

# 4710M MAMMOTH™ THERMAL & ACOUSTIC INSULATION

## 1. GENERAL

*If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.*

*The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.*

This section relates to **Mammoth™ Insulation** installed, laid, hung or fitted as thermal and acoustic insulation.

It includes;

- Mammoth™ Wall Insulation
- Mammoth™ Underfloor Insulation
- Mammoth™ Ceiling Insulation
- Mammoth™ Skillion Roof Insulation
- Mammoth™ NOVAhush Acoustic Insulation

*NZS 4218 and NZS 4243.1 provide a schedule, a calculation and a modelling method for determining insulation to meet NZBC H1. Ensure SELECTIONS reflect the project requirements.*

### 1.1 RELATED WORK

Refer to 4161 UNDERLAYS, FOIL AND DPC for underlays, foils and DPC.

*Include cross references to other sections where these contain related work.*

*Refer to roofing sections for roofing underlays.*

### 1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

STC	sound transmission class rating
IIC	impact insulation class
Rw	Weighted Sound Reduction Index is sometimes used; the Rw numbers will be very similar to the equivalent STC numbers.

*STC is the amount of airborne sound transmission loss through a complete construction like a wall or floor, measured in decibels (dB).*

*IIC is the amount of impact sound transmission loss through a complete construction like a floor, measured in decibels (dB)*

## Documents

### 1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBCG6/VM1	Airborne and impact sound
NZBC H1/AS1	Energy efficiency
AS/NZS 3000	Electrical installations
NZS 4218:2004	Energy efficiency - Small building envelope
NZS 4220	Code of practice for energy conservation in non-residential buildings
NZS 4243.1	Energy efficiency - Large buildings - Building thermal envelope
NZS 4246	Energy efficiency - Installing insulation in residential buildings
AS/NZS 4389	Safety Mesh
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire
AS/NZS 4859.1	Materials for the thermal insulation of buildings - General criteria and technical provisions
AS/NZS 60598.2.2	Luminaires- Particular Requirements - Recessed luminaires
AS/NZS 60695.11.5	Fire hazard testing - Test flames - Needle-flame test method - Apparatus, conformity test arrangement and guidance
ASTM C518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

*NZS 4218:2004 Energy Efficiency - Small Building Envelope, is recognised by NZBC, NZS 4218:2009 Thermal Insulation - Housing and Small Buildings, has not at the time of writing been recognised by NZBC. Consult with the BCA as to their requirements.*

Delete from the DOCUMENTS clause any document not cited. List any additional cited documents. The following are related documents and if referred to in the work section need to be added to the list of DOCUMENTS.

NZBC C/AS1 - AS2 Protection from fire  
NZBC H1/VM1 Energy efficiency  
NZS 3602 Timber and wood based products for use in building  
NZS 3604 Timber-framed buildings  
NZS 4214 Methods of determining the total thermal resistance of parts of buildings  
SNZ/PAS 4244 Insulation of lightweight-framed and solid-timber houses  
BRANZ BU 426 Achieving acoustic separation  
BRANZ BU 427 Improving thermal insulation  
BRANZ BU 429 Calculating R-values for timber framed buildings  
BRANZ BU 460 Internal moisture control  
BRANZ BU 461 Practical sound control  
BRANZ BU 539 Recessed downlights  
BRANZ publication House insulation guide

#### 1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:

Mammoth™ Underfloor Data Sheet  
Mammoth™ Skillion Roof Data Sheet  
Mammoth™ Ceilings Data Sheet  
Mammoth™ Walls Data Sheet  
Mammoth™ Friction Fitted Airlay Data Sheet  
Mammoth™ NOVAhush Acoustic Data Sheet

[BRANZ Appraisal 802](#) - Mammoth™ Underfloor Insulation

[BRANZ Appraisal 797](#) - Mammoth™ Insulation

Living Building Challenge: Declare Program - Red List Free Declaration Status for Mammoth insulation.

