Te Kāhui Whaihanga NZIA Approved CPD Provider

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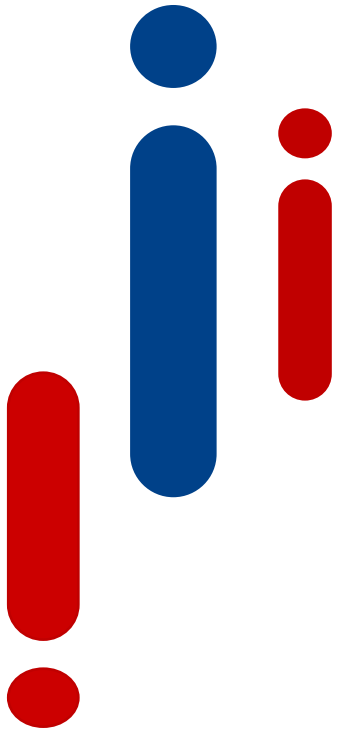
Kingspan Thermakraft NZWIR Presentation

Warmer in winter,
cooler in summer,
dry all year

Agenda



- Kingspan Thermakraft
- Kooltherm
- Benefits of Continuous Insulation
- Construction using Kooltherm

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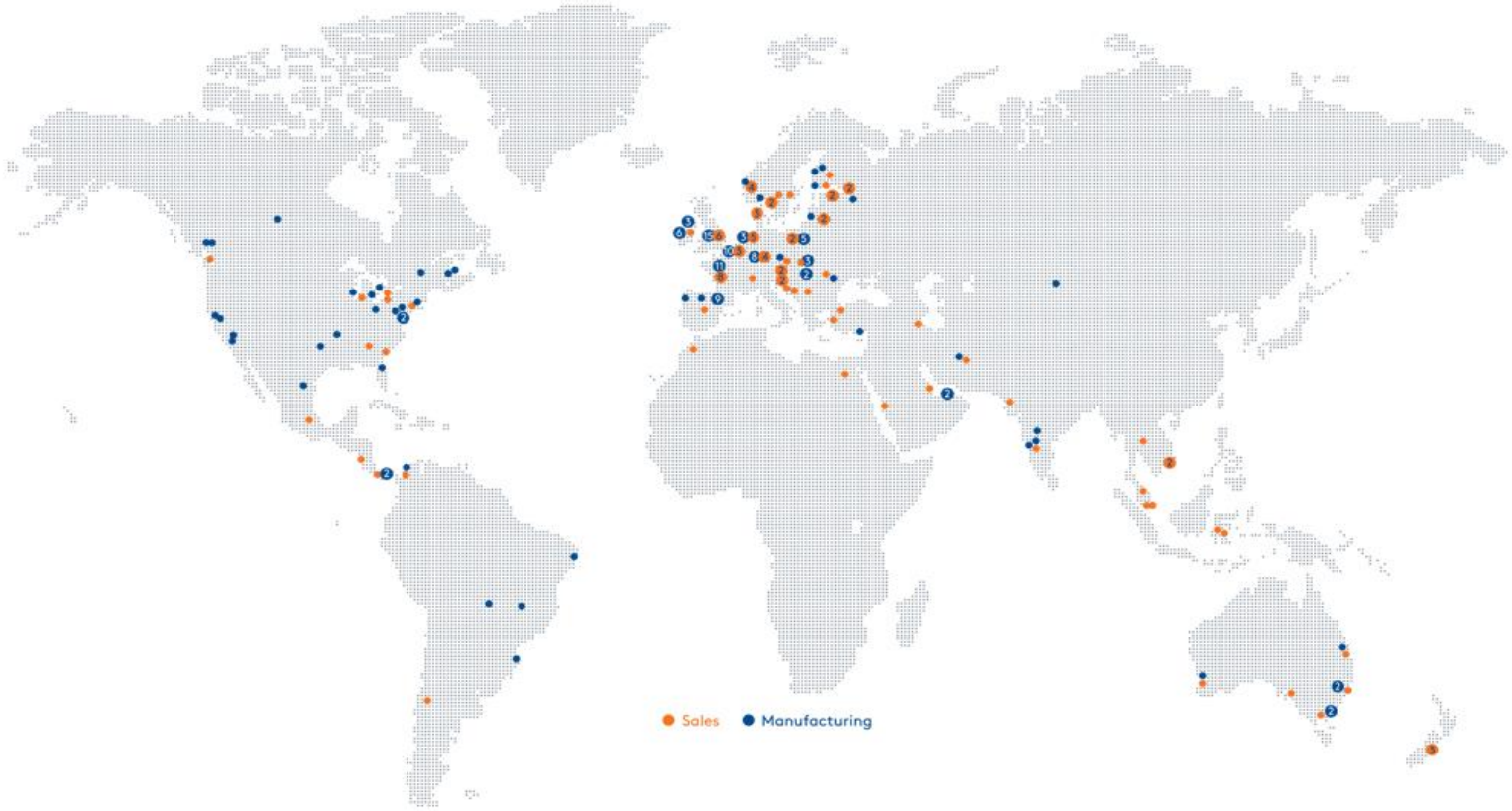
Kingspan Thermakraft – Who are we?

