

## 1. GENERAL

This specification relates to Knauf Insulation **EarthWool®** glasswool insulation installed, laid, hung, fixed or fitted as **thermal** insulation:

It includes:

- **EarthWool® Wall Insulation**
- **EarthWool® Ceiling Insulation**
- **EarthWool® Underfloor Insulation**

## 2. DOCUMENTS

The following documents including any amendments are specifically referred to in this section:

- NZBC H1/AS1 Energy efficiency, Building thermal envelope
- NZS 3000:2007 Electrical Installations – known as the Australia/New Zealand wiring rules
- 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

## 3. KNAUF INSULATION DOCUMENTS

Manufacturer's and supplier's documents related to this section are:

- Knauf Insulation Product Guide New Zealand -
- EarthWool® Wall & Ceiling Datasheet
- EarthWool® High Performance Wall Datasheet
- EarthWool® Sound Control Insulation Datasheet
- EarthWool® Ceiling Blanket Datasheet
- EarthWool® Acoustic Wall Insulation Datasheet
- EarthWool® Underfloor Datasheet
- Installation Instructions

All these documents – including this standard specification – are available for review and downloading at: <http://www.knaufinsulation.co.nz/datasheets-installation.aspx>

## 4. KNAUF INSULATION CONTACT DETAILS:

Company:	<b>Knauf Insulation New Zealand</b>
Web:	<a href="http://www.knaufinsulation.co.nz">www.knaufinsulation.co.nz</a>
Telephone Toll free:	0800 KNAUFi (562 834)
Fax	+61 7 3902 0613
Technical Support	<a href="mailto:tech.nz@knaufinsulation.com">tech.nz@knaufinsulation.com</a>
Customer Service	<a href="mailto:sales.nz@knaufinsulation.com">sales.nz@knaufinsulation.com</a>

## 5. WARRANTIES

Provide a Knauf Insulation product warranty – see [www.knaufinsulation.co.nz](http://www.knaufinsulation.co.nz). EarthWool® thermal insulation when installed in accordance with the manufacturer's instructions will satisfy the 50 year durability clause NZBC B2.3.1(a). EarthWool® meets the relevant clauses of NZBC E3 Internal Moisture, F2 Hazardous Building Materials, and will assist in meeting H1 Energy Efficiency.

Provide on completion of the installation confirmation the insulation has been installed in accordance with NZS 4246.

## 6. REQUIREMENTS

### 6.1 QUALIFICATIONS

Installers to be competent installers.

### 6.2 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Knauf Insulation **EarthWool®** insulation or associated products, components or accessories.

## 7. PRODUCTS

### 7.1 EARTHWOOL® CEILING INSULATION

**EarthWool® Ceiling Insulation** is a light weight flexible bio-soluble glass wool manufactured from up to 80% recycled glass, bonded with a ECOSE® Technology rapidly renewal non phenol formaldehyde binder to form rectangular insulating segments and blanket.

### 7.2 EARTHWOOL® WALL INSULATION

**EarthWool® Wall Insulation** is a light weight flexible bio-soluble glass wool manufactured from up to 80% recycled glass, bonded with a ECOSE® Technology rapidly renewal non phenol formaldehyde binder to form rectangular insulating segments.

### 7.3 EARTHWOOL® UNDERFLOOR INSULATION

**EarthWool® Underfloor Insulation** is a light weight flexible bio-soluble glass wool manufactured from up to 80% recycled glass, bonded with a ECOSE® Technology rapidly renewal non phenol formaldehyde binder to form rectangular insulating segments.

## 8. COMPONENTS

### 8.1 FASTENERS

Staple gun/tacker to fix minimum 8mm staples

### 8.2 TAPES

Plastic tape (minimum 12mm wide) stapled across framing to retain insulation in unlined wall, ceiling and underfloor locations where required.

## 9. EXECUTION

### Conditions

#### 9.1 STORAGE

Only accept materials undamaged, unopened and dry. Store in a location that protects them from the weather and damage. Avoid distortion, stretching, additional compression, puncturing and/or damage to materials. Do not use damaged or wet insulation materials.

#### 9.2 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.

#### 9.3 INSPECTION

Before starting installation of blankets and segments, check that the location and framing are free from moisture. Timber framing to have a moisture content in accordance with NZS3602:2003 (below 18% m/. The cavities are not interconnected and that mesh, wall underlays and vapour barriers are in place.

