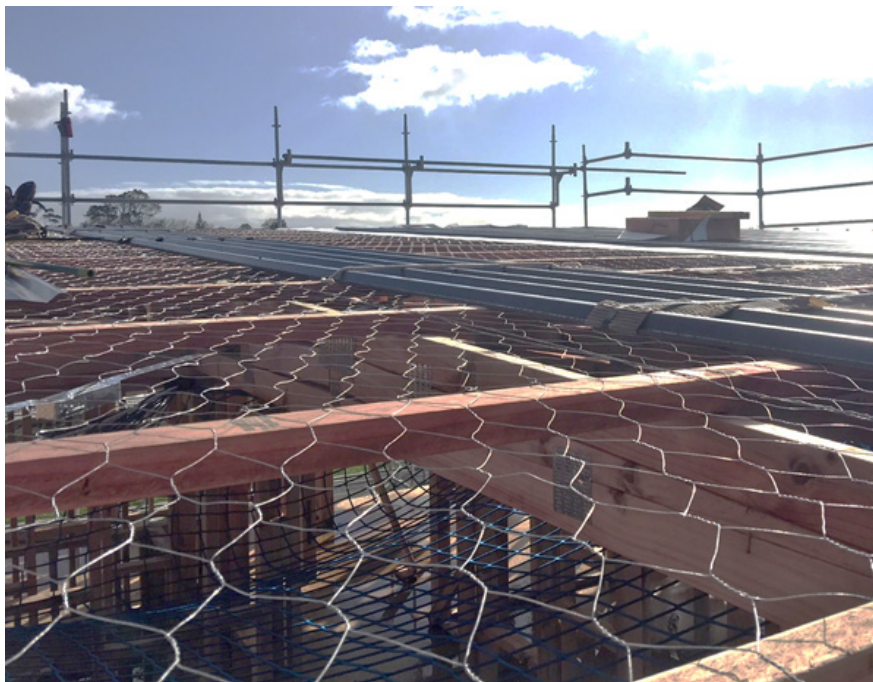




BRANZ Appraised
Appraisal No. 1029 [2018]

THERMAKRAFT AUSNET HEXAGONAL WIRE MESH

Appraisal No. 1029 [2018]



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 Thermakraft AUSNET Hexagonal Wire Mesh is a galvanised steel wire mesh for use on timber and steel framing to support roof underlays. Thermakraft AUSNET Hexagonal Wire Mesh can also be used to support foils and insulation. The mesh is manufactured from 1 mm diameter galvanised steel wire forming a nominal 75 mm hexagonal mesh.

Scope

- 2.1 The Thermakraft AUSNET Hexagonal Wire Mesh has been appraised as a roof underlay support, and also foil and insulation support on buildings within the following scope:
- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and
 - with roof pitch not less than 3°; and,
 - with profiled metal roof cladding; and,
 - with masonry tile roof cladding; and,
 - with metal tile roof cladding; and,
 - situated in NZS 3604 Wind Zones up to, and including Extra High.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 **In the opinion of BRANZ, the Thermakraft AUSNET Hexagonal Wire Mesh, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:**

Clause B2 DURABILITY: Performance B2.3.1[a], 50 years, B2.3.1[b] 15 years and B2.3.2. The Thermakraft AUSNET Hexagonal Wire Mesh meets these requirements. See Paragraph 9.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The Thermakraft AUSNET Hexagonal Wire Mesh will contribute to meeting this requirement. See Paragraphs 10.1 -10.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Thermakraft AUSNET Hexagonal Wire Mesh meets this requirement and will not present a health hazard to people.



Technical Specification

- 4.1 Thermakraft AUSNET Hexagonal Wire Mesh is manufactured from 1 mm diameter galvanised steel wire forming a nominal 75 mm hexagonal mesh. Thermakraft AUSNET Hexagonal Wire Mesh is supplied in rolls 2.0 m wide x 25 and 50 m long.

Accessories

- 4.2 Accessories used with Thermakraft AUSNET Hexagonal Wire Mesh supplied by the building contractor:
- Fixings for timber – stainless steel staples, galvanised flat head clouts or fencing batten staples that are at least 25mm in length.
 - Fixings for steel frame – Class 4 to AS 3566.2: 2002 requirements or stainless steel self-tapping screws.

Handling and Storage

- 5.1 Handling and storage of the product, whether on or off site, is under the control of the installer. The rolls must be protected from damage and weather. They must be stored on end, under cover, in clean, dry conditions and must not be crushed.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Thermakraft AUSNET Hexagonal Wire Mesh. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

- 7.1 Thermakraft AUSNET Hexagonal Wire Mesh is intended for use as a roof underlay support to limit the entry of wind into the roof cavity, and to assist in the moisture management of the roof cladding system.
- 7.2 Thermakraft AUSNET Hexagonal Wire Mesh is suitable for use at roof pitches 3° and above over timber or steel framed roof structures. Thermakraft AUSNET Hexagonal Wire Mesh can be installed vertically or horizontally and must span no greater than 1200 mm in one direction.
- 7.3 Thermakraft AUSNET Hexagonal Wire Mesh is suitable for use as a roof underlay support as called up in NZBC Acceptable Solution E2/AS1, 8.1.5.1 Underlay support.
- 7.4 Thermakraft AUSNET Hexagonal Wire Mesh may also be suitable for use as a roof underlay support for curved roof assemblies. Curved roof assemblies are not covered by the NZBC Acceptable Solution E2/AS1 and therefore are the subject of specific design and are outside the scope of this Appraisal.
- 7.5 Thermakraft AUSNET Hexagonal Wire Mesh is suitable for use as a support for foil pliable membranes and bulk thermal insulation in accordance with their manufacturer's instructions.
- 7.6 Thermakraft AUSNET Hexagonal Wire Mesh is not suitable for and must not be used as a safety mesh.