Kingspan – Who are we?

OUR GLOBAL PRESENCE

- **80+**
  Countries
- **212**
  Manufacturing Facilities
- **6**
  Business Strems
- **22,000+**
  Employees Worldwide



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Australasia Factories

Somerton Plant - Melbourne

Otara Plant - Auckland

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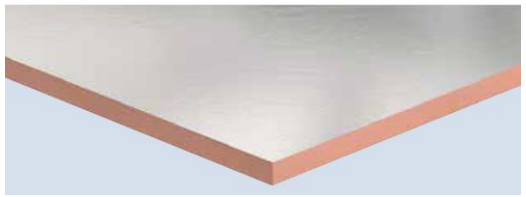
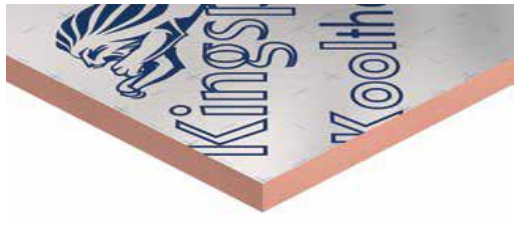
Kooltherm – what is it?

Kingspan Kooltherm

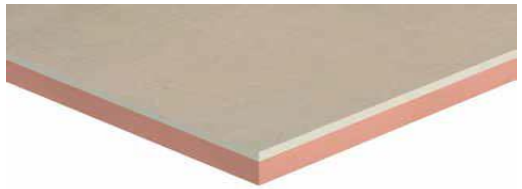
- Fibre-free
- CFC/HCFC- Free
- High R-Value per thickness
- Low flame and smoke emission
- Continuous insulation
- AS/NZS 4859.1:2018 Compliant



