real fire situations. Pliable membranes are tested to AS 1530.2 (1993) as they are not suitable for testing to AS/NZS 1530.3 (1999).

Exposed insulation/linings: Group number to AS 5637.1 (2015).

Non-sprinklered buildings: Wall and ceiling linings must either have an *average specific extinction area* less than 250 m²/kg or a *smoke growth rate index* not more than 100 as determined by AS 5637.1 (2015).

2.3 MATERIALS

Thermal insulation

Standard: To AS/NZS 4859.1 (2018).

AS/NZS 4859.1 (2018) categorises insulation as follows: Formed shapes, Formed in situ, Compressible, Loose fills, IR reflective and Vacuum panels. It also outlines requirements for the following types of insulation:

- Cellulosic fibre (loose fill): Section 4.
- Wool: See Section 5.
- Polyester (compressible): Section 6.
- Mineral fibre blankets and cut pieces (compressible): Section 7.
- Rigid cellular foam insulation (EPS, PF, PIR, PUR and XPS): Section 8. These materials exhibit high combustibility (as do most of the organic fibre materials) and release various toxic products of combustion (e.g. hydrogen cyanide from polyurethane foam). Other alternatives include strawboard and woodwool.

- IR reflective (formed shapes and compressible with one or more external IR reflective surfaces): Section 9. AS/NZS 4859.1 (2018) requires that R-Value is declared at 23°C for insulation products sold in Australia. If the system or total R-Value relies on layers of different materials, air spaces or reflective surfaces the R-Value must be calculated to AS/NZS 4859.2 (2018). Calculations performed to AS/NZS 4859.2 (2018) are not to be used for the purposes of labelling.

Mineral fibre insulation: Bio-soluble and not listed as a hazardous material in the Safe Work Australia *Hazardous Chemical Information System* (HCIS).

Bio-soluble or low bio-persistence mineral fibres are eliminated by the biological function of the lung. They are not listed as hazardous in the HCIS.

Pliable building membranes

Standard: To AS 4200.1 (2017).

If optional material classifications are required, AS 4200.1 (2017) Appendix A sets out tests for resistance to UV exposure, surface corrosion of low emittance surface, heat shrinkage, surface water absorbency classification and air control classification. Contact FLETCHER INSULATION for the availability of these test results.

Duty classification: To AS 4200.1 (2017) Table 1, as documented.

AS 4200.1 (2017) Table 1 documents 6 duty classifications from extra heavy to extra light. The classification defines minimum values for tensile strength, edge tear resistance and burst strength.

Vapour control membranes:

AS 4200.1 (2017) Table 4 categorises vapour control membranes (VCMs) as vapour barriers when classified Class 1 or Class 2, and vapour permeable membranes when classified Class 3 or Class 4.

- Vapour barrier:
 - . Vapour control classification: Class 1 or Class 2, as documented.
- Vapour permeable (breathable) membrane:
 - . Vapour control classification: Class 3 or Class 4, as documented.

AS 4200.1 (2017) Table 4 documents minimum and maximum vapour permeance values ($\mu\text{g}/\text{N}\cdot\text{s}$) tested to ASTM E96/E96M (2016) for vapour control membranes. Vapour permeance is the inverse of vapour resistance ($\text{MN}\cdot\text{s}/\text{g}$), the higher the permeance value, the greater the permeability.

The NCC cites ASTM E96/E96M (2016). The current edition is ASTM E96/E96M (2024).

Water control (sarking) membrane (other than walls and gables):

- Water control classification: Water barrier.

If the water control membrane fails the test documented in, or has not been tested to AS/NZS 4201.4 (1994), the classification is Non-water barrier.

2.4 FLETCHER INSULATION BATTS

Refer to SELECTIONS for product identification, including product codes, and to document product selections.

Pink batts - ceiling

Description: Firm FBS-1 glasswool bio-soluble, fungi resistant, thermal and acoustic insulation for residential ceilings.

Certification: CodeMark Certificate of Conformity CM30006.

The date of expiry of this CodeMark Certificate of Conformity is 29/06/2026.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

R-Value range ($\text{m}^2\cdot\text{K}/\text{W}$): R2.5 to R7.0.

BAL zone suitability to AS 3959 (2018): Low to FZ.

Fire hazard properties:

- Non-combustible.
- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index: 0-1.

Dimensions: Sized to fit standard spacings for timber and steel ceiling joists, as follows:

- Thickness (mm): 130 to 285.

- Width (mm): 430 to 600.
- Length (mm): 1160 or 1200.

Pink batts - wall

Description: Firm FBS-1 glasswool bio-soluble, fungi resistant, thermal and acoustic insulation for residential walls.