Structure

- 8.1 Thermakraft AUSNET Hexagonal Wire Mesh is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High.

Durability

- 9.1 Thermakraft AUSNET Hexagonal Wire Mesh meets code compliance with NZBC Clause B2.3.1 (a), not less than 50 years for roof underlay support used where the roof cladding durability requirement or expected serviceable life is not less than 50 years, e.g. under masonry roof tile cladding, and code compliance with NZBC Clause B2.3.1 (b), 15 years for roof underlays used where the roof cladding durability requirement is 15 years.

Serviceable Life

- 9.2 Provided the roof cladding is maintained in accordance with the cladding manufacturer's instructions and the roof cladding remains weather resistant, Thermakraft AUSNET Hexagonal Wire Mesh is expected to have a serviceable life equal to that of the roof cladding.
- 9.3 For applications in commercial and industrial buildings where the wire mesh is exposed the serviceable life will be dependent on the interior environment.

External Moisture

- 10.1 Thermakraft AUSNET Hexagonal Wire Mesh is Appraised for use under roof underlays and claddings that meet the requirements of the NZBC, such as those covered by NZBC Acceptable Solution E2/AS1.
- 10.2 Thermakraft AUSNET Hexagonal Wire Mesh, when installed in accordance with the Technical Literature and this Appraisal, will assist in the total cladding system's compliance with NZBC Clause E2.

Installation Information

Installation Skill Level Requirements

- 11.1 Installation must always be carried out in accordance with the Thermakraft AUSNET Hexagonal Wire Mesh Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant Licence Class.

System Installation

Underlay Installation

- 12.1 When used as an underlay support, Thermakraft AUSNET Hexagonal Wire Mesh must be run continuously across roof rafters, top truss chords or across purlins and be fixed in place. Joining between cut lengths of mesh along roof rafters, truss chords or purlins must NOT be carried out as sharp cut wire edges can pierce or puncture the roof underlay.
- 12.2 The installation direction of Thermakraft AUSNET Hexagonal Wire Mesh must be the same as the underlay direction. For example, if the underlay is installed from the top point of the roof to the lowest point [vertically] then the AUSNET hexagonal mesh will need to follow the same direction.
- 12.3 When used as an underlay support for profiled metal cladding systems, Thermakraft AUSNET Hexagonal Wire Mesh is located over the purlins.
- 12.4 When used as an underlay support for masonry or metal tile cladding systems, Thermakraft AUSNET Hexagonal Wire Mesh is located under the tile battens, over the rafter or roof truss.
- 12.5 When used as a support for foil or insulation the placement of Thermakraft AUSNET Hexagonal Wire Mesh is installed in accordance with the instructions of the foil or insulation supplier.
- 12.6 To fix Thermakraft AUSNET Hexagonal Wire Mesh onto timber framing, stainless steel staples, galvanised flat head clouts or fencing batten staples that are at least 25 mm long in length are used.
- 12.7 To fix Thermakraft AUSNET Hexagonal Wire Mesh onto steel framing, Class 4 or stainless steel self-tapping screws are used. Note, the self-tapping screw must project through the steel frame by at least 10 mm.
- 12.8 Adequate fixing must be used to fully support the mesh. The fixing location must NOT be directly through the mesh's wire twist points as this can result in damaging the steel wire.

Inspections

- 12.9 The Technical Literature must be referred to during the inspection of Thermakraft AUSNET Hexagonal Wire Mesh installations.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

- 13.1 Thermakraft AUSNET Hexagonal Wire Mesh has been tested in accordance with Appendix E of AS/NZS 4534:2006 to determine the coating mass for the steel wire in grams per square metre.

Other Investigations

- 14.1 A durability opinion has been provided by BRANZ technical experts.
- 14.2 The practicability of installation of Thermakraft AUSNET Hexagonal Wire Mesh has been assessed by BRANZ and found to be satisfactory.
- 14.3 The Technical Literature, including installation instructions, has been examined by BRANZ and found to be satisfactory.

Quality

- 15.1 The manufacture of Thermakraft AUSNET Hexagonal Wire Mesh has been examined by BRANZ, the details of the methods adopted for quality control and the quality of the materials used, have been obtained and found to be satisfactory.
- 15.2 The quality of supply to the market is the responsibility of Thermakraft Limited.
- 15.3 Building designers are responsible for the design of the building, and for the incorporation of the wire mesh into their design in accordance with the instructions of Thermakraft Limited.
- 15.4 Quality of installation is the responsibility of the installer in accordance with the instructions of Thermakraft Limited.

Sources of Information

- AS/NZS 4534: 2006 Zinc and zinc/aluminium-alloy coatings on steel wire.
- AS 1397: 2011 Continuous hot-dip metallic coated steel sheet and strip-Coatings of zinc and zinc alloyed with aluminium and magnesium.
- AS/NZS 3566.2: 2002 Self-drilling screws for the building and construction industries Part 2: Corrosion resistance requirements.
- NZS 3604: 2011 Timber-framed buildings.
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Ministry of Business, Innovation and Employment, Third Edition July 2005 [Amendment 7, 1 January 2017].
- Ministry of Business, Innovation and Employment Record of Amendments – Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



In the opinion of BRANZ, **Thermakraft AUSNET Hexagonal Wire Mesh** is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Thermakraft Limited**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the Technical Literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. **Thermakraft Limited**:
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions;
 - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by **Thermakraft Limited**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Thermakraft Limited** or any third party.

For BRANZ



Chelydra Percy

Chief Executive

Date of Issue:

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