

R-VALUE FOR TYPICAL BUILDING MATERIALS

THERMAL RESISTANCE	h ft ² °F / Btu [R / inch]
Concrete	0.10
Stone	0.05...0.10
Brick	0.10...0.35
Hardwood	0.90
Softwood / plywood	1.25
Particle board	0.85...1.85
Insulating board	2.30...2.60
Sidings	0.80...1.00
Asphalt shingles	0.44
Wood shingles	0.94
Built-up roofing	0.70...0.90
Rock wool	3.20...3.70
Mineral wool or fiber batt	2.90
Cellulose	3.20...3.70
Lightweight aggregate concrete	1.00...2.00
Cement board	1.50...2.30
Stucco / plaster	0.20
Gypsum / plaster board	0.90
Fiberglas	3.16
Fiberboard	3.45
Polystyrene extruded	5.00...5.40
Polystyrene expanded	3.85...4.35
Polyurethane foam	5.80...7.70
Building paper / felt	0.06
Cork	2.00
Ceramic tile	0.15
Vinyl / linoleum / rubber tile	0.64
Synthetic carpet (level loop)	3.50...5.90
Synthetic carpet (plush)	2.40...4.50
Wool carpet	4.50
Fiber / hair / jute cushion	3.88
Flat rubber cushion	2.72
Rippled rubber cushion	1.82
Prime urethane cushion	4.44
Bonded urethane cushion	3.96
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Solid wood door	1.56
Single glass window	0.89
Insulating double glass	1.89
Energy plus double glass	4.50

THERMAL TRANSMISSION

Imperial: $\frac{1}{R}$ = Btu/h ft² °F

Metric: $\frac{1}{R} \times 5.678$ = W/m² °C

R-VALUE FOR AIR SPACE

R-Value for Air Space	Reflective Foil on both sides		Reflective Foil on one side		No reflective surfaces	
	3/4"	4"	3/4"	4"	3/4"	4"
Flat roofs	1.8	2.2	1.6	1.9	0.9	1.0
45° Sloping roofs	2.2	2.5	1.9	2.1	1.0	1.0
Floors	3.4	8.1	2.6	4.6	1.2	1.4
Walls	2.8	3.0	2.3	2.4	1.1	1.1