CodeMark

**Certificate no: CMNZ30144**
**Version: A**
Original issue date: 03 August 2023
Version date: 03 August 2023
Renewal date: 03 August 2026

# Product Certificate

## Trufill Insulation System

### 1. Certificate Holder Details

Trufill® High Performance Insulation

**Safe-R Insulation (NZ) Limited**
8b Peters Way, Silverdale, 0932, Auckland
sales@saferinsulation.co.nz
0800 267 992
www.trufill.co.nz

### 2. Product Certification Body

**Global-Mark Pty Ltd**
Trading as Global-Mark
57 Willis Street, Wellington, 6011
customer.service@global-mark.co.nz
+64 9 889 0622
www.global-mark.co.nz

**Complaints:** The complaints process for this certificate can be found here:
www.global-mark.co.nz/complaints/

**Global-Mark Managing Director.**

**Herve Michoux**

### 3. Description of Building Method or Product

Trufill Insulation System is a loose-fill blow-in non-bonded granulated glasswool mineral fibre insulation system. It is blown on-site into building cavity spaces to a nominal density of between 12 kg/m3 and 32 kg/m3. When blown in cavities, the insulation is retained by a transparent Blown Insulation Barrier (BIB), over which the internal lining of the building is installed.

### 4. Intended use of Building Method or Product

Trufill Insulation System is intended to be used in the cavities of framed walls, floors, skillion roofs and ceilings of truss and pitched roofs.

### 5. New Zealand Building Code Provisions

Trufill Insulation System if designed, used, installed and maintained in accordance with the conditions of this Certificate will comply with or contribute to compliance with the following performance provisions of the NZ Building Code:

| | |
|---|---|
| Clause B2 DURABILITY: | Performance B2.3.1(a) not less than 50 years, and B2.3.2(a). |
| Clause C3 PROTECTION FROM FIRE: | Performance C3.7(a). Trufill Insulation System is non-combustible. |
| Clause E3 INTERNAL MOISTURE: | Performance E3.3.1. Trufill Insulation System will contribute to meeting this requirement. |
| Clause F2 HAZARDOUS BUILDING MATERIALS: | Performance F2.3.1. Trufill Insulation System will not present a health hazard to people. |
| Clause H1 ENERGY EFFICIENCY: | Performance H1.3.1(a) and H1.3.2 E. Trufill Insulation System will contribute to meeting this requirement. |

### 6. Conditions and Limitations of Use

1. The Trufill Insulation System is certified for use in framed walls, floors, skillion roofs and ceilings of trussed and pitched roofs of buildings:
   a. timber framed in accordance with NZS 3604:2011 Timber-framed buildings; or,
   b. steel-framed in accordance with NASH Building Envelope Solutions: 2019 and NASH Standard – Part 2: 2019; and,
   c. where the framing members (studs, floor joists, rafters and ceiling battens) are at not greater than 600 mm centres.

CodeMark

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global-mark

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Version date: 03 August 2023
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2. Rigid underlay shall be used where the Trufill Insulation System is installed in a wall where the ultimate limit state design wind pressure exceeds 2.5 kPa.
3. The Trufill Insulation System shall be:
    a. specified into the building design in accordance with The Honest Solution to High Performance Insulation - Datasheet, Version 0407-23 Thickness and density must be selected in accordance with section 13 below for the relevant Trufill Insulation System to achieve the designed R-value, and
    b. installed in accordance with Trufill Installation Procedures Manual, July 2023, Version: 0407-A at the designed thickness and density by a Safe-R Insulation accredited installer.
4. Establishing compliance with the performance criteria in Building Code clauses H1.3.1(a) and H1.3.2E shall be in accordance with either of the following:
    a. Acceptable Solution H1/AS1 Fifth Edition Amendment 1, (4 August 2022) or Verification Method H1/VM1 Fifth Edition Amendment 1, (4 August 2022), for all housing and buildings up to 300 m2, or
    b. Acceptable Solution H1/AS2 First Edition Amendment 1, (4 August 2022), or Verification Method H1/VM2 First Edition Amendment 1, (4 August 2022), for buildings greater than 300 m2.
5. The requirements of:
    a. AS/NZS 4859.1:2018 Thermal insulation materials for buildings – Part 1: General criteria and technical provisions, and
    b. AS/NZS 4859.2:2018 Thermal insulation materials for buildings – Part 2: Design, and
    c. NZS 4246:2016 Energy efficiency – Installing bulk thermal insulation in residential buildings

    must be complied with.
6. Trufill Insulation materials must be stored under cover and in dry conditions.
7. Separation or protection shall be provided to Trufill Insulation System from heat sources such as fireplaces, heating appliances, flues, chimneys and non IC downlights. Refer to Part 7 of NZBC Acceptable Solutions C/AS1 and C/AS2, and NZBC Verification Method C/VM1.
8. The designer shall provide a signed Declaration for submission with the building consent application that the use of this product in the proposed building work falls within the scope of this certificate and that all design conditions of this certificate have been met.
9. The installer shall supply a signed Declaration that the product has been installed in accordance with the installation conditions of this certificate, for consideration for issuing a Code Compliance Certificate (CCC).

