

# THERMALFLOOR™

EXTRA HEAVY DUTY

DOUBLE-SIDED REFLECTIVE UNDERFLOOR INSULATION



VERY HIGH PERMEANCE

**Product Code: TF-30**

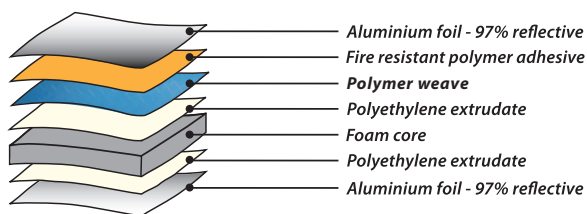
THERMALFLOOR™ is a 2 in 1 insulation and moisture management system, designed for use under floors with a sealed air space between flooring and enclosed sub-floor space. Double-sided reflective surfaces provide increased R-value to your floor system. Weep holes in the membrane structure allow water and water vapour to permeate through, preventing moisture build-up under flooring.

- ▶ Made with rigid high-density foam; resists flapping with open sub-floor.
- ▶ Weepholes for liquid water drainage; reduces condensation risk.
- ▶ Contributes a reflective R-value when installed adjacent to an air cavity.
- ▶ Scored edges for fast, easy installation and a perfect fit.
- ▶ Reduces draughts through strip flooring.
- ▶ Double-sided radiant barrier.
- ▶ Fibre-free and non-allergenic.
- ▶ Helps achieve 6-star house energy rating.

## Construction

THERMALFLOOR™ is made with aluminium foil laminates with reflectivity of 97% and emissivity of 0.03 to both sides, in compliance with *ASTM Standard E 408-71 (Re-approved 2002)*. At its core is 4 mm of closed-cell high-density foam.

Ametalin utilises Advanced Laminating Technology; the polymer adhesive remains tacky for an indefinite period and provides superior resistance to heat, fire and delamination.



## Declared Total System R-values for Typical Systems\*

THERMALFLOOR™ has a material R-value of R0.12. When it is incorporated into typical construction systems, the following thermal performance can be achieved:

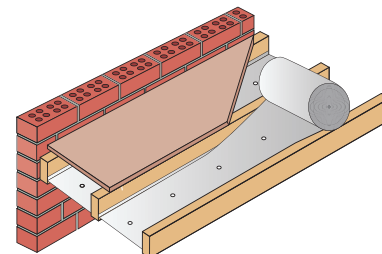
FLOORS	Heat flow in	Heat flow out
<b>Enclosed Sub-floor</b> UNVENTILATED CALC. REF: 299f45e	R <sub>T</sub> 3.8	R <sub>T</sub> 1.7
<b>Enclosed Sub-floor</b> VENTILATED CALC. REF: 299f45ev	R <sub>T</sub> 2.4	R <sub>T</sub> 0.9

\*The contribution of this product to the total system R-value depends on installation and environmental conditions. The R-values will be reduced in the event of the accumulation of dust on upward facing surfaces and in those cavities that are ventilated.

## DECLARED TOTAL SYSTEM R-VALUES\*

### SUSPENDED FRAMED FLOOR

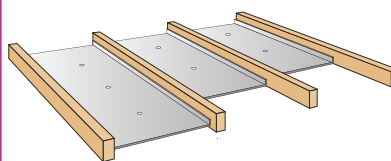
Typical suspended framed floor, enclosed, unventilated, 90 mm reflective air space, with one layer of THERMALFLOOR™ installed between floor joists or installed over bearers.