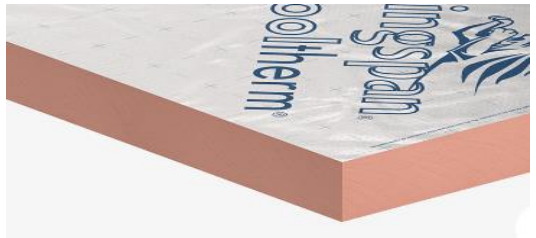
K10 Soffit Board



K12 Framing Board



K17 Insulated Plasterboard



K7 Pitched Roof Board

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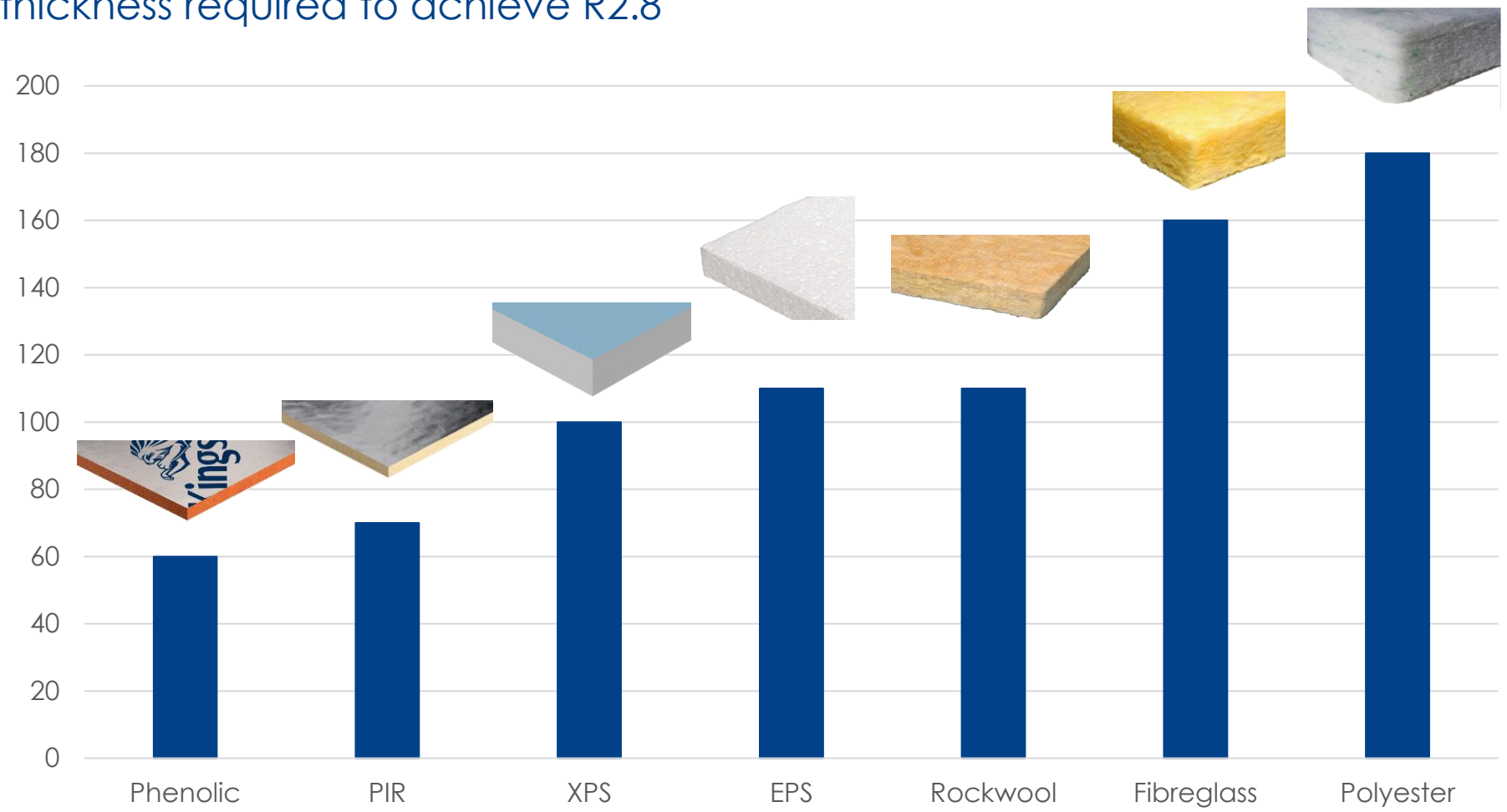
How Kooltherm compares

