



Superior **Doors**

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H1 - SUPERIOR DOORS' THERMAL ENVELOPE DOORS

October 2023

What is H1

New Building Code Details

Clause H1 of the New Zealand Building Code promotes energy efficiency in buildings as part of the broader push towards warmer, drier homes, and more sustainable living. It does this by setting physical conditions for energy performance, such as minimum insulation levels and requirements for hot water systems, artificial lighting and HVAC systems. It also affects certain parts of the home, referred to as the thermal envelope, and the insulation qualities of products and materials used in that envelope, such as doors and windows. These updated regulations affect new residential buildings, and other buildings, under 300m², and came into force on 2nd of November 2023.

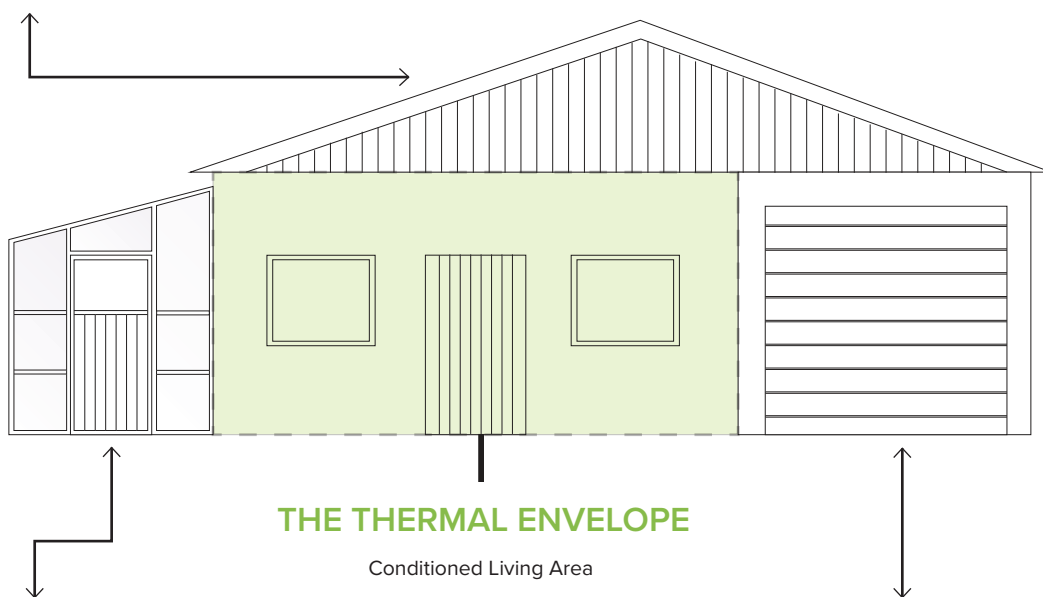
Where in a home is affected

The Thermal Envelope

The thermal envelope, for most, encompasses the main heated (or cooled) living areas of a home such as the living room, kitchen and bedrooms. Such heated areas are called the “conditioned areas”. “Unconditioned areas” are the parts of the home, or outside, which are not heated, such as an internal garage, conservatory, or roof cavity. So, H1 will affect any doors leading outside, or to an area of the home which is not heated, such as a garage. Depending on where you live in New Zealand, the level of insulation required for doors that are part of a home’s thermal envelope are slightly different, with higher values required in colder regions.

Uninsulated Roof Space

Any hatches or entry points between the roof space and the living area must meet H1 standards



Uninsulated Conservatory

Any doors between the conservatory and the living area must meet H1 standards

Uninsulated Internal Garage

Any doors between the garage and the living area must meet H1 standards

Which Superior products comply

Superior Doors' Thermal Envelope doors

We have a broad range of products that comply with the updated H1 standard. Our Solid EPS Polystyrene Porch doors comply for sheltered entrance ways. For interior hinged doors, our Solid EPS Polystyrene or Ribcore doors significantly exceed the requirements for doors leading into unconditioned spaces, such as your internal garage. When using a cavity slider, we have steel reinforced doors that also meet the H1 regulations for all regions in New Zealand.

Thermal Envelope doors & application (door size 810x1980mm with 4mm MDF Skin)¹

Product	Dimensions (1980mm x 810mm)	R-Value	Suitable region	Application
RibCore Poly Core	38 mm	0.80	All Regions	Interior hinged doors
Solid EPS Poly Core	38 mm	0.99	All Regions	Interior hinged doors
Solid Eps Poly Core, Steel x1	38 mm	0.82	All Regions	Interior cavity sliders, Interior hinged doors
Solid Eps Poly Core, Steel x2	38 mm	0.72	All Regions	Interior cavity sliders
Solid Eps Poly Core Porch Door	40 mm	1.00	All Regions	Sheltered exterior doors

R Values for different skin and core combinations (door size 810x1980mm)¹

CORE TYPE	SKIN TYPES AND THICKNESS					
	3mm MDF	4mm MDF	4.75mm MDF	4.8mm OTH	6mm MDF	9mm MDF
RibCore Poly Core	0.78	0.80	0.82	N/A	0.84	0.90
Solid EPS Poly Core	0.97	0.99	1.00	1.00	1.03	1.09
Solid Eps Steel x1	N/A	0.82	0.84	N/A	0.87	0.94
Solid EPS Steel x2	N/A	0.72	0.74	N/A	0.77	0.85
MR Particle Board	0.47 ¹	0.49 ¹	0.50	0.5	0.53	0.59

1. MR Particle Board 3mm and 4mm skin doors are appropriate for use in the thermal envelope for homes in climate zones 1-4 only.

2. All door R-Values calculated using a surface coefficient of 0.17 in accordance with ISO 10077.

Climate Zones

Different regions, different requirements

Different building components have different minimum R-Values under the most recent update to clause H1, with the R-Values for building components adjusting to different climate regions of the country. Minimum R-Values for residential doors in climate zones 1-4 is 0.46 m²K/W, and in climate zones 5 & 6 is 0.5 m²K/W.

Construction R-Values for Residential Buildings under 300m ² (m ² K/W)						
Building element	Climate Zone 1	Climate Zone 2	Climate Zone 3	Climate Zone 4	Climate Zone 5	Climate Zone 6
Door	0.46	0.46	0.46	0.46	0.50	0.50

