

Conductance and Resistance Values for Masonry Materials

Material	Description	Conductivity k , Btu/(h) (ft ²) (°F/in.)	Thickness (in.)	Conductance C , Btu/(h) (ft ²)(°F)	Resistance R , 1/[Btu/ (h) (ft ²)(°F)]
Concrete blocks, three-oval core	Sand and gravel aggregate		4	1.40	0.71
			8	0.90	1.11
			12	0.78	1.28
	Cinder aggregate		4	0.90	1.11
			8	0.58	1.72
			12	0.53	1.89
	Lightweight aggregate		4	0.67	1.50
			8	0.50	2.00
			12	0.44	2.27
Hollow clay tile	1 cell deep		4	0.90	1.11
	2 cells deep		8	0.54	1.85
	3 cells deep		12	0.40	2.50
Gypsum partition tile	3 × 12 × 30 in. solid		3	0.79	1.26
	3 × 12 × 30 in. 4-cell		3	0.74	1.35
	4 × 12 × 30 in. 3-cell		4	0.60	1.67
Cement mortar		5.0	1	5.0	0.20
Stucco		5.0	1	5.0	0.20
Gypsum	Poured	1.66	1	1.66	0.60
	Precast	2.80	2	1.40	0.71
	Sand and gravel or stone	12.0	1	12.0	0.08
Lightweight concrete	Perlite or zonolite mixture				
	1:4 mix, 36 lb/ft ³	0.72–0.75	1	0.74	1.35
	1:5 mix, 30 lb/ft ³	0.61–0.72	1	0.67	1.49
	1:6 mix, 27 lb/ft ³	0.54–0.61	1	0.58	1.72
	1:8 mix, 22 lb/ft ³	0.47–0.54	1	0.51	1.96
Stone		12.5	1		0.08

Source: Courtesy of Johns-Mansville, Denver, CO.