



## THERMAL WALL INSULATION

GreenStuf® Thermal Wall Insulation are 100% polyester semi-rigid thermal insulation segments pre-cut to fit common timber- framed walls, ceilings and mid-floor joist spacings.

### APPLICATIONS

GreenStuf Thermal Wall Insulation are designed for the Thermal Wall Insulation of timber framed buildings in accordance with New Zealand Building Code (NZBC) H1 Energy Efficiency requirements. GreenStuf Thermal Pads can be used in ceilings, internal and external walls and mid-floor cavities. To ensure Building Code compliance, architects and building designers are advised to consult an engineer or the relevant NZ standards before specifying thermal and acoustic insulation products. For information and assistance please contact your GreenStuf account manager.

### TECHNICAL

**NZBC Compliance:** When installed in accordance with the manufacturer's instructions, GreenStuf insulation will satisfy the 50 year durability clause NZBC B2.3.1 (a). GreenStuf meets the relevant clauses of NZBC E3 Internal Moisture, F2 Hazardous Building Materials, and will contribute to meeting H1 Energy Efficiency.

**Fire Regulations:** GreenStuf insulation may not be suitable for all applications, as stipulated in the NZBC. Please consult a fire engineer when specifying GreenStuf insulation or contact your GreenStuf account manager for further information.

**Acoustic Performance:** GreenStuf insulation will assist sound reduction by reducing the resonating noise inside the construction cavity. Typical improvement in sound transmission loss through walls with the use of GreenStuf R2.0 Wall insulation is an increase of 5-6 STC points.

**Hazardous Building Materials:** GreenStuf is non-hazardous.

**Durability:** GreenStuf has a 50 Year Durability Warranty.

**Moisture:** GreenStuf is not affected by moisture. Exposure to an atmosphere of 50°C at 90% relative humidity for four days showed moisture absorption by weight of less than 0.03%.

#### Fire ratings:

ISO 9705: 1993

Classification: Group 1-S

Smoke Production Rate: <5.0m<sup>2</sup>/s

As required by NZBC CVM2

FAR 4045-2 issued 8<sup>th</sup> October, 2013

AS1530.3

Ignitability Index (0-20) 0

Heat Evolved Index (0-10) 0

Spread of Flame Index (0-10) 0

Smoke Developed Index (0-10) 3

APL Report 98055 (Test conducted on GreenStuf Thermal Insulation)

IEC 60695-11-5 (Downlight Fire Test Standard)

GreenStuf has been tested and assessed as complying with IEC 60695-11-5 Needle-flame Test.



Declare.



#### VOC Emission Safe:

VOC concentration: 0.01 mg/m<sup>3</sup> (7 days).

GECA/GreenGuard Limit: 0.25 mg/m<sup>3</sup> (7 days).

Cetec Pty Ltd (Report: RCV080408)

**Non-Corrosive:** GreenStuf polyester is considered non-corrosive based on AS/NZS 4859.1 Standard for insulation

**Non-Toxic, Non-Allergenic, Non-Irritant:** There are no known hazards with the use or handling of GreenStuf polyester.

**Vermin:** GreenStuf is naturally resistant to insect and vermin attack.

**Installation:** GreenStuf recommends that all thermal and acoustic insulation be installed in accordance with the manufacturer's instructions (included on each GreenStuf Thermal Pads pack) and NZS 4246 Energy Efficiency - Installing Bulk Insulation in Residential Buildings.

With a drained cavity wall construction and stud spacings greater than 450mm, NZBC E2/AS1, 9.1.8.5 Wall Framing behind Cavities, requires stud straps to prevent insulation bulging into the cavity. Straps must be run at 300mm centres over the wall underlay.

When retrofitting in exterior walls (without wall underlay) with direct-fixed claddings, use semi-rigid insulation that is at least 20mm thinner than the framing width (e.g. for walls with 90mm framing, the insulation shall be no thicker than 70mm).

**MSDS:** Material Safety Data Sheets (MSDS) are available on request from your GreenStuf account manager or can be downloaded from our website: [www.greenstuf.co.nz](http://www.greenstuf.co.nz)

**Specification & Substitution:** GreenStuf specification documents are available through Masterspec or can be downloaded from our website ([www.greenstuf.co.nz](http://www.greenstuf.co.nz)). Substitution of any products in NZBC compliant systems should not be accepted and we recommend this be made clear in all specification and tender documents.

R-Value	Thickness	Width	Form	Nominal GSM	Nominal Density (kg/m <sup>3</sup> )	Thermal Conductivity (W/mK)
R1.3	45mm	580mm	Pads	2700	60.0	0.034
R2.0	70 - 90 mm	360 - 580 mm	Pads	3600	51.4	0.035
R2.2	90mm	360 - 560 mm	Pads	1950	21.7	0.040
R2.5	90mm	360 - 560 mm	Pads	3250	36.1	0.036
R2.6	140mm	580mm	Roll	1650	11.8	0.051
R2.9	140mm	580mm	Roll	1850	13.2	0.048
R3.2	140mm	360 - 560 mm	Pads	2250	16.1	0.043
R3.4	140mm	580mm	Roll	2550	18.2	0.041
R3.6	165mm	580mm	Roll	2800	17	0.044
R3.6	140mm	360 - 560 mm	Pads	3100	22.1	0.038

**ISO Standards:** GreenStuf is committed to Quality and Environmental best practice through our ISO 9001 & ISO 14001 certified Quality and Environmental Management Systems.

**Take Back Programme:** GreenStuf is recyclable. GreenStuf will gladly recycle used, uncontaminated GreenStuf insulation to help keep it out of landfills. For more information on recycling GreenStuf contact GreenStuf on freephone 0800 428 839.

**Packaging Recycling:** GreenStuf packaging is recyclable LDPE 4. Please refer to your local recycling centres for drop off and collection services.

**Environmental:** All GreenStuf products are manufactured using 100% polyester fibre and contain a minimum of 50% previously recycled fibre (from PET plastic). GreenStuf products are manufactured under GreenStuf's Zero Waste Programme where all manufacturing waste is recycled back into the production process.

GreenStuf products are Global GreenTag GreenRate Level A certified and can be used to contribute to Green Star and Homestar accreditation.

GreenStuf is also Declare certified to be Red List chemical free and can be used in Living Building Challenge projects. For more information, please contact your GreenStuf account manager, or visit our website [www.greenstuf.co.nz](http://www.greenstuf.co.nz)



AN ISO 9001 AND ISO 14001 CERTIFIED COMPANY

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