Certification: CodeMark Certificate of Conformity CM30006.

The date of expiry of this CodeMark Certificate of Conformity is 29/06/2026.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

R-Value range (m².K/W): R1.5 to R2.5.

BAL zone suitability to AS 3959 (2018): Low to FZ.

Fire hazard properties:

- Non-combustible.
- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index: 0-1.

Dimensions: Sized to fit standard spacings for timber and steel stud framing, as follows:

- Thickness (mm): 70 or 90.
- Width (mm): 430 to 600.
- Length (mm): 1160 or 1200.

Pink partition

Description: Firm FBS-1 glasswool bio-soluble, fungi resistant, thermal and acoustic insulation for metal framed commercial and residential partitions, manufactured from up to 80% recycled glass.

Certification: CodeMark Certificate of Conformity CM30006.

The date of expiry of this CodeMark Certificate of Conformity is 29/06/2026.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

R-Value range (m².K/W): R0.7 to R4.2.

BAL zone suitability to AS 3959 (2018): Low to FZ.

Fire hazard properties:

- Non-combustible.
- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index: 1.

Dimensions: Sized to fit standard spacings for steel stud partitions, as follows:

- Thickness (mm): 25 to 165.
- Width (mm): 450 or 600.
- Length (mm): 1200 or 2700.

2.5 FLETCHER INSULATION BOARD

Refer to SELECTIONS for product identification, including product codes, and to document product selections.

Pink thermal slab

Description: Semi-rigid FBS-1 glasswool bio-soluble, fungi resistant, thermal and acoustic insulation board, manufactured from up to 80% recycled glass, with Sisalation Heavy Duty 450 facing foil laminate adhered to one side. For use in commercial under slab soffit applications.

Certification: CodeMark Certificate of Conformity CM30006.

The date of expiry of this CodeMark Certificate of Conformity is 29/06/2026.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

R-Value range (m².K/W): R1.5 to R3.0.

Duty classification (foil component only): Heavy duty (HD).

Fire hazard properties:

- Non-combustible (glasswool component only).
- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index: 2.
- Flammability index (foil component only): ≤ 5.
- Group number (foil component only): 1.

Dimensions:

- Thickness (mm): 50 to 100.
- Width (mm): 1200.
- Length (mm): 2400.

2.6 FLETCHER INSULATION BLANKETS

Refer to SELECTIONS for product identification, including product codes, and to document product selections.

Permastop building blanket

Description: FBS-1 glasswool bio-soluble, fungi resistant, thermal and acoustic insulation blanket, manufactured from up to 80% recycled content, with Sisalation facing foil laminate adhered to one side. For use in commercial and residential metal clad roof applications, also suitable for commercial steel frame wall construction and under slab soffits.

Certification: CodeMark Certificate of Conformity CM30006.

The date of expiry of this CodeMark Certificate of Conformity is 29/06/2026.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

R-Value range (m².K/W): R1.3 to R3.6.

Duty classification (foil component only): Light duty (LD), Medium duty (MD) and Heavy duty (HD).

BAL zone suitability to AS 3959 (2018): Low to 40.

Fire hazard properties:

- Non-combustible (glasswool component only).
- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index: 2.
- Flammability index (foil component only): ≤ 5.
- Group number (foil component only):
 - . LD: 1.
 - . MD: 2.
 - . HD: 2.

Dimensions:

- Thickness (mm): 55 to 130.
- Width (mm): 1200.
- Length (m): 6.5 to 20.

Permatuff building blanket

Description: FBS-1 glasswool bio-soluble thermal and acoustic insulation blanket, manufactured from up to 80% recycled content, with Sisalation polyweave reflective facing foil laminate adhered to one side. For use in commercial and residential metal clad roof applications.

Certification: CodeMark Certificate of Conformity CM30006.

The date of expiry of this CodeMark Certificate of Conformity is 29/06/2026.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

R-Value range (m².K/W): R1.3 to R3.6.

Duty classification (foil component only): Medium duty (MD) and Extra heavy duty (EHD).

BAL zone suitability to AS 3959 (2018): Low to 40.

Fire hazard properties:

- Non-combustible (glasswool component only).
- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index:
 - . MD: 2.
 - . EHD: 1.
- Flammability index (foil component only): ≤ 5.

Dimensions:

- Thickness (mm): 55 to 130.
- Width (mm): 1200.
- Length (m): 6.5 to 20.

2.7 FLETCHER INSULATION PLIABLE MEMBRANES

Refer to SELECTIONS for product identification, including product codes, and to document product selections.

