

Insulation Requirements of New Zealand Building Code Clause H1 – Energy Efficiency to NZS 4218:2009

The Building Code Clause H1 Energy Efficiency is defined in New Zealand Standard 4218:2009. Residential construction categories are changed to:

1. Non-solid Construction; eg (timber framed structure with various types of exterior cladding), or
2. Solid Timber Walls (such as “Lockwood” type system), or
3. Solid Construction – excluding timber (concrete or masonry)

Litecrete falls under the definition of Solid Construction – excluding timber. Because of the benefits of the thermal mass of the concrete (its ability to absorb and slowly dissipate energy) this category has been allocated a dispensation in R-value requirements compared to the other two categories. Following are the requirements for the various climate zones:

Climate Zones	Min Wall R-values	Litecrete Solution
Zone 1 Northland, Auckland and Coromandel Option 1 (a)	R0.8	Solid Construction – excluding timber 220 mm thick panels (R0.8)
Zone 2 Rest of North Island except Volcanic Plateau Option 2 (a)	R1.0	Solid Construction – excluding timber 280 mm thick panels (R1.0)
Zone 3 South Island and Volcanic Plateau Option 3 (a)	R1.2	Solid Construction – excluding timber 330 mm thick panels (R1.2)

The Standard provides for three methods of compliance:

1. The Schedule Method shall only be used where:
 - (a) The glazing area is 30% or less of the total wall area;
 - (b) The combined area of glazing on the east, south and west-facing walls is 30% or less of the combined total area of these walls;
 - (c) The skylight area is no more than 1.2 m² or 1.2% of the total roof area (whichever is the greater);
 - (d) The total area of decorative glazing and louvers is 3 m² or less
2. The Calculation Method shall only be used where:
The glazing area is 40% or less of the total wall area
3. The Modelling Method shall only be used where:
The glazing area is more than 40% of the total wall area