Material thickness required to achieve R2.8



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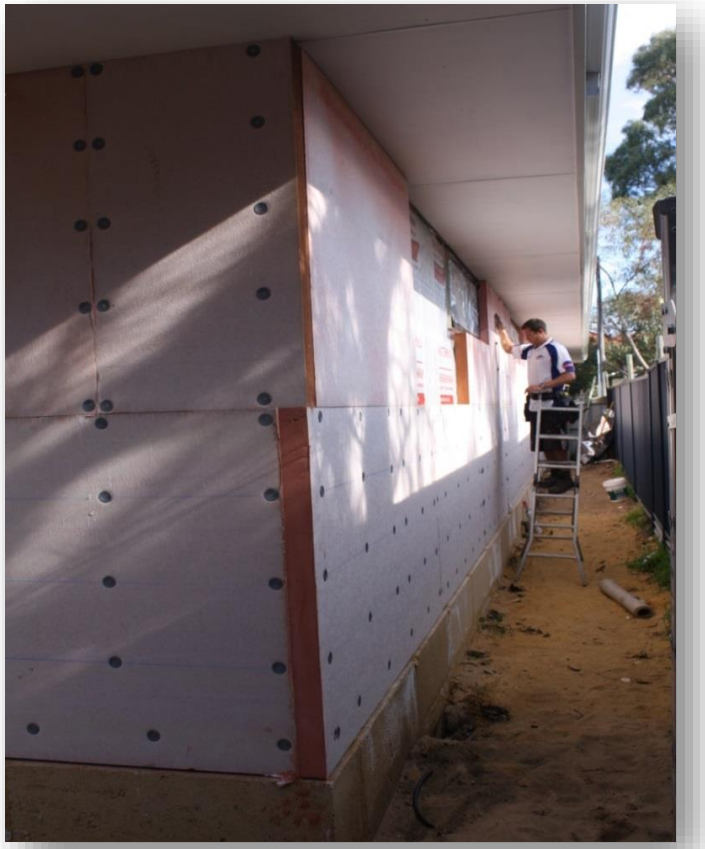
Continuous insulation

Continuous Insulation



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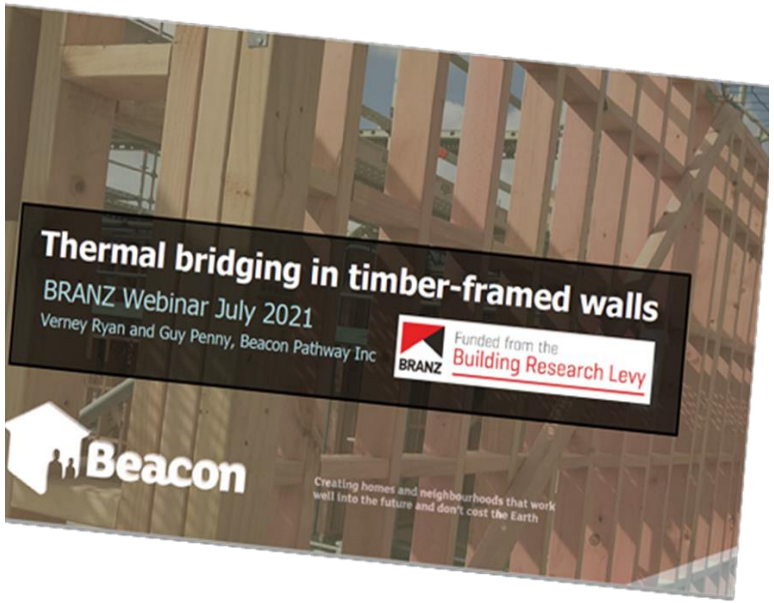
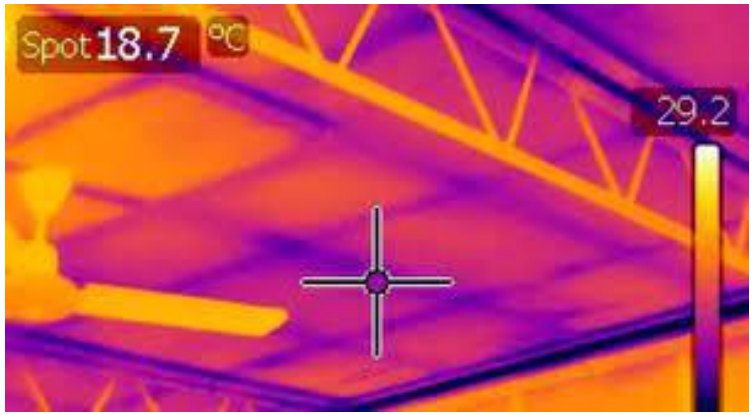
Thermal bridging issues

