

'R' VALUES FOR COMMON EXTERNAL CONSTRUCTION COMPARISON

- Wall system performs Worse
 - Wall system performs Equal
 - Wall system performs Better
- * Values below the tables show the actual difference in the 'R' values
N/A is information in Not Available
Refer to notes in blue for clarification of the wall details

**STEEL WALL FRAMING -
ati Cavi-Break used as thermal break and cavity batten**

90mm steel studs @ 600 crs with 20mm thick ATI Cavi-Break™ Strips, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note 90 x 35 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
2.0	2.2	2.3	2.5	2.5	2.6

R' values will be the same for 9.5mm fibreboard cladding such as Weathertex

**STEEL WALL FRAMING -
James Hardie 'Hardiebreak'**

90mm steel studs @ 600 crs with Hardiebreak thermal break, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation

** Note 90 x 35 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
1.8	1.9	2.0	2.1	2.1	2.1
-0.2	-0.3	-0.3	-0.4	-0.4	-0.5

**STEEL WALL FRAMING -
James Hardie - 19mm FC cavity trim**

90mm steel studs @ 600 crs with 19mm FC cavity trim on-stud, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note 90 x 35 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
1.6	1.7	1.8	1.9	1.9	1.9
-0.4	-0.5	-0.5	-0.6	-0.6	-0.7

**STEEL WALL FRAMING -
70 x 35 Timber Batten**

90mm steel studs @ 600 crs with 70 x 35 timber batten on-stud, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note this has been extrapolated from a system by removing the rigid insulation and should not be taken as final. 2700 wall height.*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
1.9	2.0	N/A	N/A	N/A	N/A
-0.1	-0.2				

**TIMBER WALL FRAMING -
ati Cavi-Break used as a cavity batten**

90mm timber studs @ 600 crs with 20mm thick ATI Cavi-Break™ Strips, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note 90 x 45 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
2.2	2.4	2.6	2.8	2.8	3.0

**TIMBER WALL FRAMING -
James Hardie - Direct fix**

90mm timber studs @ 600 crs, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note 90 x 45 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
1.9	2.0	2.3	2.4	2.4	2.5
-0.3	-0.4	-0.3	-0.4	-0.4	-0.5

**TIMBER WALL FRAMING -
James Hardie FC cavity trim**

90mm timber studs @ 600 crs with 19mm FC cavity trim on-stud, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note 90 x 45 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
2.3	2.4	2.6	2.7	2.7	2.8
0.1			-0.1	-0.1	-0.2

**TIMBER WALL FRAMING -
70 X 35 Timber Batten**

90mm timber studs @ 600 crs with 70 x 35 timber batten on-stud, 10mm plasterboard internal wall lining, 9.5mm FC external cladding, breathable vapour barrier and glasswool insulation batts

** Note 90 x 45 studs and 2700 high wall height used for results*

R2.0 batts		R2.5 batts		R2.7 batts	
Summer	Winter	Summer	Winter	Summer	Winter
2.3	2.5	2.7	2.8	2.8	3.0
0.1	0.1	0.1			

'R' value calculations for wall systems using ATI Strips are based on Report/Calculations No W230314 prepared by Acronem Consulting Australia Pty Ltd Calculations are based upon:

- * AIRAH Technical handbook, Edition 5 2013, pp 62-73 - Thermal Properties of Building and Insulating Material
- * AS/NZS 4859 Parts 1 & 2: 2018, Thermal insulation materials for buildings incorporating the effects of thermal bridging
- * Wall outer and inner surfaces are determined as the relevant isothermal planes without intermediate thermal bridging paths
- * Test Report(s) from an Accredited Testing Laboratory for Material R-Value and Emittance of IR Reflective Surfaces where applicable. Elements of construction varying from that described may, as a result, produce a different thermal resistance.