



**Table 1 - U-Factors (Btu/hrft<sup>2</sup>°F) and R-Values (hrft<sup>2</sup>°F/Btu) of Concrete Masonry Walls <sup>A</sup>**

Nominal Wythe Thickness in. (mm)	Concrete Density pcf	Standard CMU Cores Empty		100% Solid Grouted <sup>B</sup>	
		U	R	U	R
12 in. (305mm)	85	0.390	2.6	0.441	2.3
	95	0.411	2.4	0.466	2.1
	105	0.433	2.3	0.490	2.0
	115	0.455	2.2	0.515	1.9
	125	0.478	2.1	0.539	1.9
	135	0.503	2.0	0.564	1.8

**Table 2 - U-Factors (Btu/hrft<sup>2</sup>°F) and R-Values (hrft<sup>2</sup>°F/Btu) of Omni Block Seismic 12 Walls <sup>A</sup>**

Nominal Wythe Thickness in. (mm)	Concrete Density pcf	Stretcher Unit Cores Empty <sup>C</sup>		Cores With EPS Inserts <sup>D</sup>	
		U	R	U	R
12 in. (305mm)	85	0.123	8.2	0.061	16.37
	95	0.133	7.5	0.064	15.67
	105	0.139	7.2	0.065	15.37
	115	0.146	6.8	0.067	14.97
	125	0.153	6.5	0.068	14.67
	135	0.161	6.2	0.070	14.37

Table 1 Source: Abbreviated Accredited Industry Sources

<sup>A</sup> (hrft<sup>2</sup>°F/Btu) (0.176) = m<sup>2</sup>K/W. Mortar joints are 3/8" (9.5 mm) thick, with face shell mortar bedding. Unit dimensions based on *Standard Specification for Loadbearing Concrete Masonry Units*, ASTM C 90. Surface air films are included.

<sup>B</sup> Grout density is 140 pcf (2,243 kg/m<sup>3</sup>). Lightweight grouts will provide higher R-values and may be used.

Table 2 Source: Tom Norris, Architect (ICC Certified)

<sup>A</sup> (hrft<sup>2</sup>°F/Btu) (0.176) = m<sup>2</sup>K/W. Mortar joints are 3/8" (9.5 mm) thick, with face shell mortar bedding. Unit dimensions based on *Standard Specification for Loadbearing Concrete Masonry Units*, ASTM C 90. Surface air films are included.

<sup>C</sup> 12 inch unit has an additional face shell and reduced cross-web conductance. Resulting formula: (hrft<sup>2</sup>°F/Btu)(1.50)+(hrft<sup>2</sup>°F/Btu)(1.76).

<sup>D</sup> Values apply when small cores are filled completely.  
Note: Some table values are the same due to rounding.

**Table 3 - Thermal Resistance of EPS Foam Insulation**

EPS Type	Minimum Density (pcf) <sup>F</sup>	R-Value Per Inch of Thickness (F°•ft <sup>2</sup> •h/Btu)
II	135	4.00

Table 3 Source: ICC ESR - 1498 per ASTM C 578

<sup>F</sup> pcf = 16.02 kg/m<sup>3</sup>, 1°F ft<sup>2</sup>hr/Btu=0.176m<sup>2</sup>K/W, 1°F=1.8°C+32

**DISCLAIMER**

The information presented in this report/analysis is to assist architects, designers, professional builders, and professional engineers when utilizing the Omni Block Insulated Concrete Block System. While the material is presented in good faith and believed to be reliable, it does not constitute a part of, or terms and conditions of sale. No engineering data, design information or other material contained herein shall be deemed to constitute a warranty, expressed or implied, that said information is correct or that the products described are fit for a particular purpose of design application.

**PREVAILING CODE**

The information presented in this report/analysis is not intended to supersede any building code.

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