### ENCLOSED SUB-FLOOR UNVENTILATED

CALCULATION REF: 299f45e

WINTER R<sub>T</sub>3.8 SUMMER R<sub>T</sub>1.7

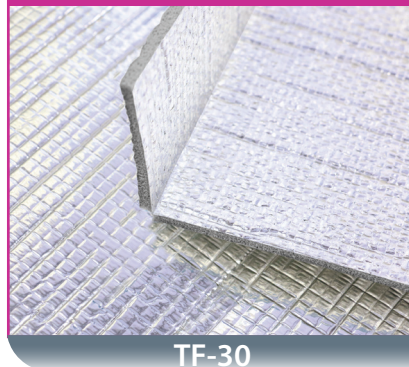


### ENCLOSED SUB-FLOOR VENTILATED

CALCULATION REF: 299f45ev

WINTER R<sub>T</sub>2.4 SUMMER R<sub>T</sub>0.9

THERMALFLOOR™



TF-30

## Product Specifications

PRODUCT		THERMALFLOOR™	AS/NZS 4200.1:1994
FLAMMABILITY INDEX	AS 1530.2-1993	Low	Low ≤ 5
MATERIAL THERMAL RESISTANCE	ASTMC518	0.12 m <sup>2</sup> ·K/W	
DUTY	AS/NZS 4200.1:1994	Extra Heavy	Classification
EMITTANCE	ASTM E408	Side A: 0.03 Side B: 0.03	Value
REFLECTIVITY	AS/NZS 4859.1:2002	Side A: 97% Side B: 97%	Value
RESISTANCE TO WATER PENETRATION	AS/NZS 4201.4:1994	Unclassified	Pass
VAPOUR BARRIER	ASTM E96, PROCEDURE B, WET CUP TEST	Low Resistance	Classification
MACHINE DIRECTION TENSILE STRENGTH	AS 1301.448s-91	14.1 kN/m	Min 13.0 kN/m
LATERAL DIRECTION TENSILE STRENGTH	AS 1301.448s-91	13.5 kN/m	Min 10.5 kN/m
MACHINE DIRECTION EDGE TEAR	TAPPI T 470 om-89	710 N	Min 90 N
LATERAL DIRECTION EDGE TEAR	TAPPI T 470 om-89	688 N	Min 90 N
RESISTANCE TO DRY DELAMINATION	AS/NZS 4201.1:1994	Pass	Pass
RESISTANCE TO WET DELAMINATION	AS/NZS 4201.2:1994	Pass	Pass

PRODUCT CODE:	TF-30
THICKNESS:	4 mm
ROLL SIZE:	2 x 500 mm x 30 m (30 m <sup>2</sup> )
COVERAGE:	27 m <sup>2</sup>
WEIGHT:	10 kg

WATER VAPOUR TRANSMISSION RATE: 640g/m<sup>2</sup>·24hr (23°C, 50% RH)

AMETALIN CLASSIFICATION: VERY HIGH PERMEANCE

## NCC Compliant

THERMALFLOOR™ complies with AS/NZS 4859.1:2002/Amdt 1:2006 and AS/NZS 4200.1:2017, and therefore meets all the requirements of the *National Construction Code* for insulation and pliable building membranes.

## Total System R-values

R-values apply to typical conditions for mainland Australian capital cities and have been calculated by an independent consulting engineer in accordance with AS/NZS 4859.1:2002/Amdt 1:2006. For detailed design of building systems, seek advice based on actual site conditions from a qualified licensed engineer.

## Reflectivity

THERMALFLOOR™ is made with aluminium foil laminates with reflectivity of 97% and emissivity of 0.03 to both sides in compliance with AS/NZS 4200.1.6.3.

## Storage

This product should be stored under cover in a clean, dry place in the pack provided.

## Specification Notes

### When specifying, state the following:

Application: Floors - Suspended Framed Floor

**Product Name:** THERMALFLOOR™

The insulation to be installed shall be THERMALFLOOR™ thermal reflective underfloor insulation, emittance of 0.03 to both sides. Product is manufactured by Ametalin and shall be installed in accordance with the instructions issued by them.

### Water Vapour Transmission (WVT) and Vapour Resistance:

THERMALFLOOR™ 640 g/m<sup>2</sup>·24hr and 0.03 MN·s/g

**Vapour Barrier Classification:** Low

**Water Barrier Classification:** Unclassified

**Duty:** Extra Heavy Duty

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AUSTRALIAN DESIGNED, AUSTRALIAN OWNED.

