

# Comfortech® Kooltherm® Insulated Plasterboard

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Product Data Sheet



**Kooltherm**  
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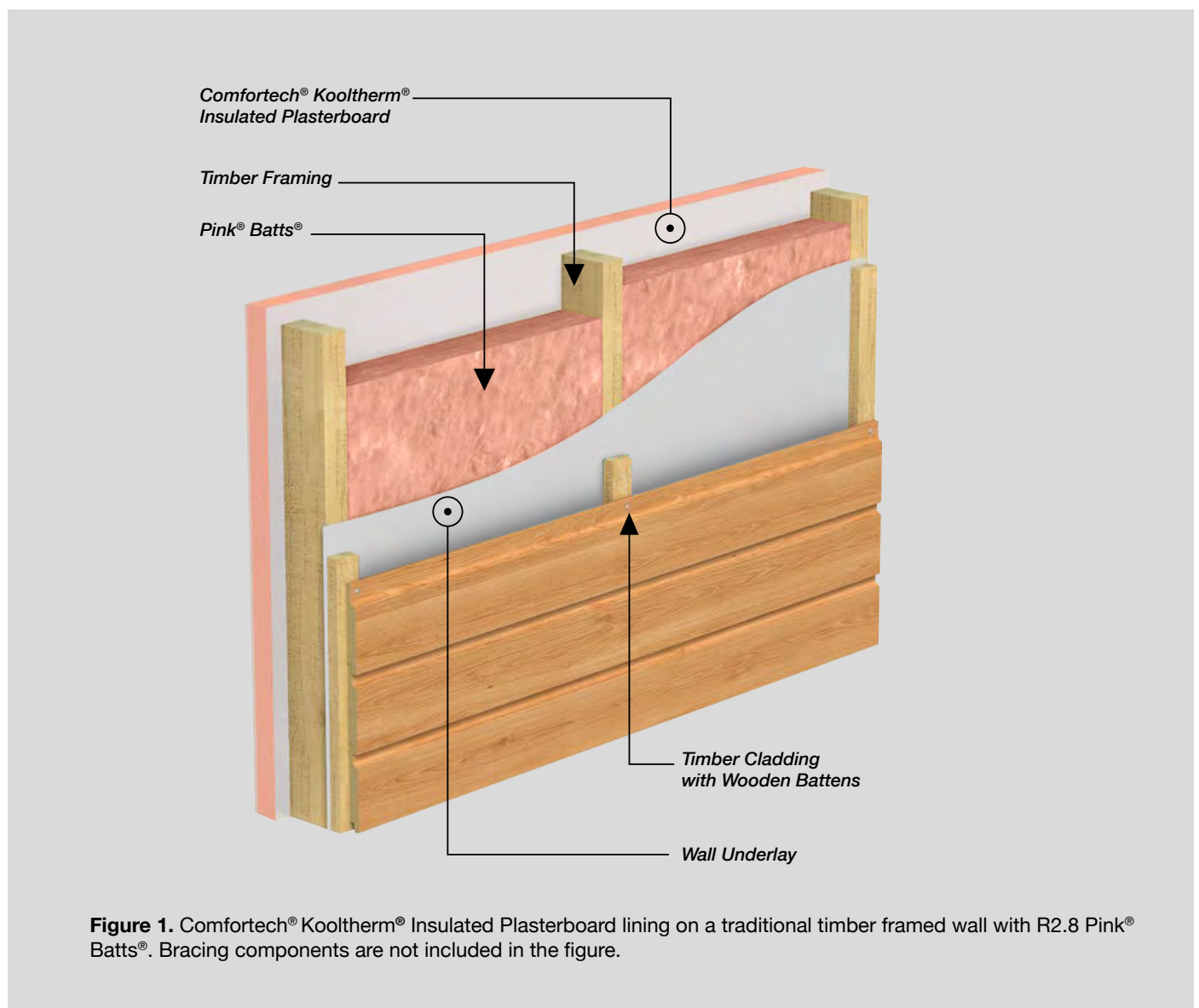
# Comfortech® Kooltherm® Insulated Plasterboard

## Product Description

Comfortech® Kooltherm® Insulated Plasterboard is a super high performance, fibre-free rigid thermoset phenolic insulation, sandwiched between a front facing tapered edge gypsum based plasterboard, and a tissue based back facing adhesive bonded to the insulation core during manufacture.