Sisalation foam cell multipurpose

Description: 3-in-1 sarking solution of thermal insulation, thermal break and vapour barrier, for use in commercial and residential wall and roof applications.

R-Value (m².K/W): R0.25.

Duty classification: Extra heavy duty (EHD).

Vapour control classification: Class 1 vapour barrier.

Water control classification: Water barrier.

BAL zone suitability to AS 3959 (2018):

- Roof: Low to 40.
- Wall: Low to FZ.

Fire hazard properties:

- Ignitability index: 0.
- Spread of flame index: 0.
- Heat evolved index: 0.
- Smoke developed index: 1.
- Flammability index: ≤ 5.
- Group number: 2.

Dimensions:

- Thickness (mm): 8.4.
- Width (mm): 1350.
- Length (m): 22.25.

Sisalation metal roof sarking MD (433) and HD (453)

Description: Reinforced sarking solution of aluminium foil bonded to each side of high density kraft paper. For use in commercial and residential metal roof applications, also suitable for commercial and residential wall applications.

Climate zone suitability: 1 to 8.

Duty classification: Medium duty (MD) and Heavy duty (HD).

Vapour control classification: Class 2 vapour barrier.

Water control classification: Water barrier.

BAL zone suitability to AS 3959 (2018): Low to 40.

Fire hazard properties:

- Flammability index: ≤ 5 .

Dimensions:

- Thickness (mm): < 1.0 .
- Width (mm): 1350.
- Length (m): 30 or 60.

Sisalation multipurpose EHD (456)

Description: Flexible sarking solution of aluminium foil bonded to a polymer fabric with a polymer coating. For use in commercial and residential wall and roof applications.

Climate zone suitability: 1 to 3.

Duty classification: Extra heavy duty (EHD).

Vapour control classification: Class 1 vapour barrier.

Water control classification: Water barrier.

BAL zone suitability to AS 3959 (2018):

- Roof: Low to 40.
- Wall: Low to FZ.

Fire hazard properties:

- Flammability index: ≤ 5 .

Dimensions:

- Thickness (mm): < 1.0 .
- Width (mm): 1350.
- Length (m): 30 or 60.

Sisalation Tuff Wrap Standard (497)

Description: Wall wrap building membrane of aluminium foil bonded to a polymer based weave. For use in residential timber and steel framed walls and gables.

Climate zone suitability: 1 to 3.

Duty classification: Medium duty (MD).

Vapour control classification: Class 2 vapour barrier.

Water control classification: Water barrier.

BAL zone suitability to AS 3959 (2018): Low to FZ.

Fire hazard properties:

- Flammability index: ≤ 5 .

Dimensions:

- Thickness (mm): < 1.0 .
- Width (mm): 1350.
- Length (m): 30 or 60.

Sisalation Vapawrap wall wrap

Description: Wall wrap building membrane of resilient non-woven fabric with a high resistance to water. For use in residential brick veneer walls and gables or behind fibre cement cladding.

Climate zone suitability: 2 to 8.

Duty classification: Light duty (LD).

Vapour control classification: Class 4 vapour permeable membrane.

Water control classification: Water barrier.

BAL zone suitability to AS 3959 (2018): Low to FZ.

Fire hazard properties:

- Flammability index: ≤ 5 .

Dimensions:

- Thickness (mm): < 1.0.
- Width (mm): 1350 to 2700.
- Length (m): 30.

Sisalation Vapwrap metal roof

Description: Flexible membrane of resilient non-woven fabric with high vapour permeability. For use in commercial and residential metal roof applications, also suitable for commercial and residential wall applications.

Climate zone suitability: 2 to 8.

Duty classification: Light duty (LD).

Vapour control classification: Class 4 vapour permeable membrane.

Water control classification: Water barrier.

BAL zone suitability to AS 3959 (2018):

- Roof: Low to 40.
- Wall: Low to FZ.

Fire hazard properties:

- Flammability index: ≤ 5 .

Dimensions:

- Thickness (mm): < 1.0.
- Width (mm): 1350.
- Length (m): 30.

2.8 FLETCHER INSULATION ACCESSORIES

Roof razor

Description: Metal roof insulation spacer, positioned between structure and external cladding to reduce thermal bridging in metal clad roofs up to a slope of 30°. Available in standard and cyclonic variants

See BCA (2022) J3D5 on roof thermal breaks, and BCA (2022) J3D6 on wall thermal breaks. See also BCA (2022) H6D2(1)(b)(i). R0.2 is a minimum and the NCC requires that Total R-Value and Total System U-Value calculations include allowance for thermal bridging.

Dimensions:

- Height (mm): 60 to 115.
- Length (mm): 1200.