Manufacturer/supplier contact details

Company: **InsulPro Manufacturing Limited**

Web: [www.mammoth.co.nz](http://www.mammoth.co.nz)

Email: [info@mammoth.co.nz](mailto:info@mammoth.co.nz)

Telephone: 0800 MAMMOTH (626 668)

Facsimile: 09 273 2309

*It is important to ensure that all personnel on-site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.*

*Mammoth is manufactured by InsulPro Manufacturing Ltd – a carboNZero certified organisation.*

#### Warranties

#### 1.5 WARRANTY - MANUFACTURER/SUPPLIER

Provide a material manufacturer/supplier warranty:

50 years: For materials

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

*Modify or expand the clause to suit project or manufacturer/supplier requirements, options include:*

- *Change the standard form to be used (check with the manufacturer/supplier, use the general section 1237WA WARRANTY AGREEMENT if required)*
- *Commence the warranty from the date of purchase (check with the manufacturer/supplier)*

#### 1.6 WARRANTY - APPROVED INSTALLER/APPLICATOR

Provide an approved installer/applicator warranty

5 years: For execution

- Provide this warranty on the approved installer/applicator standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

*Modify or expand the clause to suit project or installer/applicator requirements, options include:*

- *Change the standard form to be used (check with the installer/applicator, use the general section 1237WA WARRANTY AGREEMENT if required)*
- *Commence the warranty from the date of installation (check with the installer/applicator)*

## Requirements

1.7 QUALIFICATIONS  
Work to be carried out by tradesmen experienced, competent and familiar with the Mammoth™ insulation materials and techniques specified.

1.8 NO SUBSTITUTIONS  
Substitutions are not permitted to any specified Mammoth™ Insulation, associated products, components or accessories.

### Performance - acoustic

*Use site performance testing only where this is specifically required.*

1.9 SOUND RATING REQUIREMENTS  
Provide sound rated wall, floor and ceiling systems. Refer SELECTIONS.

1.10 SOUND CONTROL SITE TEST  
Site test each sound rated element in accordance with [NZBC G6/VM1](#) to ensure that the specified sound transmission loss has been achieved using a nominated acoustic consultant. Carry out sound tests wall by wall to ISO 140, part 4 to certify compliance. Rectify any element that does not meet the specified STC/IIC figure.

## 2. PRODUCTS

### Materials - thermal

*NOTE: When insulation abutting or covering recessed downlights is intended to be in contact with IC, CA 80, CA 135 luminaries the insulation must withstand a 30s Needle Flame test to AS/NZS 60695.11.5. Mammoth™ Polyester Insulation meets this requirement.*

2.1 MAMMOTH™ AIRLAY SECTIONS - FRICTION FIT  
**Mammoth™** airway sections to [AS/NZS 4859.1](#), [NZS 4218](#), [NZS 4243.1](#), and [NZS 4220](#). 100% white, non woven polyester fibres thermally bonded to produce self supporting and friction fitted insulation sections. Machine slit to the required width and cut to length. Refer to SELECTIONS for location, type, R Value and thickness.  
*For walls and underfloor and skillion roof insulation. Underfloor sections come in medium density or high density airway insulation sections.*

2.2 MAMMOTH™ SECTIONS  
**Mammoth™** sections to [AS/NZS 4859.1](#), [NZS 4218](#), [NZS 4243.1](#) and [NZS 4220](#). 100% white semi-rigid polyester fibres thermally bonded to produce insulation pads. Refer to SELECTIONS for location, type, R-Value and thickness.  
*For wall insulation.*

2.3 MAMMOTH™ BLANKETS  
**Mammoth™** blanket rolls to [AS/NZS 4859.1](#), [NZS 4218](#), [NZS 4243.1](#) and [NZS 4220](#). 100% white non woven lofted polyester fibres thermally bonded to produce insulation blankets. Refer to SELECTIONS for location, type, R-Value and thickness.  
*For ceiling, wall and underfloor insulation.*

