

Masonry Fill Insulation Thermal Design¹				
Block Size	Type	Perlite Filled	R ² Value	U ³ Value
6 inch	Lightweight 80 lb/ft ³	No	2.64	.38
		Yes	6.75	.15
8 inch	Light weight 80 lb/ft	No	2.86	.35
		Yes	9.07	.11
10 inch	Lightweight 80 lb/ft	No	3.00	.33
		Yes	11.02	.09
12 inch	Lightweight 80 lb/ft	No	3.12	.32
		Yes	13.44	.07
6 inch	Heavyweight 135 lb/ft ³	No	1.95	.51
		Yes	3.40	.29
8 inch	Heavyweight 135 lb/ft ³	No	2.10	.48
		Yes	4.40	.23
10 inch	Heavyweight 135 lb/ft ³	No	2.19	.46
		Yes	5.14	.19
12 inch	Heavyweight 135 lb/ft ³	No	2.26	.44
		Yes	6.18	.16

1. The values in this table represent typical R values of concrete block. The actual R value of a concrete block is influenced by the constituents and moisture content. More accurate estimates of thermal conductivity k or thermal resistance R of the specific block has been determined by tests. R values and U values from NCMA Tek Sheet 101A

2. R values expressed in degrees Fahrenheit ft² h/Btu include inside and outside air film resistance.

3. U factors expressed in Btu/h ft² °F are calculated using thermal conductivity k factor of 0.32 Btu in/h ft² °F. Different densities of perlite in the core spaces of concrete block have only a slight effect on the overall U factor.