Roof safety mesh

Description: Welded steel safety mesh to AS/NZS 4389 (2015) with grade W02 galvanised coating to AS/NZS 4534 (2006). Provides fall protection during construction and retains installed insulation in position. Used with the following FLETCHER INSULATION products:

- Permastop building blanket.
- Permatuff building blanket.
- Roof razor.

Welded safety mesh may be used for fall arrest if required by WHS authorities. Coordinate with 0420 Roofing - combined, which also cites AS/NZS 4389 (2015). Mesh support for roof insulation may not be required if fall arrest sarking is used.

Dimensions:

- Wire diameter (mm): 2.
- Mesh size (mm): 300 x 150.
- Width (mm): 1800 or 2250.
- Length (m): 50 or cut to length.

Sisalation 3M seaming tape

Description: White polypropylene tape with acrylic pressure sensitive adhesive, designed for use when joining vapour permeable membranes, to avoid moisture ingress at the seams. Used with the following FLETCHER INSULATION products:

- Sisalation Vapawrap wall wrap.
- Sisalation Vapawrap metal roof.

Dimensions:

- Width (mm): 48.
- Length (m): 50.

Vapastop 833 foil tape

Description: A strong reinforced foil tape with pressure sensitive adhesive that provides an effective vapour seal over joints of reflective insulation products and composites. Used with the following FLETCHER INSULATION products:

- Permstop building blanket.
- Permatuff building blanket.
- Sisalation foam cell multipurpose.
- Sisalation metal roof sarking MD (433) and HD (453).
- Sisalation multipurpose EHD (456).

Dimensions:

- Width (mm): 48 to 96.
- Length (m): 50.

2.9 COMPONENTS

Fasteners and supports

General: Metallic-coated steel.

Consider nominating stainless steel in areas of high corrosivity.

Thermal break strips

Product: Proprietary item.

R-Value ($\text{m}^2\cdot\text{K}/\text{W}$): ≥ 0.2 .

See BCA (2022) J3D5 on roof thermal breaks, and BCA (2022) J3D6 on wall thermal breaks. See also BCA (2022) H6D2(1)(b)(i). R0.2 is a minimum and the NCC requires that Total R-Value and Total System U-Value calculations include allowance for thermal bridging.

3 EXECUTION

3.1 GENERAL

Installation

Requirement: Conform to the requirements of the FLETCHER INSULATION installation guides for the products selected.

Installation guides are available for each of the FLETCHER INSULATION products.

Thermal insulation

Requirement: To AS 3999 (2015) and BCA (2022) J4D3.

AS 3999 (2015) includes vapour barriers used in conjunction with bulk insulation. Bulk insulation includes thermal insulation materials in the form of batts, blankets, rigid boards or loose fills as classified in AS/NZS 4859.1 (2018). For the purposes of AS 3999 (2015), segmented foil products are also considered bulk insulation.

See BCA (2022) H6D2(1)(b)(i) for Class 1 and 10 buildings.

Installation: Firmly butt together with no gaps except as follows:

- Access openings and vents: Do not obstruct.
- Light fittings: To AS/NZS 3000 (2018) clause 4.5.
- Electrical cables: To AS 3999 (2015) clause 2.6.

The flow of electric current in cables generates heat, which needs to dissipate to the surroundings. The insulation should not be installed to completely surround the cable.

Pliable building membrane

Installation: To AS 4200.2 (2017) and BCA (2022) J4D3.

AS 4200.2 (2017) Table 2.6 documents the duty classification and allowable usage for the application and level of support. See the *ABCB Condensation in buildings handbook (2023)* for information on condensation and use of vapour barriers, vapour permeable membranes and sarking.

See BCA (2022) H6D2(1)(b)(i) for Class 1 and 10 buildings.

3.2 COMPLETION

Warranties

Refer to 0171 *General requirements* for appropriate warranty type and the terms covered in the warranty.

Selection of warranty type: Check warranty type is suitable for intended purpose for selected product or material.

Type: Manufacturer’s warranty.

Period: FLETCHER INSULATION provide the following warranty periods for the products included in this specification:

- Pink partition: 50 years.
- All other products: 10 years (for commercial applications).

4 SELECTIONS

Schedules are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system’s location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 FLETCHER INSULATION SCHEDULES

FLETCHER INSULATION batts schedule

	A	B	C
Product name			
Product code			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Simply nominate the product name and product code from the options below. The product code is unique to each product variant and therefore adequately defines the properties and characteristics of the chosen product. However, additional rows can be added to schedule to list any critical properties, if required, such as R-Value, thickness and density.