### Materials - acoustic

*NOTE: When insulation abutting or covering recessed downlights is intended to be in contact with IC, CA 80, CA 135 luminaries the insulation must withstand a 30s Needle Flame test to AS/NZS 60695.11.5. Mammoth™ Polyester Insulation meets this requirement.*

- 2.4 MAMMOTH™ NOVAHUSH ACOUSTIC BLANKET  
**Mammoth™ NOVAhush Acoustic Blanket**, 100% white non-woven lofted polyester fibres thermally bonded to produce acoustic blankets. Refer to SELECTIONS for STC / Rw.  
*Mammoth™ NOVAhush Acoustic Blanket used in a wide range of acoustic applications in housing and commercial buildings.*
- 2.5 MAMMOTH™ NOVAHUSH ACOUSTIC SECTIONS  
**Mammoth™ NOVAhush Acoustic Section**, friction fitted airway insulation, 100%, thermally bonded polyester fibre material. Supplied as sections. Refer to SELECTIONS for STC / Rw.  
*Mammoth™ NOVAhush Acoustic Sections used in a wide range of acoustic applications in housing and commercial buildings.*

### **Components**

- 2.6 FASTENERS  
Insulation anchors complete with retained washer. 25mm general purpose polyester webbing, 1500kg breaking strain.
- 2.7 TAPES  
Proprietary plastic tape, stapled across framing to retain insulation in unlined wall and ceiling locations.
- 2.8 ADHESIVES  
Solvent based glue.
- 2.9 ADHESIVE TAPE  
Pressure sensitive adhesive tape.  
*Note: Ensure concrete is dust free before applying tape.*

### **Accessories**

- 2.10 WIRE NETTING  
Refer to 4161 UNDERLAYS, FOIL AND DPC for wire netting used to support the insulation.  
*Use only to support roofing underlays that are not self-supporting, particularly for roofs under 8%. This product is not accepted as a safety mesh to AS/NZS 4389.*

## **3. EXECUTION**

### **Conditions**

- 3.1 DELIVERY  
Keep Mammoth™ Insulation dry in transit. Take delivery of insulation dry and undamaged and store in a location that protects insulation from the weather and damage. Reject all damaged materials.
- 3.2 STORAGE  
Ensure storage areas are away from current work areas. Cover to keep dry until fixed. Insulation must not become wet. Avoid distortion, stretching, puncturing and damage to insulation and packaging.
- 3.3 HANDLING  
Wear protective clothing as necessary and when handling, avoid delamination or distortion of the rectangular form. Maintain full thickness unless compression is an installation system requirement.
- 3.4 INSPECTION  
Before starting installation of Mammoth™ Insulation, check that the location and framing are dry, that the cavities are not interconnected and that mesh, wall and roof underlays and vapour barriers are in place. Install when the building is enclosed and when the construction materials have achieved the maximum permitted moisture content or less.

### Application - general

*AS/NZS 60695.2.2, NZ only - Amendment A, introduces new classification of recessed luminaires (downlights). The new classification determines what types of recessed luminaires can be used in residential installations and whether they require a clearance to insulation. The luminaires must have their respective class permanently marked on the fitting. Mammoth™ polyester insulation meets the performance standards for insulation, including the needle flame test AS/NZS 60695.11.5.*

#### 3.5 INSTALL INSULATION - GENERAL

Lay, install, fit and fix to [NZBC H1/AS1](#): Energy efficiency, 2.0 Building thermal envelope, and to manufacturer's requirements. Install in housing to [NZS 4218](#) and [NZS 4246](#). Install in large buildings to [NZS 4243.1](#) and [NZS 4220](#). Allow insulation to re-loft/relax prior to installation. Do not cover vents. Allow a clear gap around metal flues as recommended by the fireplace manufacturer. Where possible lift up electrical wires, lighting transformers/controllers and lay the insulation underneath. Refer to manufacturer's installation instructions and [NZS 4246](#) for further details. *NZS 4218 and NZS 4243.1 give minimum building element thermal resistance (R-values). Achieving these will depend on the quality of the installation.*

*CAUTION: Electrical cables and equipment partially or completely surrounded with bulk thermal insulation may overheat and fail. This applies to wiring installed prior to 1989.*

#### 3.6 RECESSED LIGHT FITTINGS - CLEARANCE

Non-residential applications;

The clearance between insulation and recessed downlights

- 100mm clearance to [AS/NZS 3000](#), figure 4.9.
- Provide larger clearances where required by the light manufacturer.

