



# Construction R-values of exterior doors under H1/AS1

The H1 R-value requirements for exterior doors with transparent or clear glass, but not opaque glass, can be found in Appendix E.

Recently, I have had conversations with construction industry professionals about the construction R-value of residential doors in accordance with the requirements of H1 Energy efficiency Acceptable Solution H1/AS1 5th edition amendment 1.

## Apply only to exterior doors

These requirements apply only to the exterior doors of the fully insulated parts of the building that are part of the thermal envelope.

The only internal door that may be affected is that between the dwelling itself and a garage with internal access and then only if the garage is not fully insulated to the same level as the habitable space of the attached residential accommodation.

The article *Specifying windows, doors and skylights under H1* on pages 36–37 has timetables for the roll-out of the various required minimum construction R-values for doors in each climate zone at various junctures through to 2 November 2023.

## Requirements are in Appendix E

The requirements for calculating the construction R-values of doors are in Appendix E of H1/AS1. There is also Table E.1.1.1 with construction R-values that can be used for doors, but only doors that are



fully glazed. This glazing allows for both transparent or clear glass, and translucent or obscure glass, but does not allow for opaque areas such as panels of timber, metal and other non-transparent materials.

Appendix E is specific: 'for doors with glazing, the R-values in Table E.1.1.1 include the effects of both the glazing and the frame, but not the effect of any opaque parts other than the frames around the glazing'.

The opaque panel areas must be evaluated separately from the areas with glazing in any exterior doors containing both glazing and opaque panels.

Paragraph E.1.1.2 states that acceptable methods for determining the construction R-values of opaque doors and opaque door panels are contained in NZS 4214:2006 *Methods of determining the total thermal resistance of parts of buildings*. ◀