Comfortech® Kooltherm® Insulated Plasterboard's insulant core is manufactured with a blowing agent that has zero ODP and low GWP.

- High performance rigid thermoset phenolic insulation
- Fibre-free, closed cell insulation core
- 3-in-1 insulation, dry-lining and vapour control
- Can be used as continuous insulation
- Group 1-S for interior lining applications
- Resistant to the passage of water vapour
- Easy to handle and install
- Ideal for new build and refurbishment
- No CFC or HCFC used in manufacture
- Comfortech® Kooltherm® Insulated Plasterboard's insulant core is manufactured with a blowing agent that has zero ODP and low GWP
- NZBC and AS/NZS 4859.1:2018 compliant



**Figure 1.** Comfortech® Kooltherm® Insulated Plasterboard lining on a traditional timber framed wall with R2.8 Pink® Batts®. Bracing components are not included in the figure.

# Comfortech® Kooltherm® Insulated Plasterboard

## Product Performance Data

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### General

- Group 1-S for interior lining applications
  - NZBC and AS/NZS 4859.1:2018 compliant
  - Comfortech® Kooltherm® Insulated Plasterboard is not subject to a warning or ban under section 26 of the Building Act 2004
  - Resistant to the passage of water vapour
  - Fibre-free, closed cell insulation core
  - Ideal for new build and refurbishment
  - Rodent, mould and fungi resistant
  - Insulation made in Australia, plasterboard and bonding performed in New Zealand
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### Specification Guide

#### Comfortech® Kooltherm® Insulated Plasterboard

The wall dry-lining insulation shall be Group 1-S, Comfortech® Kooltherm® Insulated Plasterboard [ ] mm thick, with a tested SMOGRARC of not more than  $10 \text{ m}^2/\text{s}^2 \times 1000$ , average smoke product rate less than  $5 \text{ m}^2/\text{s}$ , comprising a CFC/HCFC-free and Comfortech® Kooltherm® Insulated Plasterboard's insulant core is manufactured with a blowing agent that has zero ODP and low GWP rigid thermoset phenolic insulation core with 10 mm plasterboard facing bonded to its front surface and a tissue based facing on its reverse surface.

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### Scope of Use

Comfortech® Kooltherm® is a thin profiled Insulated dry-lining plasterboard. It is an ideal internal wall insulation solution for new build and retrofit projects and offers a slim profile, thus saving floor space of the building envelope while providing thermal comfort.

- Suitable for commercial and residential projects
- Suitable for buildings that cannot be insulated on the outside or where external appearance cannot be changed
- Suitable for lining concrete and masonry walls

### Limitations

- Cannot be permanently exposed to weather elements
- Not suitable where there is a risk of moisture penetration
- Not a component for structural bracing

### Compliance

Comfortech® Kooltherm® Insulated Plasterboard meets the performance requirements of NZBC Clause B1 Structure (B1.3.1, B1.3.2, B1.3.3(a, j), B1.3.4), Clauses B2 Durability (B2.3.1 (c) 15 years, Clause C3 Spread of Fire (C3.4 (a)), Clause E3 Internal Moisture (contributes to E3.3.1), Clause F2 Hazardous Building Materials (F2.3.1), and Clause H1 Energy Efficiency (contributes to H1.3.1 and H1.3.2E) by testing and comparison with acceptable solutions H1/AS1 and H1/AS2 and verification methods H1/VM1 and H1/VM2 providing:

- It is not damaged, dented or fractured
  - It is installed in accordance with installation instructions
  - It is installed by or under guidance of Licensed Building Practitioners
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# Comfortech® Kooltherm® Insulated Plasterboard

## Product Performance Data

### Product Performance

Construction R-Values for various thicknesses of Comfortech® Kooltherm® Insulated Plasterboard used behind timber frame (See Figure 1.)				
Product Thickness	Heat Flow In		Heat Flow Out	
	R2.8 Pink® Batts®	R1.8 Pink® Batts®	R2.8 Pink® Batts®	R1.8 Pink® Batts®
35mm	3.1	2.8	3.2	2.9
40mm	3.3	3.0	3.4	3.1
50mm	3.7	3.4	3.8	3.6
60mm	4.3	3.9	4.4	4.1

Wall system is based on 90mm thick timber @ 30% framing, R2.8 or R1.8 Pink® Batts®, Watergate Plus wall underlay, Comfortech® Kooltherm® in various listed thicknesses, 20mm cavity and 19mm thick wooden weatherboard.

