

RETROTHERM

Underfloor Thermal Insulating Polystyrene



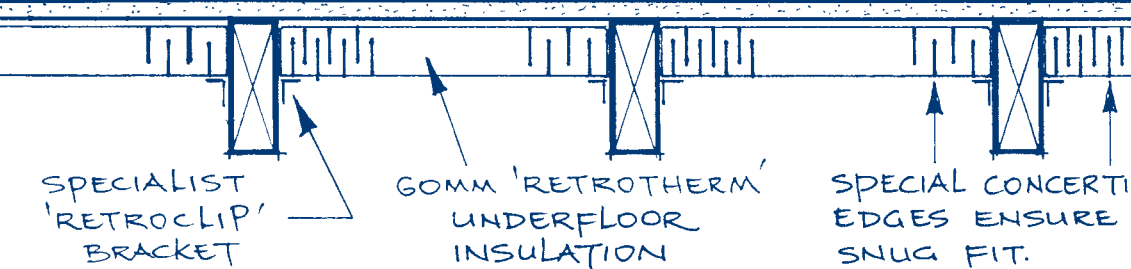
Drafts and breezes will affect insulation performance of a system. Gaps allowing drafts and breezes will halve the thermal resistance.

RETROTHERM™ has a guaranteed Thermal Resistance because it sits flush against the sub floor.*

The special concertina edges on **RETROTHERM™** allow you to simply cut or snap off the side pieces of the sheet to ensure a snug fit between floor joists.

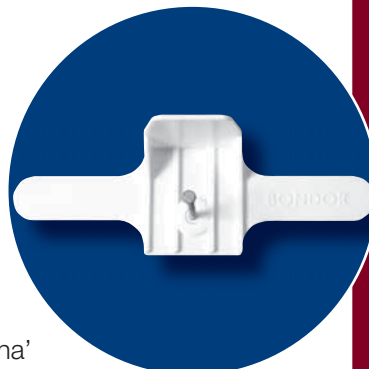
RETROTHERM™ can be supported between joists with a friction fit, or glued in place using any water based glue, or fixed by using our unique non-corrosive **RETROclip™** system.

* When installed to product specifications



RETROTHERM™ FACTS:

- Exceeds the minimum R Value 1.3m² K/W requirements for timber floors
- Eliminates floor drafts and reduces heating costs
- Fast, easy and safe to install
- Non-allergenic and non-irritating
- Supplied in convenient 1.2 metre panels, 60mm thick
- Produced in three widths to fit most floor joists 'Concertina' edges allow product to compact ensuring snug fit between joists
- Does not slump, sag or rot
- Can be mechanically fixed using the Bondor **RETROclip™** system or glued into place where necessary
- Complies with the fire safety requirements of the NZBC C/AS1 Concealed Spaces
- Manufactured from flame retardant materials AS:1366 and contains recycled fire rated polystyrene.



RETROTHERM™ INSTALLATION INSTRUCTIONS

EXISTING BUILDINGS:

- Measure joists to ascertain width needed
- Cut with knife or hand saw or snap off the special 'concertina edges' to ensure a snug tight fit between the floor joists. (Note: The concertina edges must be tightly compressed)
- Push the trimmed **RETROTHERM™** sheet hard up against the underside of the floor to ensure a tight fit. A loose fit can result in air movement between insulation and floorboards.

EXISTING BUILDINGS USING BRACKETS

Follow the instruction as above and place the **RETROclip™** bracket against the sheet and hammer into the floor joist. **RETROclip™** brackets should be placed one either side of the sheet, 400mm in from each end.

EXISTING BUILDINGS USING ADHESIVE:

- Measure joists to ascertain width needed
- Ensure all surfaces are clean and clear of debris
- Cut or snap off the special 'concertina edges' to ensure a snug fit between the floor joists (Note: The concertina edges must be tightly compressed)
- Apply a continuous bead of adhesive in an 'S' pattern across the wooden flooring; wait 30 seconds to allow the residual solvents to evaporate
- Fix the **RETROTHERM™** sheet onto the underside of the flooring.

NEW CONSTRUCTION:

- Invert **RETROclip™** to form 'L' shape; take care to ensure the bracket is at the right height
- **RETROclip™** brackets should be fixed to the floor joists so that they are on either side of the sheet, 400mm in from each end
- Floor joists in new buildings are typically placed at 400mm or 450mm centres. When correctly cut to size, **RETROTHERM™** will sufficiently compress into the space between the joists at these centres
- When the brackets are in place, simply drop in the **RETROTHERM™** sheet
- Once the **RETROTHERM™** sheet is in place, fix the flooring to the joists in accordance to the manufacturers recommendations
- **RETROTHERM™** can be installed post construction in the same manner as the bracket or adhesive method in retrofitting.

PIPES AND PLUMBING

To accommodate pipes and drains use a knife to cut around obstacles. It is acceptable to use polyurethane foam material to seal off the more difficult areas.

ELECTRICAL CABLES

Ensure that where there are PVC coated electrical cables, there is no direct contact between the PVC and the **RETROTHERM™** sheet.

RETROTHERM™
is supplied in bagged units (see below)

| Sheet Size | Sheets per Bag | M ² per Bag |
|-----------------|----------------|------------------------|
| 1200 x 410 x 60 | 12 | 5.9m ² |
| 1200 x 470 x 60 | 10 | 5.64m ² |
| 1200 x 560 x 60 | 10 | 6.7m ² |

Methods of avoiding contact are:

- Isolating the cables through separation and running them along the underside of the joist
- Installing cables in a PVC or PE conduit
- Wrapping the cable in a polyethylene or polypropylene tape
- Using cables with a non-migratory PVC sheet.

OFFCUTS AND SPARE SHEETS

Offcuts are useful for insulating difficult spaces and around plumbing and drainage. If there are any sheets left over once the area has been completely insulated, these sheets should be installed around the perimeter of the house where heat loss is the greatest.

RELATED BONDOR POLYSTYRENE PRODUCTS • BUILDING • CONSTRUCTION • RENOVATION

POLYFOAM

Expanded Polystyrene



Versatile, high performance expanded polystyrene EPS for:

- Wall and ceiling insulation
- Insulating concrete slabs
- Underfloor insulation
- Formwork
- Exterior wall cladding
- Architectural shapes

Easily cut with a knife, saw or hot wire.
Lightweight, non-allergenic, great to handle.

POLYRAFT

Polystyrene Raft
Flooring System



The raft-flooring concept has been widely tested and proven as an effective concrete flooring system. Internationally, the concept was rapidly adopted by industry for the construction of buildings. In New Zealand, raft flooring is one of the fastest growing approaches to residential and light commercial flooring.

POLYROCK

Geotechnical Lightweight Fill



- Geotechnical fill over poor load-bearing subsoils
- Backfill behind earth retaining structures
- Structural fill beneath buildings
- Repairs damage caused by subsidence and settlement
- For sites with difficult or restricted access



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