Residential applications;

- Ensure new recessed downlights are one of the new classes classified in [AS/NZS 60598.2.2](#); CA 80, CA 135, IC and IC - F.
- Classification type CA 80, CA 135, to [AS/NZS 60598.2.2](#); insulation can abut the sides
- Classification type IC and IC - F, to [AS/NZS 60598.2.2](#); insulation can abut and cover over the top of the downlight.
- Classification type NON IC to [AS/NZS 60598.2.2](#); insulation cannot abut or cover the downlight. This class of downlights is banned from residential applications.
- Provide larger clearances where required by the light manufacturer.
- In a retrofit situation where recessed downlights are unclassified or unknown, ensure 100mm clearance between insulation and downlights to [AS/NZS 3000](#), figure 4.9.

*Insulation abutting or covering recessed luminaires (downlights) must pass the needle flame test to AS/NZS 60695.11.5.*

*NZBC C /AS3 - C/AS7 dictates that non-residential installations must have 100mm clearance.*

#### 3.7 CHECK FOILS

Ensure foils are dry, clean, undamaged and free of debris before being covered.

#### 3.8 CHECK UNDERLAYS

Ensure these are dry, clean, undamaged and free of debris before being covered.

#### 3.9 CHECK VAPOUR BARRIERS

Ensure these form one homogeneous sheet vapour barrier and remain as such throughout the ensuing construction process.

### Application thermal - underfloor

#### 3.10 FIT MAMMOTH MULTI UNDERFLOOR SECTIONS - MEDIUM DENSITY

Friction fit **Mammoth™ Multi Underfloor** medium density, airway sections between floor joists and butt joints tightly to ensure there are no gaps. It can be compressed up to 35mm to fill the cavity and provide a firm, friction fit. Use an appropriate sharp craft knife, with replaceable blades or a specialised insulation saw to cut if required. In most cases Mammoth™ Underfloor Sections do not require mechanical fixings.

- 3.11 FIT MAMMOTH NOVAFLOOR SECTIONS - HIGH DENSITY  
Friction fit **Mammoth™ NOVAfloor** high density, airway sections between floor joists and butt joints tightly to ensure there are no gaps. Any excess material is folded down on the joist on one side. Use an appropriate sharp craft knife, with replaceable blades or a specialised insulation saw to cut if required. In most cases Mammoth™ NOVAfloor Sections do not require mechanical fixings. Refer to manufacturer's instructions for further details.
- 3.12 FIT MAMMOTH UNDERFLOOR BLANKET  
Fit **Mammoth™ Underfloor Blanket** between the floor joists to completely fill the space and staple blanket to each side of the joists ensuring it does not sag in the middle. In coastal areas use stainless steel staples to avoid corrosion. Slightly oversize the width to ensure a fold down on each joist and tear by hand to required length. Tear to smaller pieces for smaller spaces and around penetrations. Leave no gaps and maintain full thickness over the whole of the installation. Insulation should be stapled into place using a staple gun to each side of the joist. In coastal areas use stainless steel staples to avoid corrosion. Refer to manufacturer's instructions for further details.