## 7. Health and Safety Information

Standard industry safety practices and manufacturer safety requirements as detailed in the technical literature including the applicable SDS must be observed at all times.

## 8. Basis for Certification

CodeMark

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global-mark

**Certificate no: CMNZ30144**
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The certification decision is based on independent technical review(s) of test report(s), engineering opinion(s) and other documented evidence(s), factory audit(s) and site review(s)

| Code Clause | Compliance pathway | Evidence |
|---|---|---|
| B2 DURABILITY: | Verification Method B2/VM1 and B2/AS1 for not less than 50 years | 01, 02, 03, 04 |
| C3 PROTECTION FROM FIRE | Alternate solution | 01, 02, 03, 04, 05, 06, 07, 08, 09 |
| E3 INTERNAL MOISTURE: | Verification Method E3/VM1 | 01, 02, 10, 11 |
| F2 HAZARDOUS BUILDING MATERIALS: | Alternate solution | 04, 12 |
| H1 ENERGY EFFICIENCY: | Acceptable Solutions H1/AS1 and H1/AS2 | 01, 02, 10, 11 |

## 9. Supporting Documentation for Certification

| Rev | Author | Description | Date and/or Revision |
|---|---|---|---|
| 1. | Trufill | The Honest Solution to High Performance Insulation - Datasheet, | Version 0407-23 |
| 2. | Trufill | Trufill Installation Procedures Manual | July 2023, Version: 0407-A |
| 3.* | Knauf Product Testing Laboratory, Shelbyville, IN 46176<br>NVLAP# 100248-0 | Report No. 0401<br>Qualification Testing of Jet Stream Loose Fill in accordance with ASTM C764 Loose Fill Standard Specification:<br>Section 12.7: Corrosiveness to Steel – Pass. | 12/04/2004 |
| 4.* | Knauf Product Testing Laboratory, Shelbyville, IN 46176<br>NVLAP# 100248-0 | Report No. 0401<br>Qualification Testing of Jet Stream Loose Fill in accordance with the following standards:<br>ASTM C 1304 Odor – Pass<br>ASTM C 1104 Vapor Sorption – Pass | 12/04/2004 |

CodeMark

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|---|---|---|---|
| | | ASTM C 1338 Fungi – Pass<br>ASTM E 136 Behaviour of Materials in a Vertical Tube Furnace at 750°C – Pass<br>ASTM E 920 Critical Radiant Flux – 1.08 W/cm2 – Pass<br>ASTM C 665 Section 13.8 Corrosion Steel Only – Pass | |
| 5.* | Australian Wool Testing Authority Ltd (AWTA Product Testing) | Test Number 7-565160-CO<br>AS/NZS 1530.3-1999 Simultaneous determination of Ignitability, Flame Propagation, Heat Release and Smoke Release – Knauf Insulation – "Earthwool", 50 mm thick, 1,670 kg/m2 mass.<br>Ignitability Index – 0<br>Spread of Flame Index – 0<br>Heat Evolved Index – 0<br>Smoke Developed Index – 0-1 | 12/03/2009 |
| 6.* | Exova Warringtonfire<br>UKAS Testing # 0249 | Document Reference: 311313, Issue No. 1<br>BS EN ISO 1182:2010 Fire Test for Non-Combustibility of Building Products<br>Knauf Insulation glass mineral wool insulation product reference "HD-32-8-ET", 80 mm thick, 32 kg/m3 density<br>Mean Test Results:<br>Furnace thermocouple temperature rise – 6.8°C<br>Specimen centre thermocouple temperature rise – 10.6° C<br>Specimen surface thermocouple temperature rise – 6.3°C<br>Duration of sustained flaming – NIL (seconds)<br>Mass loss – 9.03 %<br> | 27/09/2011 |
| 7.* | Exova Warringtonfire | Document Reference: 311316, Issue No. 1 | 27/09/2011 |