BRANZ & Beacon Pathway study



Thermal Bridging



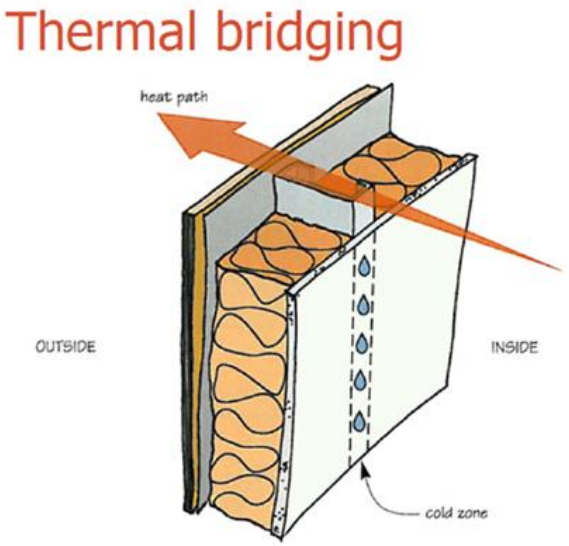


Image source: Build magazine *Condensation and thermal bridges* Malcolm Cunningham, 1 April 2005, Build 87

Thermal bridging issues

Condensation → Water → Mould → Timber failure → Illness

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Construction using Kooltherm

Solutions to meeting new NZBC Insulation Requirements

Skillion Roof Retrofit

Solutions to meeting new NZBC Insulation Requirements

Skillion Roof Retrofit

Construction Using Kooltherm

Skillion Roof – New builds/Retro – Kooltherm K7

Kooltherm K7 between and over rafters at maximum 600mm centres

Construction R-Value for Various Thicknesses of Kingspan Kooltherm K7 and Different Timber Rafter Depth					
Thickness of Kooltherm K7	Timber Rafter Depth				
	90mm	140mm	190mm	240mm	290mm
40+40	3.55	3.60	3.60	3.65	3.65
50+50	4.40	4.45	4.50	4.50	4.50
60+60	5.10	5.20	5.25	5.25	5.25
70+70	5.80	5.90	5.95	5.95	6.00
80+80	6.35	6.70	6.70	6.75	6.75
90+90	6.90	7.50	7.45	7.50	7.50
100+100	NA	8.15	8.20	8.20	8.20

Construction Using Kooltherm

Skillion Roof – New builds – K7

Kooltherm K7 under rafters and bulk insulation at maximum 600mm centres

Construction R-Value for Various Thicknesses of Kingspan Kooltherm K7 and Different Timber Rafter Depth					
Thickness of Kooltherm K7	Timber Rafter Depth				
	90mm	140mm	190mm	240mm	290mm
	R2.1 Bulk	R3.6 Bulk	R5.0 Bulk	R6.0 Bulk	R7.4 Bulk
40mm (R1.75)	3.60	4.75	5.85	6.70	7.80
50mm (R2.35)	4.10	5.25	6.35	7.20	8.10
60mm (R2.80)	4.55	5.75	6.80	7.65	8.50
70mm (R3.30)	5.00	6.15	7.25	8.10	8.95
80mm (R3.75)	5.45	6.60	7.70	8.55	9.40
90mm (R4.20)	5.85	7.05	8.15	8.95	9.85
100mm (R4.70)	NA	7.50	8.60	9.45	10.25


Questions
Comments
Thoughts

STAY IN TOUCH

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Thermakraft.co.nz
Kingspaninsulation.co.nz

Candice Smith –
SI Specification Manager

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masterspec