#### **Application thermal - walls**

- 3.13 FIT MAMMOTH™ BLANKET/SECTIONS - TIMBER FRAMING  
Friction fit **Mammoth™ Wall Sections** between framing members and linings, or fit over framing members and butt tightly to reduce convective heat loss through gaps. Cut/ rip on site to fill cavity and provide a close even fit. Tear to smaller pieces for smaller spaces and around penetrations to achieve efficient thermal performance. Do not fold, tuck or compress the insulation.
- 3.14 FIT MAMMOTH™ SECTIONS - STEEL FRAMING  
Friction fit **Mammoth™ Wall Sections** inside the steel studs and cut on site to fit nog spacing. Fill cavity and provide a close even fit. Do not fold, tuck or compress the insulation. Use off cuts for smaller spaces and around penetrations to achieve efficient thermal performance.
- 3.15 FIT MAMMOTH™ BLANKET MASONRY WALL INSULATION  
Friction fit **Mammoth™ Masonry Wall** as a continuous blanket in between strapping to [NZS 4246](#), clause 5.3.4, **Blankets - masonry walls**. Secure the blanket at the top of the wall and drape it down to the bottom plate. The blanket to be the same thickness as the framing. Do not fold, tuck or compress the insulation.  
*Designed to fit between strapping members fixed to masonry wall.*

#### **Application thermal - ceiling/roof**

*Some roofing may require ventilation clearance. Some polyester products may 'grow' in thickness well beyond their nominal thickness when installed in situations of high heat build up such as skillion type roofs. This excessive growth needs to be accommodated within the roof design to maintain the minimum 25mm gap.*

- 3.16 LAY MAMMOTH™ BLANKET - OVER CEILING FRAMING  
Loose lay **Mammoth™ Ceiling Blanket** over ceiling framing and between truss chords. Fit securely around all penetrations, leave clearances where required. Hand tear Mammoth™ Ceiling insulation blanket to length as required.
- 3.17 FIT MAMMOTH™ BLANKET - BETWEEN CEILING FRAMING  
Friction fit **Mammoth™ Ceiling Blanket** between framing members/truss cords. Hand tear across the blanket to fit in small spaces and around penetrations. Leave no gaps and maintain full thickness of blanket over the whole of the installation. Leave clearance around metal flues to [NZS 4246](#) and the manufacturer's requirements.
- 3.18 FIT MAMMOTH™ BLANKET - DOUBLE LAYERED INSULATION  
Friction fit first layer of **Mammoth™ Ceiling Blanket** parallel to and between ceiling framing members. Run a second layer of Mammoth™ Ceiling blanket at 90° to and over the first layer over framing members. Hand tear across blanket to fit between nogs and small spaces around penetrations. Leave no gaps and maintain full thickness of blanket

over the whole of the installation. Leave clearance around metal flues to [NZS 4246](#) and the manufacturer's requirements.

- 3.19 FIT MAMMOTH SKILLION ROOF SECTION - BETWEEN RAFTERS  
Friction fit **Mammoth™ Skillion Roof Airly Sections** between ceiling rafters. Use an appropriate sharp craft knife with replaceable blades or specialised insulation saw to cut to size or around penetrations if required. Maintain a minimum clearance of 25mm between the insulation and the roofing membrane (underlay) except where a solid timber (or plywood) substrate is used under the roof cladding.
- 3.20 FIT INSULATING BLANKET - COMMERCIAL  
Lay **Mammoth™ Ceiling Blanket** in the same direction as and over the mesh/vapour barrier, firmly butting edges and ends together to leave no gaps. Tear blanket by hand across the width for length. Maintain full thickness of the insulation blanket over the whole installation except where detailed otherwise.
- 3.21 CEILING INSULATION EDGE DETAIL  
Where perimeter of ceiling space is too low to allow full depth of insulation plus the 25mm air gap, provide reduced perimeter insulation to [NZS 4246.5.2](#), **Ceilings - lined**.