Product name: **Pink batts – ceiling**, select from the following product codes (dimensions below in mm):

- **4006098**: R2.5, 130 (THK), 430 (W), 1160 (L).
- **4006099**: R2.5, 130 (THK), 580 (W), 1160 (L).
- **4006100**: R3.0, 155 (THK), 430 (W), 1160 (L).
- **4006101**: R3.0, 155 (THK), 580 (W), 1160 (L).
- **4006102**: R3.5, 175 (THK), 430 (W), 1160 (L).
- **4006103**: R3.5, 175 (THK), 580 (W), 1160 (L).
- **4006039**: R4.1, 215 (THK), 430 (W), 1160 (L).
- **4006040**: R4.1, 215 (THK), 580 (W), 1160 (L).
- **4020596**: R4.1, 215 (THK), 450 (W), 1200 (L).
- **4020597**: R4.1, 215 (THK), 600 (W), 1200 (L).
- **4006041**: R5.0, 220 (THK), 430 (W), 1160 (L).
- **4006042**: R5.0, 220 (THK), 580 (W), 1160 (L).
- **4020598**: R5.0, 220 (THK), 450 (W), 1200 (L).
- **4020599**: R5.0, 220 (THK), 600 (W), 1200 (L).
- **4006043**: R6.0, 250 (THK), 430 (W), 1160 (L).
- **4006044**: R6.0, 250 (THK), 580 (W), 1160 (L).
- **4006045**: R7.0, 285 (THK), 430 (W), 1160 (L).
- **4006046**: R7.0, 285 (THK), 580 (W), 1160 (L).

Product name: **Pink batts – wall**, select from the following product codes (dimensions below in mm):

- **4006277**: R1.5, 70 (THK), 430 (W), 1160 (L).
- **4006278**: R1.5, 70 (THK), 580 (W), 1160 (L).
- **4006093**: R2.0, 90 (THK), 430 (W), 1160 (L).
- **4006094**: R2.0, 90 (THK), 580 (W), 1160 (L).
- **4006279**: R2.0 HD, 70 (THK), 430 (W), 1160 (L).
- **4006280**: R2.0 HD, 70 (THK), 580 (W), 1160 (L).
- **4006281**: R2.0 HD, 70 (THK), 600 (W), 1200 (L).
- **4006071**: R2.5 HD, 90 (THK), 430 (W), 1160 (L).
- **4006072**: R2.5 HD, 90 (THK), 580 (W), 1160 (L).
- **4020595**: R2.5 HD, 90 (THK), 450 (W), 1200 (L).
- **4006069**: R2.5 HD, 90 (THK), 600 (W), 1200 (L).

Product name: **Pink partition**, select from the following product codes (dimensions below in mm):

- **4006003**: Density 11 kg/m³, R1.2, 50 (THK), 450 (W), 1200 (L).
- **4006005**: Density 11 kg/m³, R1.2, 50 (THK), 600 (W), 1200 (L).
- **4006006**: Density 11 kg/m³, R1.2, 50 (THK), 600 (W), 2700 (L).
- **4006007**: Density 11 kg/m³, R1.8, 75 (THK), 450 (W), 1200 (L).
- **4006009**: Density 11 kg/m³, R1.8, 75 (THK), 600 (W), 1200 (L).
- **4006010**: Density 11 kg/m³, R1.8, 75 (THK), 600 (W), 2700 (L).
- **4006011**: Density 11 kg/m³, R2.1, 90 (THK), 450 (W), 1200(L).
- **4006012**: Density 11 kg/m³, R2.1, 90 (THK), 450 (W), 2700 (L).
- **4006013**: Density 11 kg/m³, R2.1, 90 (THK), 600 (W), 1200 (L).
- **4006017**: Density 11 kg/m³, R2.5, 110 (THK), 450 (W), 1200 (L).
- **4006015**: Density 11 kg/m³, R2.5, 110 (THK), 600 (W), 1200 (L).
- **4008200**: Density 11 kg/m³, R3.5, 165 (THK), 450 (W), 1200 (L).
- **4008199**: Density 11 kg/m³, R3.5, 165 (THK), 600 (W), 1200 (L).
- **4006021**: Density 14 kg/m³, R1.3, 50 (THK), 450 (W), 1200 (L).
- **4006023**: Density 14 kg/m³, R1.3, 50 (THK), 600 (W), 1200 (L).
- **4005951**: Density 14 kg/m³, R1.9, 75 (THK), 450 (W), 1200 (L).
- **4005952**: Density 14 kg/m³, R1.9, 75 (THK), 450 (W), 2700 (L).
- **4005953**: Density 14 kg/m³, R1.9, 75 (THK), 600 (W), 1200 (L).
- **4005954**: Density 14 kg/m³, R1.9, 75 (THK), 600 (W), 2700 (L).
- **4005957**: Density 14 kg/m³, R2.2, 90 (THK), 450 (W), 1200 (L).
- **4006087**: Density 14 kg/m³, R2.2, 90 (THK), 600 (W), 1200 (L).
- **4020971**: Density 22 kg/m³, R4.2, 150 (THK), 600 (W), 1200 (L).
- **4006091**: Density 24 kg/m³, R0.7, 25 (THK), 600 (W), 2700 (L).
- **4006088**: Density 24 kg/m³, R1.1, 38 (THK), 600 (W), 2700 (L).
- **4006025**: Density 24 kg/m³, R1.4, 50 (THK), 600 (W), 1200 (L).
- **4008195**: Density 24 kg/m³, R1.4, 50 (THK), 600 (W), 2700 (L).
- **4006026**: Density 24 kg/m³, R2.1, 75 (THK), 450 (W), 1200 (L).
- **4006027**: Density 24 kg/m³, R2.1, 75 (THK), 600 (W), 1200 (L).
- **4006029**: Density 24 kg/m³, R2.5, 90 (THK), 600 (W), 1200 (L).
- **4006030**: Density 24 kg/m³, R2.8, 100 (THK), 450 (W), 1200 (L).
- **4006031**: Density 24 kg/m³, R2.8, 100 (THK), 600 (W), 1200 (L).
- **4006033**: Density 32 kg/m³, R1.5, 50 (THK), 450 (W), 1200 (L).
- **4006034**: Density 32 kg/m³, R1.5, 50 (THK), 600 (W), 1200 (L).
- **4008123**: Density 32 kg/m³, R2.2, 75 (THK), 450 (W), 1200 (L).
- **4008122**: Density 32 kg/m³, R2.2, 75 (THK), 600 (W), 1200 (L).
- **4005948**: Density 32 kg/m³, R2.7, 90 (THK), 450 (W), 1200 (L).
- **4005949**: Density 32 kg/m³, R2.7, 90 (THK), 600 (W), 1200 (L).

