

## R-Value Table - English (US) Units

Material	R/ Inch hr·ft <sup>2</sup> ·°F/Btu	R/ Thickness hr·ft <sup>2</sup> ·°F/Btu
<b>Insulation Materials</b>		
Fiberglass Batts	3.14-4.30	
3 1/2" Fiberglass Batt		11.00
3 5/8" Fiberglass Batt		13.00
3 1/2" Fiberglass Batt (high density)		15.00
6 1/2" Fiberglass Batt		19.00
5 1/4" Fiberglass Batt (high density)		21.00
8" Fiberglass Batt		25.00
8" Fiberglass Batt (high density)		30.00
9 1/2" Fiberglass Batt		30.00
12" Fiberglass Batt		38.00
Fiberglass Blown (attic)	2.20-4.30	
Fiberglass Blown (wall)	3.70-4.30	
Rock Wool Batt	3.14-4.00	
Rock Wool Blown (attic)	3.10-4.00	
Rock Wool Blown (wall)	3.10-4.00	
Cellulose Blown (attic)	3.60-3.70 <sup>1</sup>	
Cellulose Blown (wall)	3.80-3.90 <sup>1</sup>	
Vermiculite	2.13	
Autoclaved Aerated Concrete	1.05	
Urea Terpolymer Foam	4.48	
Rigid Fiberglass (> 4lb/ft <sup>3</sup> )	4.00	
Expanded Polystyrene (beadboard)	4.00	
Extruded Polystyrene	5.00	
Polyurethane (foamed-in-place)	6.25	
Polyisocyanurate (foil-faced)	5.0-5.6	
<b>Construction Materials</b>		
Concrete Block 4"		0.80
Concrete Block 8"		1.11
Concrete Block 12"		1.28
Brick 4" common		0.80
Brick 4" face		0.44
Poured Concrete	0.08	
Soft Wood Lumber	1.25	
2" nominal (1 1/2")		1.88
2x4 (3 1/2")		4.38
2x6 (5 1/2")		6.88
Cedar Logs and Lumber	1.33	
<b>Sheathing Materials</b>		
Plywood	1.25	
1/4"		0.31

3/8"		0.47
1/2"		0.63
5/8"		0.77
3/4"		0.94
Fiberboard	2.64	
1/2"		1.32
25/32"		2.06
Fiberglass (3/4")		3.00
(1")		4.00
(1 1/2")		6.00
Extruded Polystyrene (3/4")		3.75
(1")		5.00
(1 1/2")		7.50
Foil-faced Polyisocyanurate (3/4")		5.40
(1")		7.20
(1 1/2")		10.80
Building Paper		0.06
<b>Siding Materials</b>		
Hardboard (1/2")		0.34
Plywood (5/8")		0.77
(3/4")		0.93
Wood Bevel Lapped		0.80
Aluminum, Steel, Vinyl (hollow backed)		0.61
(w/ 1/2" Insulating board)		1.80
Brick 4"		0.44
<b>Interior Finish Materials</b>		
Gypsum Board (drywall 1/2")		0.45
(5/8")		0.56
Paneling (3/8")		0.47
<b>Flooring Materials</b>		
Plywood	1.25	
(3/4")		0.93
Particle Board (underlayment)	1.31	
(5/8")		0.82
Hardwood Flooring	0.91	
(3/4")		0.68
Tile, Linoleum		0.05
Carpet (fibrous pad)		2.08
(rubber pad)		1.23
<b>Roofing Materials</b>		
Asphalt Shingles		0.44
Wood Shingles		0.97
Ceramic Tile – ¼ in		0.02

<b>Windows</b>		
Single Glass		0.91
w/storm		2.00
Double insulating glass (3/16") air space		1.61
(1/4" air space)		1.69
(1/2" air space)		2.04
(3/4" air space)		2.38
(1/2" w/ Low-E 0.20)		3.13
(w/ suspended film)		2.77
(w/ 2 suspended films)		3.85
(w/ suspended film and low-E)		4.05
Triple insulating glass (1/4" air spaces)		2.56
(1/2" air spaces)		3.23
Addition for tight fitting drapes or shades, or closed blinds		0.29
<b>Doors</b>		
Wood Hollow Core Flush (1 3/4")		2.17
Solid Core Flush (1 3/4")		3.03
Solid Core Flush (2 1/4")		3.70
Panel Door w/ 7/16" Panels (1 3/4")		1.85
Storm Door (wood 50% glass)		1.25
(metal)		1.00
Metal Insulating (2" w/ urethane)		15.00
<b>Air Films</b>		
Summer	Interior Wall	0.68
	Exterior Wall	0.25
	Interior Ceiling Horizontal	0.92
	Interior Ceiling 45°	0.76
	Exterior Ceiling	0.25
Winter	Interior Wall	0.68
	Exterior Wall	0.17
	Interior Ceiling Horizontal	0.61
	Interior Ceiling 45°	0.62
	Exterior Ceiling	0.17
<b>Air Spaces</b>		
1/2" to 4" approximately		1.00
Aluminum foil facing air space		3.00

<sup>1</sup> [Measured Thermal Resistance of Cellulose Insulation Products Commercially Available in 2007](#)