Construction R-Values for various product thicknesses of Comfortech® Kooltherm® Insulated Plasterboard used with concrete and masonry wall (See Figure 2.)		
Product Thickness	Heat Flow In	Heat Flow Out
35mm	1.30	1.40
40mm	1.50	1.60
50mm	1.90	2.00
60mm	2.50	2.60
70mm	2.90	3.00
80mm	3.30	3.50
90mm	3.80	3.90

The R-values shown are the Construction R-values for the building element as required by the Energy Efficiency requirements of the New Zealand Building Code, calculated in accordance with AS/NZS 4859.2 2018 & NZS 4214.

Comfortech® Kooltherm® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1:2018.



# Comfortech® Kooltherm® Insulated Plasterboard

## Product Performance Data

### Product R-value

Product Thickness (incl. Plasterboard)	Product R-value
35 mm	R1.15
40 mm	R1.35
50 mm	R1.80
60 mm	R2.35
70 mm	R2.80
80 mm	R3.25
90 mm	R3.70

Declared Product R-value at 15°C as per AS/NZS 4859.1:2018.

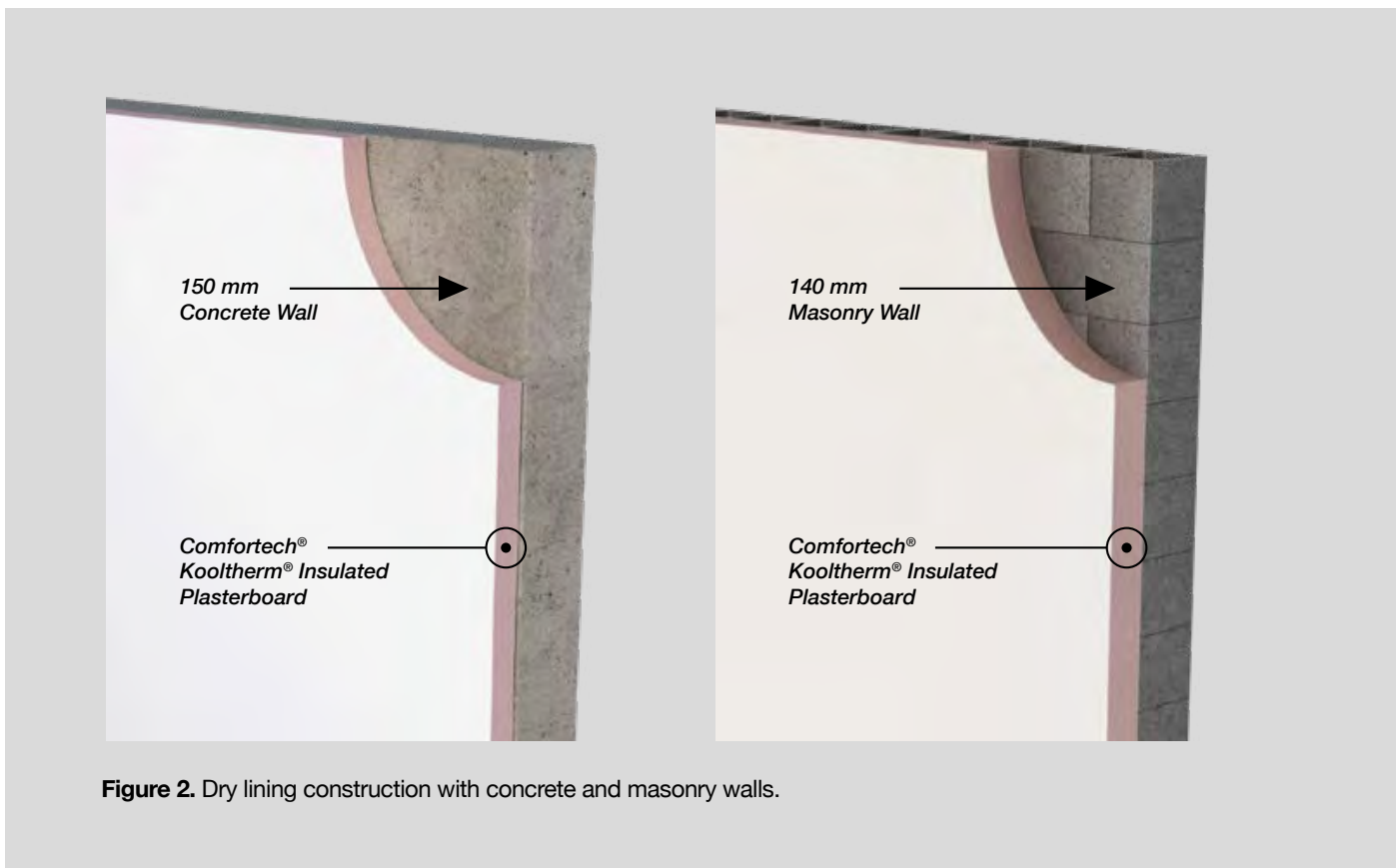


Figure 2. Dry lining construction with concrete and masonry walls.

# Comfortech® Kooltherm® Insulated Plasterboard

## Product Performance Data

Product Data		
Thermal Conductivity ( $\lambda$ -value) at 15°C	Insulant	0.022 W/mK (Insulant Thickness $\geq$ 45 mm) 0.023 W/mK (Insulant Thickness 25 - 44 mm)
	Plasterboard	0.17 W/mK (Plasterboard Thickness 10 mm)
Product Dimensions		2400 mm x 1200 mm (2.88 m <sup>2</sup> )
Product Thickness Including Plasterboard		35, 40, 50, 60, 70, 80, 90 mm
Plasterboard Thickness		10 mm

Special product lengths are available. Please contact us for more information.

## Standards and Approvals

Comfortech® Kooltherm® Insulation is manufactured to the highest standards and certified under the following management systems. Please note that this is only related to the insulation core.

Standard	Management System
ISO 9001:2015	Quality Management
ISO 14001:2015	Environmental Management
ISO 45001:2018	Health and Safety Management
ISO 50001:2018	Energy Management