#### **Application - acoustic**

- 3.22 FIT MAMMOTH NOVAHUSH ACOUSTIC BLANKET - WALL CAVITY  
After the wall lining is fixed to one side of the wall/partition, staple **Mammoth™ NOVAhush Acoustic Blanket** to the underside of the top plate, dwang (nog) and friction fit the insulation between studs to complete the whole of the cavity. Leave no gaps. Slightly oversize to retain friction fit. Ensure insulation is fitted at its nominal thickness. Do not fold or tuck the insulation. Keep clean and undamaged until closed in. Close in as soon as possible after fixing.  
*Use Mammoth™ NOVAhush Acoustic Blanket in walls to create 'quiet zones' particularly in areas adjoining bathrooms, kids bedrooms, kitchens and family rooms.*
- 3.23 FIT MAMMOTH™ NOVAHUSH ACOUSTIC SECTIONS - WALL CAVITY  
After the wall lining is fixed to one side of the partition, friction fit **Mammoth™ NOVAhush Acoustic Sections** in the wall cavity to completely fill the wall. Slightly oversize to retain friction fit. Ensure insulation is fitted at its nominal thickness. Do not fold or tuck the insulation. Keep clean and undamaged until closed in.
- 3.24 FIT MAMMOTH™ NOVAHUSH ACOUSTIC BLANKET - MIDFLOORS  
Friction fit **Mammoth™ NOVAhush Acoustic Blanket** between the joists to completely fill the space between them. Leave no gaps. Slightly oversize for a good friction fit. Maintain full thickness over the whole of the installation and fix with plastic strapping if necessary.  
*Modify to suit the project.*
- 3.25 FIT MAMMOTH™ NOVAHUSH ACOUSTIC BLANKET - CEILING OVERLAY  
Lay **Mammoth™ NOVAhush Acoustic Blanket** over ceiling grid firmly butting edges and joins to ensure no gaps. Maintain full thickness over whole installation.  
*Modify to suit the project ceiling construction.*

#### **Completion**

- 3.26 CLEAN UP  
Clean up as the work proceeds. Ensure no spare off cuts or any other materials remain behind claddings or linings.
- 3.27 LEAVE  
Leave work to the standard required by following procedures.
- 3.28 REMOVE  
Remove debris, unused materials and elements from the site.

#### 4. SELECTIONS

For further details on selections go to [www.mammoth.co.nz](http://www.mammoth.co.nz)

*If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.*

*Select the options to suit the project and delete options not specified.*

*Insulation thickness will vary with the R-Value, and stud sizing, so select accordingly to suit project and delete option not selected. Refer to the Mammoth™ Data Sheets for specific information and product selection.*

##### Materials thermal - underfloor insulation

#### 4.1 MAMMOTH™ MULTI UNDERFLOOR SECTIONS - MEDIUM DENSITY

Location: ~  
 Brand: **Mammoth™ Multi Underfloor** (friction fitted, airlay)  
 R Value: R1.9  
 Thickness: 90mm  
 Dimensions: ~

*Available pre-cut to suit a wide range of floor joist spacing, so specify accordingly:*

<i>Dimensions:</i>
<i>370mm x 800mm</i>
<i>370mm x 1140mm</i>
<i>425mm x 800mm</i>
<i>425mm x 1140mm</i>
<i>475mm x 800mm</i>
<i>475mm x 1140mm</i>
<i>580mm x 800mm</i>
<i>580mm x 1140mm</i>

#### 4.2 MAMMOTH™ NOVAFLOOR SECTIONS - HIGH DENSITY

Location: ~  
 Brand: **Mammoth™ NOVAfloor Underfloor** (friction fitted, airlay)  
 R Value: R1.4  
 Thickness: 55mm  
 Dimensions: ~

*Available pre-cut to suit a wide range of floor joist spacing, so specify accordingly:*

<i>Dimensions:</i>
<i>1200mm x 375mm</i>
<i>1200mm x 435mm</i>
<i>1200mm x 485mm</i>
<i>1200mm x 535mm</i>
<i>1200mm x 580mm</i>
<i>1200mm X 600mm</i>

#### 4.3 MAMMOTH™ UNDERFLOOR BLANKET

Location: ~  
 Brand: **Mammoth™ Underfloor Blanket**  
 R Value: R~  
 Thickness: ~mm

*Insulation blanket available for wall insulation with different R values and thickness, so specify accordingly.*

