MASONS PrimeTherm ERS WarmCeiling

DESIGN AND INSTALLATION GUIDE

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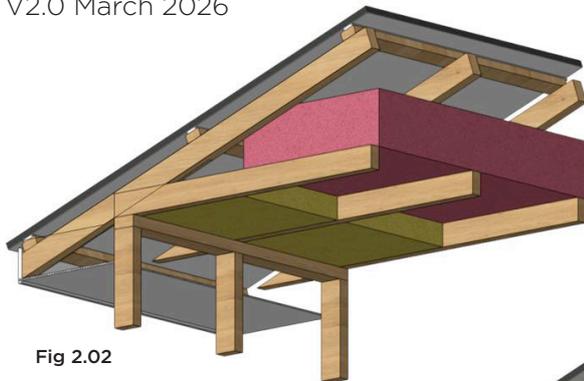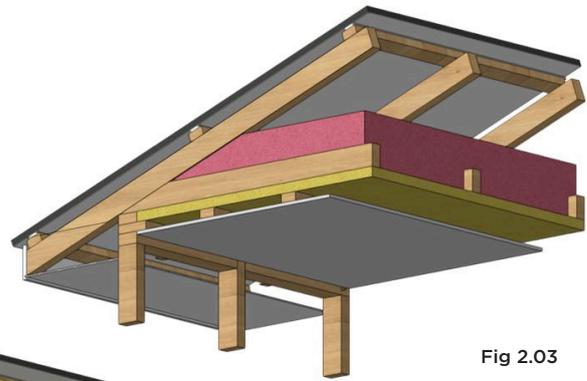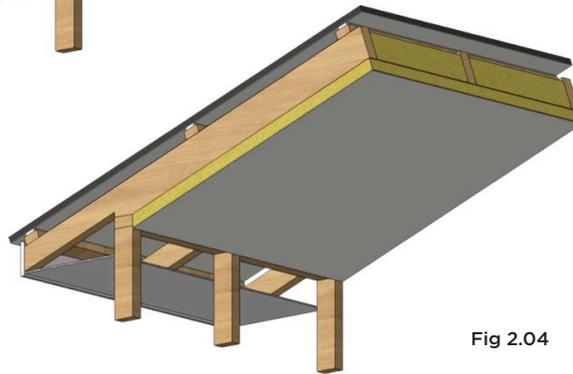Designed Smart, Built Tough.

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Fig 2.02

Fig 2.03

Fig 2.04

PRODUCT NAME
Masons PrimeTherm ERS WarmCeiling

DESCRIPTION AND INTENDED USE
Masons PrimeTherm ERS WarmCeiling is a superior quality closed-cell sheet insulation manufactured from rigid thermosetting polyisocyanurate (PIR) closed-cell foam.

PrimeTherm ERS WarmCeiling is available in sheets 2400mm x 1200mm (2.88m^2) The thickness range is 25mm – 150mm.

This should be read in conjunction with relevant PrimeTherm ERS WarmCeiling drawings, MSDS, BPIR and TDS. See Masons website: **mpb.co.nz**, or contact your Masons Account Manager for details.

MECHANICAL PROPERTIES & THERMAL PERFORMANCE – R-VALUES

Facing Type	0.022 W m-k thickness in mm	R Value after aging* (estimated)	Density kg/m³	Compressive strength KPA
All	50	2.03	40	158
All	80	3.24	40	158
All	100	4.05	40	158

* What is the Aged R Value? R Value is a measure of thermal resistance -R.

PIR board R values reduce slowly post production. Typical PIR board R value reduction is thiner boards up to >13-15%. Thicker boards circa >10% R values stabilise after approx. 2 years.

Building designers use aged R values for an accurate thermal modelling of the building performance.

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KEY BENEFITS

PrimeTherm ERS WarmCeiling is designed for New Zealand conditions, increasing thermal performance by providing a thermal barrier to the ceiling and protecting the interior from heat-loss. Improves energy efficiency to decrease heating and cooling costs over the life of the building.

PrimeTherm ERS WarmCeiling can be installed above or between ceiling joists OR as a continuous layer below the ceiling joists. (In the latter scenario it's recommended to use foil faced boards so an airtight and fully sealed vapour control layer can be formed.)

LIMITATIONS ON THE USE OF PRIMETHERM ERS WARMCEILING

Masons recommend specification and installation by Licensed Building Practitioners with product and application experience.

> Successful installation requires technical knowledge including project specific design requirements.
> PrimeTherm ERS WarmCeiling contributes to satisfying building code requirements as part of a system that is designed, installed and maintained in accordance with product literature and project specifications.