- **4005950:** Density 32 kg/m³, R3.0, 100 (THK), 600 (W), 1200 (L).

FLETCHER INSULATION board schedule

	A	B	C
Product name	Pink thermal slab	Pink thermal slab	Pink thermal slab
Product code			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Simply nominate the product name and product code from the options below. The product code is unique to each product variant and therefore adequately defines the properties and characteristics of the chosen product. However, additional rows can be added to schedule to list any critical properties, if required, such as R-Value and thickness.

Product name: **Pink thermal slab**, select from the following product codes (dimensions below in mm):

- **4005602:** R1.5, 50 (THK), 1200 (W), 2400 (L).
- **4005605:** R2.0, 68 (THK), 1200 (W), 2400 (L).
- **4005603:** R2.2, 75 (THK), 1200 (W), 2400 (L).
- **4005604:** R3.0, 100 (THK), 1200 (W), 2400 (L).

FLETCHER INSULATION blankets schedule

	A	B	C
Product name			
Product code			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Simply nominate the product name and product code from the options below. The product code is unique to each product variant and therefore adequately defines the properties and characteristics of the chosen product. However, additional rows can be added to schedule to list any critical properties, if required, such as R-Value, thickness and duty classification.

Product name: **Permastop building blanket**, select from the following product codes (dimensions below in mm):

- **4020480:** LD, R1.3, 55 (THK), 1200 (W), 15000 (L).
- **4020481:** LD, R1.3, 55 (THK), 1200 (W), 20000 (L).
- **4020484:** LD, R1.4, 60 (THK), 1200 (W), 15000 (L).
- **4020485:** LD, R1.4, 60 (THK), 1200 (W), 20000 (L).
- **4020482:** LD, R1.8, 75 (THK), 1200 (W), 15000 (L).
- **4020487:** LD, R1.8, 75 (THK), 1200 (W), 20000 (L).
- **4020472:** LD, R2.5, 100 (THK), 1200 (W), 10000 (L).
- **4020473:** LD, R3.0, 130 (THK), 1200 (W), 10000 (L).
- **4020475:** LD, R3.2, 130 (THK), 1200 (W), 10000 (L).
- **4020477:** LD, R3.6, 130 (THK), 1200 (W), 6500 (L).
- **4005793:** MD, R1.3, 55 (THK), 1200 (W), 15000 (L).
- **4004325:** MD, R1.4, 60 (THK), 1200 (W), 15000 (L).
- **4005712:** MD, R1.8, 75 (THK), 1200 (W), 15000 (L).
- **4005719:** MD, R2.5, 100 (THK), 1200 (W), 10000 (L).
- **4005631:** MD, R3.0, 130 (THK), 1200 (W), 10000 (L).
- **4005622:** MD, R3.2, 130 (THK), 1200 (W), 10000 (L).
- **4005626:** MD, R3.6, 130 (THK), 1200 (W), 6500 (L).
- **4005614:** HD, R1.3, 55 (THK), 1200 (W), 15000 (L).
- **4004326:** HD, R1.4, 60 (THK), 1200 (W), 15000 (L).
- **4005616:** HD, R1.8, 75 (THK), 1200 (W), 15000 (L).
- **4005619:** HD, R2.5, 100 (THK), 1200 (W), 10000 (L).
- **4005633:** HD, R3.0, 130 (THK), 1200 (W), 10000 (L).
- **4005625:** HD, R3.2, 130 (THK), 1200 (W), 10000 (L).