<i>R value</i>	<i>Thickness:</i>	<i>Dimensions:</i>
<i>R1.5</i>	<i>100mm nominal thickness</i>	<i>450mm x 13890mm</i>
<i>R1.5</i>	<i>100mm nominal thickness</i>	<i>510mm x 16340mm</i>
<i>R1.5</i>	<i>100mm nominal thickness</i>	<i>600mm x 13890mm</i>
<i>R1.8</i>	<i>115mm nominal thickness</i>	<i>450mm x 11111mm</i>
<i>R1.8</i>	<i>115mm nominal thickness</i>	<i>510mm x 13070mm</i>
<i>R1.8</i>	<i>115mm nominal thickness</i>	<i>600mm x 11110mm</i>

##### Materials thermal - wall insulation

#### 4.4 MAMMOTH™ WALL BLANKET - 140MM TIMBER STUD

Location: ~  
 Brand: **Mammoth™ Wall Blanket**  
 R-value: R~

Thickness: ~mm

*Insulation blanket available for wall insulation with different R-values and thickness, so specify accordingly:*

<i>R-value</i>	<i>Thickness:</i>	<i>Dimensions:</i>
R2.0	90mm nominal thickness	360mm x 9870mm
R2.0	90mm nominal thickness	560mm x 10800mm
R2.6	140mm nominal thickness	380mm x 8550mm
R2.6	140mm nominal thickness	580mm x 7470mm
R3.0	140mm nominal thickness	580mm x 8620mm

#### 4.5 MAMMOTH™ WALL SECTIONS - AIRLAY

Location: ~

Brand: **Mammoth™ Wall Sections** (friction fitted, airlay)

R-value: R~

Thickness: ~mm

*Insulation sections available for wall insulation with different R-values, so specify accordingly:*

<i>R value</i>	<i>Thickness:</i>	<i>Dimensions</i>
R1.9	90mm nominal thickness	370mm x 800mm
R1.9	90mm nominal thickness	580mm x 800mm
R2.0	90mm nominal thickness	360mm x 760mm
R2.0	90mm nominal thickness	560mm x 760mm
R2.2	90mm nominal thickness	360mm x 760mm
R2.2	90mm nominal thickness	560mm x 760mm
R2.8	140mm nominal thickness	360mm x 760mm
R2.8	140mm nominal thickness	560mm x 760mm

*For timber and steel applications.*

#### 4.6 MAMMOTH™ WALL SECTIONS

Location: ~

Brand: **Mammoth™ Wall Sections**

R-value: R2.5

Thickness: 90mm

*Options for dimensions:*

<i>R value</i>	<i>Thickness:</i>	<i>Dimensions</i>
R2.5	90mm nominal thickness	360mm x 760mm
R2.5	90mm nominal thickness	560mm x 760mm

*For timber and steel applications.*

#### 4.7 MAMMOTH™ MASONRY WALL BLANKET

Location: ~

Brand: **Mammoth™ Masonry Wall Blanket**

R-value: R1.0

Thickness: 45mm

*Insulation available 580mm x 12930mm.*

#### 4.8 MAMMOTH™ MASONRY WALL SECTIONS - AIRLAY

Location: ~

Brand: **Mammoth™ Masonry Wall Sections** (friction fit airlay)

R-value: R1.3

Thickness: 45mm

*Insulation available with different dimensions.*

<i>R value:</i>	<i>Thickness:</i>	<i>Dimensions:</i>
R1.3	45mm nominal thickness	360mm x 2400mm
R1.3	45mm nominal thickness	560mm x 2400mm

### Materials thermal - ceiling/roof insulation

#### 4.9 MAMMOTH™ CEILING BLANKET

Location: ~

Brand: **Mammoth™ Ceiling Blanket**

R-value: R~

Thickness: ~mm

*Insulation blanket available for ceiling insulation with different R-values, so specify accordingly:*

<i>R value:</i>	<i>Thickness:</i>	<i>Dimensions:</i>
R1.8	115mm nominal thickness	870mm x 11495mm

R2.9	185mm nominal thickness	870mm x 8620mm
R3.2	200mm nominal thickness	870mm x 8620mm
R3.6	225mm nominal thickness	870mm x 7470mm
R4.0	240mm nominal thickness	870mm x 5750mm

Insulation blanket laid over ceiling battens and joists, or between trusses, is offered to achieve the maximum construction R-value. Available 870mm wide for framing at 900mm centres or custom width, loose-laid on ceiling battens and between truss chords.