DESIGN REQUIREMENTS SUPPORTING THE USE OF PRIMETHERM ERS WARMCEILING

PrimeTherm ERS WarmCeiling must be designed to NZBC, manufacturers specifications and product performance standards. Design applications to match the intended use as ceiling insulation. Installation to be performed by experienced licensed building practitioners in accordance with installation instructions as follows. If fire safety is a consideration design accordingly. Must be fixed tightly and securely.

DESIGN CONSIDERATIONS

> Consider the use of Warm Ceiling if insulation thickness causes roof member sizes to be beyond what is structurally required.
> Designer to consider the additional height of 50mm (or required thickness) to maintain the standard stud height.
> **Thermal Performance** – Select board based on climate zone and required R Value. Aim to reduce thermal bridging by using continuous PIR board under ceiling joists/trusses.
> **Moisture Control** – If a continuous layer is specified use foil faced PIR board with taped joints to create a sealed and airtight vapour barrier.
> **Fire Safety** – Use IC-F rated downlights to avoid cutting into the PIR board or increase ceiling batten size to accommodate.

TOOLS AND ACCESSORY PRODUCTS

> **Tape measure**
> **Knife or fine toothed saw**
> **Work platform**
> **Hammer/ Drill-driver**
> **Expanding polyurethane foam -** such as Gorilla Pro Expanding Foam Click & Fix
> **Masons Aluminium foil tape**
> • **Mechanical fixings (as required).** Insulated fixings are recommended to reduce thermal bridging
> • **Safety gear** (gloves, mask, eye protection)

Installation

STEP 1 **PREPARE THE ROOF SPACE**

> Ensure roof space is dry and well-ventilated (e.g., soffit vents, ridge vents).
> Check for obstructions: electrical cables, pipes, recessed lights.
> Ensure services are positioned before insulation is installed.

STEP 2 **MEASURE AND CUT PIR BOARDS**.

> Measure the spacing between ceiling joists/rafters.
> Cut PIR boards to be 2–4mm wider than the joist cavity for a tight friction fit.
> Cut edges square to minimise gaps.

STEP 3 **FIT PIR BETWEEN CEILING JOISTS/RAFTERS**

> Insert each PIR board between the joists, pushing it upward to sit flush with the top of the joists or slightly recessed if adding a layer below.
> Ensure each board fits snugly with no visible gaps.
> Use flexible foam or PU sealant to fill any perimeter voids around each board.

STEP 4 **(OPTIONAL) ADD A CONTINUOUS LAYER BELOW JOISTS**
To reduce thermal bridging:

> Fix a continuous PIR layer across the underside of the ceiling joists laid in stretcher bond. (Recommend using aluminium faced in this instance to form a vapour control layer).
> Mechanically fix boards through to joists using insulated PIR board fixings in accordance with Fig 2.01 of CAD drawings.
> Use foil tape to seal all board-to-board joints.
> Use Gorilla pro click and fix sealant (optional) for edge bonding or bonding to rafters
> Add timber battens below to support lining and to create a services cavity.

STEP 5 **SEAL JOINTS AND PENETRATIONS**

> Tape all joints in the under-joist PIR layer with aluminium foil tape.
> Around penetrations (e.g., electrical, plumbing), cut tight-fitting holes and seal gaps with fire-rated foam or gaskets.
> Ensure continuous air barrier where applicable.

STEP 6 **MAINTAIN ROOF VENTILATION**

> Ensure no PIR blocks ventilation pathways:
> Leave min 25 mm air gap above insulation (if required).
> Maintain clear airflow from soffit to ridge vents.

STEP 7 **INSTALL CEILING LINING**

> Fix ceiling battens @ 400/450 crs over PIR board and fix ceiling lining over.
> Avoid compressing insulation.
> Recessed lights must be IC-F rated (shallow profile preferable) and installed per manufacturer instructions or increase batten size to accommodate.

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HANDLING AND STORAGE

PrimeTherm ERS boards should be stored undercover, in a clean, dry area protected from damage. If the product becomes wet, simply allow the product to dry before installing. Wetting and drying will not affect product performance as it is a closed-cell water barrier that does not absorb moisture.

HEALTH AND SAFETY AT INSTALLATION

› Refer to the Masons PrimeTherm ERS MSDS for detailed safety instructions

ENVIRONMENTAL DATA

See PrimeTherm ERS MSDS. Contain off-cuts in bags to ensure product is not blown away or can enter waterways. See Masons PrimeTherm ERS MSDS for more information.

MAINTENANCE REQUIREMENTS

PrimeTherm ERS WarmCeiling does not require regular maintenance. Damaged, dented, fractured product must be replaced.

› During renovations or wall access, inspect for damage or moisture ingress.
› Replace or reseal batts if disturbed.

PRODUCT IDENTIFIER

A label is supplied on each sheet and pack and contains Masons PrimeTherm ERS PIR Board.

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