- **4005627:** HD, R3.6, 130 (THK), 1200 (W), 6500 (L).

Product name: **Permatuff building blanket**, select from the following product codes (dimensions below in mm):

- **4020322:** MD, R1.3, 55 (THK), 1200 (W), 15000 (L).
- **4020323:** MD, R1.3, 55 (THK), 1200 (W), 20000 (L).
- **4020324:** MD, R1.4, 60 (THK), 1200 (W), 15000 (L).
- **4020325:** MD, R1.4, 60 (THK), 1200 (W), 20000 (L).
- **4020326:** MD, R1.8, 75 (THK), 1200 (W), 15000 (L).
- **4020327:** MD, R2.5, 100 (THK), 1200 (W), 10000 (L).
- **4020328:** MD, R3.0, 130 (THK), 1200 (W), 10000 (L).
- **4020329:** MD, R3.2, 130 (THK), 1200 (W), 10000 (L).
- **4020330:** MD, R3.6, 130 (THK), 1200 (W), 6500 (L).
- **4005960:** EHD, R1.3, 55 (THK), 1200 (W), 15000 (L).
- **4005965:** EHD, R1.3, 55 (THK), 1200 (W), 20000 (L).
- **4005961:** EHD, R1.8, 75 (THK), 1200 (W), 15000 (L).
- **4003852:** EHD, R2.5, 100 (THK), 1200 (W), 10000 (L).

FLETCHER INSULATION pliable membranes schedule

	A	B	C
Product name			
Product code			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Simply nominate the product name and product code from the options below. The product code is unique to each product variant and therefore adequately defines the properties and characteristics of the chosen product. However, additional rows can be added to schedule to list any critical properties, if required, such as duty classification and length.

Product name: **Sisalation foam cell multipurpose**, input the following product code (dimensions below in mm):

- **4006742:** EHD, R0.25, 8.4 (THK), 1350 (W), 22250 (L).

Product name: **Sisalation metal roof sarking**, select from the following product codes (dimensions below in mm):

- **4005546:** MD, 30000 (L).
- **4005545:** MD, 60000 (L).
- **4005429:** HD, 60000 (L).

Product name: **Sisalation multipurpose**, select from the following product codes (dimensions below in mm):

- **4006736:** EHD, 1350 (W), 30000 (L).
- **4006738:** EHD, 1350 (W), 60000 (L).
- **4006737:** EHD, 1500 (W), 30000 (L).

Product name: **Sisalation Tuff Wrap Standard**, select from the following product codes (dimensions below in mm):

- **4006915:** MD, 1350 (W), 30000 (L).
- **4006917:** MD, 1350 (W), 60000 (L).
- **4006944:** MD, 1500 (W), 30000 (L).

Product name: **Sisalation Vapawrap wall wrap**, select from the following product codes (dimensions below in mm):

- **4006867:** LD, 1350 (W), 30000 (L).
- **4006878:** LD, 1500 (W), 30000 (L).
- **4006746:** LD, 2700 (W), 30000 (L).

Product name: **Sisalation Vapawrap metal roof**, input the following product code (dimensions below in mm):

- **4006885:** LD, 1350 (W), 30000 (L).

FLETCHER INSULATION accessories schedule

	A	B	C
Product name			
Product code			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Simply nominate the product name and product code from the options below. The product code is unique to each product variant and therefore adequately defines the properties and characteristics of the chosen product. However, additional rows can be added to schedule to list any critical properties, if required, such as width and length.