## Durability

If correctly installed, Comfortech® Kooltherm® products can be expected to have a long life of service. Their durability depends on the supporting structure and the conditions of use.

Comfortech® Kooltherm® products are warranted for a period of 10 years for both residential and commercial installations.



# Comfortech® Kooltherm® Insulated Plasterboard

## Product Performance Data

### Product Testing

Characteristic	Standard	Result
Compressive Stress (Insulant)	AS 2498.3	Typically exceeds 100 kPa at 10% compression
Water Vapour Resistance	AS 2498.5-1993 Method 5	> 35 MN.s/g For the purpose of calculation of condensation risk, the resistivity of the plasterboard component of the product should be taken as 50 MN.s/g.m

### Fire Performance

Test	Test Method	Result
Ignitability, Flame spread, Heat release, Smoke release	AS 1530.3	Spread of Flame Index: 0 Smoke Development $\leq 3^*$
Flame Propagation (AS 1366)	AS 2122.1	Complies*
NZBC Group Number in accordance with Clause C3.4	ISO 9705	Group 1-S Average Smoke Production Rate less than 5 m <sup>2</sup> /s

\* Applies only to the Comfortech® Kooltherm® phenolic insulation core used in the manufacture of this composite insulated plasterboard product.

### Environmental Data

Aspect	Characteristic
Recyclability	Non-contaminated insulation site waste is recyclable, but there are currently no facilities in New Zealand to process returned material
Re-usability	Re-usable if removed with care (long term of service expected)
Water Use	No water used in Comfortech® Kooltherm® Insulation's manufacturing process
Blowing Agent Global Warming Potential (GWP)	Manufactured with a blowing agent that has low GWP
Blowing Agent Ozone Depletion Potential (ODP)	Manufactured with a CFC/HCFC-free blowing agent that has zero ODP
Packaging	Contains 0% recycled product Polythene wrap and EPS skids 100% recyclable



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**0800 45 4000**

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