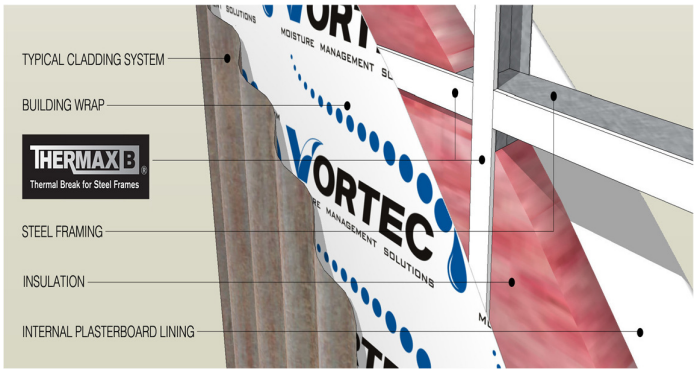
Insulation Wholesalers

Thermal Break | Insulation
Ventilation | Weather Proofing

Installation Manual / Data Sheet REF : TB000172

THERMAX B®
Thermal Break for Steel Frames

Thermax B® is a **Thermal Break for steel frame construction—A high performance thermal insulator used between horizontal and vertical connections of internal framing and external cladding to prevent thermal or cold bridging. Thermax B® provides a simple, economical and extremely effective solution to meeting the New Zealand Building Regulations, by way of reducing heat loss and the risk of internal condensation for Roof and Wall Steel Frame assembly.**



Thermax B® is a specially formulated High Density Extruded polystyrene and is suited for places where a high mechanical resistance is required. Its resistance to water and compression, make it the ideal insulation solution for Steel Frame Construction. Moreover, it is very easy to install and offers a high performance thermal insulation for your building.

What are thermal breaks? Without a thermal break, steel framing significantly compromises the thermal performance of the wall/roof assembly. Maintaining the thermal resistance of a wall/roof assembly in buildings is a requirement needed to meet Clause H1 of the NZBC. This requirement especially applies to any part of a steel framed building that provides a conditioned living space as part of the building's use, Granny flat , office etc. A Thermal Bridge is a physical pathway along which heat can travel from inside the building to the outside. Thermax B° is used to prevent 'Thermal Bridges' between the external cladding and the steel framing. The thermal break material also needs to be non-compressible to the degree that it can support the external cladding.

Thermax B® **Features and Benefits**

- Inert Product will not corrode , rot or support the growth of mould, mildew or soil micro-organisms.
- Contains NO CFC's
- Highly durable and flexible
- Simple and easy to install
- High Density / greater compressive strength helps to eliminate the visible pop marks on external cladding when fixing.
- ***Appraised and tested*** - Fit For Purpose - Exceeding the NZBC building code requirements.

Thickness	Density	R Value
10 mm	55 kg/m3	0.37
15 mm	55 kg/m3	0.57
20 mm	55 kg/m3	0.74
30 mm	55 kg/m3	1.10
40 mm	55 kg/m3	1.48
50 mm	55 kg/m3	1.85

Thermax B® Properties	Units	Values	Test Method
Thermal conductivity @ mean temp 25°c	Kal/mh °C	0.027	ASTM C518
COMPRESSIVE STRENGTH	KPA/m2	250-300	ASTM D1621
FLEXURAL STRENGTH	Kgf/cm2	3.0~3.7	ASTM D5335
WATER ABSORPTION	g/100cm2	0.02	ASTM C272

In BRANZ Feb/Mar 2014 'Build' magazine under "Thermal Breaks and Bridges", it is stated that a Thermal Break material must have a thermal resistance (R-value) of at least R 0.30. Based on this expert opinion, Our Thermax B° 10 mm thick product exceeds this minimum requirement.

The most up to date version of this Installation guide/ Data Sheet is available online.

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Installation

Thermax B® is placed over studs, top and bottom plates, dwang's and any point where the steel framing would have been in contact with the cladding. Installing Thermax B® to the frame using a wafer tek screw or the preferred method is with Thermax Poly Safe spray adhesive. The wall wrap is then laid over the thermal break, before the cladding is installed.

Thermax B® can be installed by any competent tradesman with the appropriate tools. **N.B** Care must be taken not to over- tighten any screw fixing as it can compress the thermal break material.

CUTTING using a fine tooth handsaw or for clean straight cuts best results are achieved with thin blade cutting knives. I.e. Products similar to Stanley blades.

Installation Method's

Method # 1 Thermax B° attached directly to steel frame with building wrap installed over —this isolates the building wrap from steel frame.

Method # 2 Building Wrap installed directly to steel frame with Thermax B® installed over building wrap —it is recommended that the thermal break be a minimum of 30mm oversize than the steel frame width. This is to form an isolation strip between the steel frame and wrap in the event moisture gets past outside exterior cladding. This precaution is in consideration with absorbent style building wraps holding moisture against the frame for long periods creating possible corrosive issues.

Thermax Poly Safe Spray Adhesive

Is the fastest and most cost effective way to install Thermax B° direct to frame. Using a contact bond method of 3 concentrated spots per length of Thermax B® and the same for steel frame. 100 lengths per can is realistic to accommodate the waste factor. High wind conditions we have used 3 spots / length, low wind conditions 2 spots per length is adequate to hold. Polysafe Spray Adhesive supplied by Insulation Wholesalers.

NEW product **PS Builders Adhesive 375ml cartridge**

With frequent questions to supply a caulking style product, we now supply PS (poly safe) Building Adhesive that adheres well to steel frames and many building wraps. This product has received very positive feedback call us today for your free sample.

What width is the correct width for a Thermal Break??

To eliminate heat loss and heat gain through the steel frame to the exterior cladding, there has been a lot of energy studying what width Thermal Break is required.

Working on the **Minimum, Optimum** and **Maximum** scenario for choosing the right width Thermax B° for your frame.

(If steel frame was 40 mm in width)

Minimum = 5mm oversize of framing (45mm) resists only conducting heat Transfer

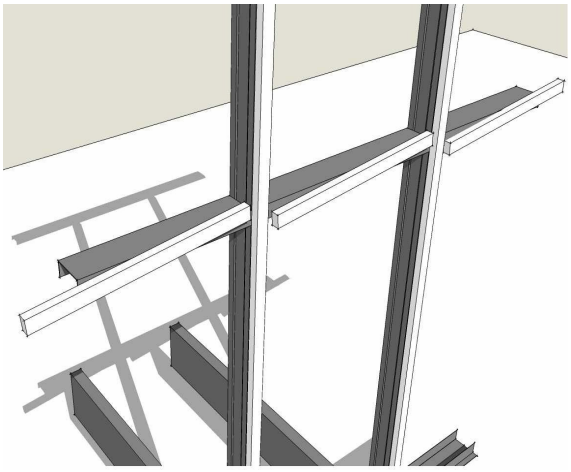
Optimum = 30mm oversize of framing (70 mm) resists both conducting and radiating heat transfer.

Maximum = full sheets – adds to the overall insulation value of the wall assembly.

Thermax B° is cut to order Please allow 4 days Lead Time

- **Thickness** 10mm, 15mm, 20mm, 30mm, 40mm & 50mm.
- **Width** starting at 40mm & cut upward in 10mm increments.

Insulation wholesalers Ltd, will assist with any technical support and ongoing development of its products and services. Call Now for More info 063298065



Note: Read Appraisal CA602 prior to using Thermax B®

By specifying Thermax B®, you are following best practice for very little cost, limiting your liability resulting from product substitution of a lesser performing look alike XPS family product.

For sales and service contact Matthew
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