#### 4.10 MAMMOTH™ CEILING BLANKET - DOUBLE LAYERED INSULATION

Location: ~  
Brand: **Mammoth™ Ceiling Blanket**  
R-value: ~  
Thickness: ~

Insulation blanket available for ceiling insulation with different R-values, so specify accordingly:

R value:	Thickness:	Dimensions:
R1.8	115mm nominal thickness	870mm x 11495mm
R2.9	185mm nominal thickness	870mm x 8620mm
R3.2	200mm nominal thickness	870mm x 8620mm
R3.6	225mm nominal thickness	870mm x 7470mm
R4.0	240mm nominal thickness	870mm x 5750mm

Friction fit first layer parallel to and between ceiling framing members. Run a second layer at 90° to and over the first layer over framing members

#### 4.11 MAMMOTH™ SKILLION ROOF

Location: ~  
Brand: **Mammoth™ Skillion Roof** (friction fitted, airway)  
R Value: ~  
Thickness: ~mm

Insulation pad friction fitted in timber framed membrane roofs and skillion roofs.

Insulation thickness will vary with the R-value so select accordingly:

R value:	Thickness:	Dimensions:
R2.9	115mm nominal thickness	560mm x 1200mm
R2.9	115mm nominal thickness	860mm x 1200mm
R3.2	165mm nominal thickness	570mm x 1200mm
R3.2	165mm nominal thickness	870mm x 1200mm

Available 560mm and 870mm wide to fit between ceiling battens

### Materials - acoustic insulation

#### 4.12 MAMMOTH™ NOVAHUSH ACOUSTIC BLANKET

Location: ~  
Brand: **Mammoth™ NOVAhush Acoustic Blanket**  
Product: Mammoth™ 900  
Thickness: 92mm  
STC: 48

Select accordingly to suit performance requirement.

Typically used for steel framing/ceiling overlay to reduce sound transference.

Product	Stud size	Linings both sides	STC (Rw)
Mammoth™ NOVAhush Blanket	92mm	13mm Noise Liner plasterboard	48 (Rw 47)

Typically used for 90mm timber stud and midfloor applications to reduce sound transference. Refer to Mammoth™ for STC rating.

Product	Stud size
Mammoth™ NOVAhush	90mm timber

Higher rates can be achieved with different choices of studs and linings, refer to table below for available options.

Product	Stud	Lining	STC
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	1 x 13mm Gib Standard	50
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	1 x 13mm Gib Noiseline	52
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	2 x 13mm Standard Gib	56

Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	1 x 10mm & 1 x 13mm Gib Noiseline	59
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4.13

MAMMOTH™ NOVAHUSH ACOUSTIC SECTIONS

Location: ~  
 Brand: **Mammoth™ NOVAhush Acoustic Sections** (friction fitted, airway)  
 Product: Mammoth™ 1000  
 Thickness: 90mm  
 STC: 48

*Select accordingly to suit performance requirement.*

*Typically used for steel framing/ceiling overlay to reduce sound transference.*

Product	Stud size	Linings both sides	STC (Rw)
Mammoth™ NOVAhush Section	92mm	13mm Noise Liner plasterboard	48 (Rw 47)

*Typically used for 90mm timber stud and midfloor applications to reduce sound transference. Refer to Mammoth™ for STC rating.*

Product	Stud size
Mammoth™ NOVAhush	90mm timber

*Higher rates can be achieved with different choices of studs and linings, refer to table below for available options.*

Product	Stud	Lining	STC
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	1 x 13mm Gib Standard	50
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	1 x 13mm Gib Noiseline	52
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	2 x 13mm Standard Gib	56
Mammoth™ NOVAhush	92mm Gib-Rondo Quiet Stud	1 x 10mm & 1 x 13mm Gib Noiseline	59