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Manufacturers of building membranes | insulation products | flexible packaging

## Health and Safety Information

Ametalin has assessed THERMALFLOOR™ according to the criteria outlined in the *National Occupational Health and Safety Commission (NOHSC):1008 (1998)* and *NOHSC: 1005 (1999)*. As a result of the assessment, this product is classified as non-hazardous according to the NOHSC criteria. To reduce risk of UV damage when installing this product, wear protective clothing, safety glasses and sunscreen, and work in the shade wherever practical.

## Installation

### ELECTRICAL SAFETY PRECAUTIONS - BEFORE YOU START:

**Ametalin stresses the importance of safe installation practices for foil-based insulation as critical to installer and consumer safety. Aluminium Foil Insulation Association Inc. (AFIA) has prepared Work Method Statements and Hazard Management forms to assist contractors and installers in safe installation of reflective insulation products. These documents are available under 2009 AFIA WMS & Hazard Management, at [www.afia.com.au/news/health-and-safety/](http://www.afia.com.au/news/health-and-safety/).**

THERMALFLOOR™ shall be installed in accordance with instructions issued by Ametalin. When a pliable building membrane is installed in a ground floor, it should be installed so as to facilitate drainage and ventilation. Clear weep holes have been provided in THERMALFLOOR™ to accommodate this requirement.

### GENERAL

THERMALFLOOR™ is not designed to withstand prolonged direct exposure to the elements. Accordingly, the outer construction envelope of this product should be installed without delay. Aluminium foil should not come into contact with wet concrete or mortar, as the aluminium is susceptible to alkali corrosion. If installed within 500 metres of the sea, or in non-residential buildings where foil surfaces may be exposed to a corrosive atmosphere (including agricultural sheds), foil surfaces should face an enclosed, un-vented air space.

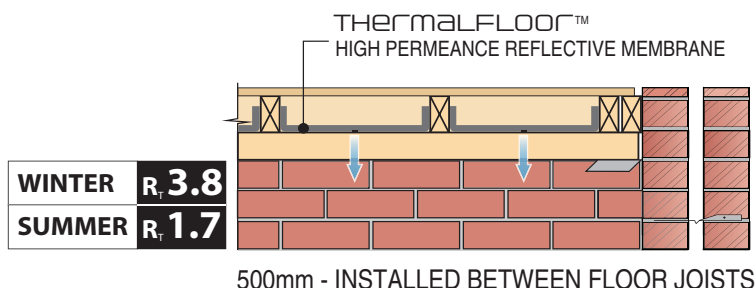
### INSTALLATION BETWEEN JOISTS

Install THERMALFLOOR™ between either timber or steel frame joists. Between timber joists, THERMALFLOOR™ is conveniently installed by rolling parallel along the tops of the timber joists, keeping the material under tension with one hand, gently pushing down and fastening the upturned flap with a hammer tacker. Between steel joists, THERMALFLOOR™ is conveniently installed by first placing Ametalin Double Sided Insulation Fixing Tape along the steel joist. Roll THERMALFLOOR™ out parallel along the tops of the steel joists, keeping the material under tension with one hand. Gently push THERMALFLOOR™ down while removing the backing from Ametalin Double Sided Insulation Fixing Tape, ensuring the flap is pressed firmly onto exposed tape. Secure with Tek screws every 1000 mm once product is in place. To ensure maximum durability, only galvanised staples and screws should be used. Approximate installed coverage of product is 27 m<sup>2</sup> or 60 lineal metres.

THERMALFLOOR™ should be installed at least 90 mm from the underside of flooring, i.e. at the bottom of a standard joist. Joins should overlap by 50 mm and be taped with 75 mm Ametalin Reinforced Insulation/Ducting Tape.

### RETRO-FIT INSTALLATION

THERMALFLOOR™ should be installed under existing floors from below in accordance with relevant Aluminium Foil Insulation Association Inc. (AFIA) Safe Work Methods. New Zealand Standard *NZS 4246:2006* is helpful. (There is no Australian Installation Standard for this application.)



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