### Application

#### 9.4 INSTALL INSULATION - GENERAL

- All ceilings and mid-floor ceilings shall be insulated using EarthWool® Ceiling Insulation.
- All external frame walls shall be insulated using EarthWool® Wall Insulation.
- All subfloor areas shall be insulated using EarthWool® Underfloor Insulation.

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. Energise each segment by giving it a light shake and gently bouncing it on its side, ensuring the product expands to the thickness specified on the label prior to installation. Do not cover vents and cut around all recessed light fittings and metal flues to the safety requirements of NZECP 54 or lighting manufacturers' specifications in accordance with NZS 3000. Lift up electrical wires, lighting transformers and lay the insulation underneath.

#### 9.5 CHECK WALL AND ROOF UNDERLAYS

Ensure foils are dry, clean, bright, undamaged and free of debris before installing insulation.

#### 9.6 CHECK VAPOUR BARRIERS

Ensure vapour barriers form a homogeneous sheet vapour barrier before installing insulation.

#### 9.7 INSTALL EARTHWOOL® CEILING INSULATION

Ensure that the product is installed dry; if wet replace before installation. If cutting is required, cut oversize by 5-10mm to ensure a friction fit. Insulate around vents (not over them) to allow unhindered ventilation. Fit **EarthWool® Ceiling Insulation** beneath electrical wiring and plumbing. Install to the outer edge of the top plate. Maintain a 25mm gap clearance between the **EarthWool®** insulation and roof underlay. Adhere to the clearances as per product datasheet for recessed light fittings; clearances are required for some fittings to prevent light fittings from overheating and failing. Refer to NZS 4246 for installation guidelines and **EarthWool®** Product Data Sheets, for detailed installation instruction.

#### 9.8 INSTALL EARTHWOOL® WALL INSULATION

Ensure the product is installed dry; if wet replace before installation. If cutting is required, cut oversize by 5-10mm to ensure a friction fit on all faces of the insulation segment. Fill gaps around windows and doors with off-cuts. Insulate around vents (not over them) to allow unhindered ventilation. Fit **EarthWool® Wall Insulation** behind electrical wiring and plumbing. Ensure there are no gaps, folds or undesirable compression at edges. Refer to NZS 4246 for installation guidelines and **EarthWool®** Product Data Sheets, for detailed installation instructions.

#### 9.9 INSTALL EARTHWOOL® UNDERFLOOR INSULATION

Ensure the product is installed dry; if wet replace before installation. Ensure a friction fit on all faces of the insulation segment in accordance with installation instructions. Fill gaps with off-cuts. Insulate around vents (not over them) to allow unhindered ventilation. Fit **EarthWool® Wall Insulation** behind electrical wiring and plumbing. Ensure there are no gaps, the upper face of the insulation is flush to the underside of the flooring element and that there are no gaps between framing and the insulation. Fix plastic tape across the face of the insulation in accordance with the installation instructions. Refer to NZS 4246 for installation guidelines and **EarthWool®** Product Data Sheets, for detailed installation instructions.

### Completion

#### 9.10 CLEAN UP

Clean up as the work proceeds, so no spare offcuts or any other matter or item remain behind claddings or linings.

#### 9.11 LEAVE

Leave work to the standard required by following procedures.

#### 9.12 REMOVE

Remove debris, unused materials and elements from the site.

#### 3.15 RECYCLE

EarthWool® packaging is recyclable.

## 10. SELECTIONS

*Substitutions are not permitted to the following, unless stated otherwise.*

### Thermal insulation

#### 10.1 EARTHWOOL® CEILING INSULATION

R - Value	Loft - mm	Segment/Blanket
1.8	70	Blanket
2.7	125	Segment
2.9	115	Blanket
3.2	130	Blanket
3.2	150	Segment
3.6	145	Blanket
3.6	175	Segment
4.1	195	Segment
5.2	210	Segment
6.3	275	Segment

#### 10.2 EARTHWOOL® WALL INSULATION

R - Value	Loft - mm	Segment/Blanket
2.2	90	Segment
2.6	90	Segment
2.8	90	Segment
3.2	140	Segment

#### 4.4 EARTHWOOL® UNDERFLOOR INSULATION

R - Value	Loft - mm	Segment/Blanket
1.8	70	Segment
2.2	75	Segment