Product name: **Roof razor**, select from the following product codes (dimensions below in mm):

- **4006606**: Standard with pre-loaded screws, 60 (H), 1200 (L).
- **4006601**: Standard with pre-loaded screws, 85 (H), 1200 (L).
- **4006602**: Standard with pre-loaded screws, 115 (H), 1200 (L).
- **4006604**: Standard without pre-loaded screws, 85 (H), 1200 (L).
- **4006605**: Standard without pre-loaded screws, 115 (H), 1200 (L).
- **4006607**: Cyclonic with pre-loaded screws, 60 (H), 1200 (L).
- **4005301**: Cyclonic with pre-loaded screws, 85 (H), 1200 (L).
- **4006603**: Cyclonic with pre-loaded screws, 115 (H), 1200 (L).
- **4005302**: Cyclonic without pre-loaded screws, 115 (H), 1200 (L).

Product name: **Roof safety mesh**, select from the following product codes (dimensions below in mm):

- **4006765**: RoofSafe (excl. NSW & QLD), 1800 (W), 50000 (L).
- **4010451**: Roof Bloc (NSW & QLD), 1800 (W), 50000 (L).
- **4006766**: RoofSafe (excl. NSW & QLD), 2250 (W), 50000 (L).
- **4010452**: Roof Bloc (NSW & QLD), 2250 (W), 50000 (L).
- **4006768**: Roof Bloc, 1800 (W), Cut to length.
- **4006769**: Roof Bloc, 2250 (W), Cut to length.

Product name: **Sisalation 3M seaming tape**, input the following product code (dimensions below in mm):

- **4006809**: 48 (W), 50000 (L).

Product name: **Vapastop 833 foil tape**, select from the following product codes (dimensions below in mm):

- **4006794**: 48 (W), 50000 (L).
- **4006798**: 63 (W), 50000 (L).
- **4006799**: 72 (W), 50000 (L).
- **4006800**: 96 (W), 50000 (L).
- **4004745**: 120 (W), 50000 (L).
- **4006806**: 144 (W), 50000 (L).

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1530		Methods for fire tests on building materials, components and structures
AS 1530.1	1994	Combustibility test for materials
AS 1530.2	1993	Test for flammability of materials
AS/NZS 1530.3	1999	Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS/NZS 3000	2018	Electrical installations (known as the Australian/New Zealand Wiring Rules)
AS 3959	2018	Construction of buildings in bushfire-prone areas
AS 3999	2015	Bulk thermal insulation - Installation
AS 4200		Pliable building membranes and underlays
AS 4200.1	2017	Materials
AS 4200.2	2017	Installation
AS/NZS 4389	2015	Roof safety mesh
AS/NZS 4534	2006	Zinc and zinc/aluminium-alloy coatings on steel wire
AS/NZS 4859		Thermal insulation materials for buildings
AS/NZS 4859.1	2018	General criteria and technical provisions
AS/NZS 4859.2	2018	Design
AS 5637		Determination of fire hazard properties
AS 5637.1	2015	Wall and ceiling linings
BCA J4D3	2022	Energy efficiency - Building fabric - Thermal construction - General
CM30006	2023	Fletcher glass wool insulation products
SWA HCIS		Hazardous chemical information system

The following documents are mentioned only in the **Guidance text**:

AS 1530		Methods for fire tests on building materials, components and structures
AS 1530.1	2024	Combustibility test for materials (ISO 1182:2020, NEQ)
AS/NZS 4201		Pliable building membranes and underlays - Methods of test
AS/NZS 4201.4	1994	Resistance to water penetration

BCA C2D10	2022	Fire resistance - Fire resistance and stability - Non-combustible building elements
BCA H6D2	2022	Class 1 and 10 buildings - Energy efficiency - Application of Part H6
BCA J3D5	2022	Energy efficiency - Elemental provisions for a sole-occupancy unit of a Class 2 building or a Class 4 part of a building - Roof thermal breaks of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building
BCA J3D6	2022	Energy efficiency - Elemental provisions for a sole-occupancy unit of a Class 2 building or a Class 4 part of a building - Wall thermal breaks of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building
BCA Section C	2022	Fire resistance
BCA Table S7C7	2022	Fire resistance - Fire hazard properties - Other materials - Other materials
ABCB Condensation	2023	Condensation in buildings handbook
NATSPEC DES 003		Fire hazard properties of insulation and pliable membranes
NATSPEC DES 004		Air, moisture and condensation
NATSPEC DES 015		NCC - BCA Volume One Energy efficiency provisions
NATSPEC DES 020		Fire behaviour of building materials and assemblies
NATSPEC DES 031		Specifying R-Values
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 024		Using NATSPEC selections schedules
NATSPEC PRO 002		Mineral wool
NATSPEC TR 01		Specifying ESD
ASTM E96/E96M	2016	Standard test methods for water vapor transmission of materials
ASTM E96/E96M	2024	Standard test methods for gravimetric determination of water vapor transmission rate of materials