CodeMark

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global-mark

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|---|---|---|---|
| | UKAS Testing # 0249 | BS EN ISO 1716:2010 Determination Of The Heat Of Combustion For Building Products<br>Knauf Insulation glass mineral wool insulation product reference "HD-32-8-ET", 80 mm thick, 32 kg/m3 density<br>Test Result: Gross Calorific Value – 1.89444 MJ/kg | |
| 8.* | CSIRO Materials Science and Engineering<br>NATA Accreditation No. 165<br>Corporate Site No. 3625 | Report No.: FNC10943<br>Combustibility Test for Materials in accordance with AS 1530.1–1994<br>Jetstream Ultra, nominal density 28 kg/m3<br>Result: Not deemed combustible | 22/09/2013 |
| 9.* | Knauf Insulation | Document Ref.: B0709EPCPR<br>Declaration of Performance in accordance with EN 12667 for thermal conductivity and thermal resistance, EN 13501-1 for reaction to fire, EN 1609 for short-term water absorption, EN 12086 for water vapour transmission, and Ref. 4.2.3.2 for settlement. | 27/04/2022 |
| 10.* | Knauf Insulation | Document Ref.: B07093PCPR<br>Blow-in glasswool thermal performance – Guidance note in support of Declaration of performance (Ref 08)<br>Thermal conductivity at 15°C for density 12, 15, 18, 19, 26 and 30 kg/m3. | 8/12/2022 |
| 11.* | BRANZ<br>IANZ Accreditation No. 37 | Test Report DI17822-01<br>Thermal testing of two insulation samples – 100 mm thick white loose fill mineral wool insulation material, nominal density 30 32 kg/m3 in accordance with ASTM C518-10 Standard Test Method for Steady-State Heat Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus. Results adjusted from test temperature of 23°C to declared temperature of 15°C for New Zealand product (according to AS/NZS 4859.2 Section 5.2:<br>Sample 1 Sample 2 | 21/06/2023 |

CodeMark

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|---|---|---|---|---|---|
| | | Density (kg/m3)<br>Thermal conductivity (W/mK)<br>Thermal resistance (m2K/W) | 32.2<br>0.0327<br>2.75 | 29.8<br>0.0333<br>2.70 | |
| 12 | ENEOS Techno Materials Corporation | Safety Data Sheet | | | 01/10/2020 |

* These documents were provided commercial in confidence and are not publicly available

## 10. Supporting Information About Description (Optional)

Trufill Insulation material is non-combustible.

## 11. Supporting Information About Intended Use (Optional)

Nil

## 12. Supporting Information About Conditions and Limitations of Use (Optional)

For wall, skillion roof and floor applications, the product can be installed at different density to achieved the desire thermal insulation as specified in Table 1

For trussed and pitched roof applications where the product is blown into the open roof space over the ceiling lining, only an average density of 12 kg/m3 can be achieved. The thermal insulation achieved for a given thickness is given by the column Open - 12 kg/m3 of table 1

**Table 1: Trufill Insulation System R-Value in Relation to Thickness**

| Nominal Thickness (mm) | Minimal Blown Density | | | | |
|---|---|---|---|---|---|
| | **Open - 12 kg/m3** (0.043 W/mK at 15°C) | **Low - 15 kg/m3** (0.041 W/mK at 15°C) | **Medium - 19 kg/m3** (0.039 W/mK at 15°C) | **High - 26 kg/m3** (0.035 W/mK at 15°C) | **Ultra - 32 kg/m3** (0.0327 W/mK at 15°C) |
| 45 | 1.0 | 1.0 | 1.1 | 1.2 | 1.37 |
| 90 | 2.0 | 2.1 | 2.3 | 2.5 | 2.75 |
| 140 | 3.2 | 3.4 | 3.5 | 4.0 | 4.28 |
| 175 | 4.0 | 4.2 | 4.4 | 5.0 | 5.35 |

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|---|---|---|---|---|---|
| 190 | 4.4 | 4.6 | 4.8 | 5.4 | 5.81 |
| 225 | 5.2 | 5.4 | 5.7 | 6.4 | 6.88 |
| 240 | 5.5 | 5.8 | 6.1 | 6.8 | 7.33 |
| 275 | 6.3 | 6.7 | 7.0 | 7.8 | 8.40 |
| 290 | 6.7 | 7.0 | 7.4 | 8.2 | 8.86 |
| 325 | 7.5 | 7.9 | 8.3 | 9.2 | 9.93 |
| 360 | 8.3 | 8.7 | 9.2 | 10.2 | 11.00 |
| 395 | 9.1 | 9.6 | 10.1 | 11.2 | 12.07 |

**All CodeMark certificates that are current much be registered with MBIE. MBIE maintains a register of valid product certificates. Please find the register here.**

**If the certificate is not listed on this register or it appears as (SUSPENDED), it is not a valid CodeMark certificate and does not have to be accepted by a building consent authority as establishing compliance with the New Zealand Building Code.**