

N1102.2.5

Mass Walls

CHANGE TYPE: Clarification

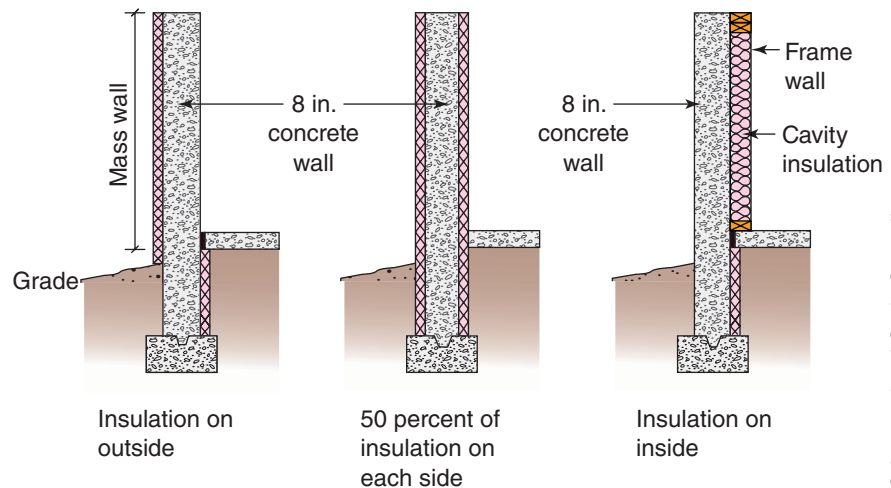
CHANGE SUMMARY: The mass wall provisions have been itemized in a numbered list to bring accuracy and clarity to the technical requirements.

2018 CODE: N1102.2.5 (R402.2.5) Mass walls. Mass walls for where used as a component of the purposes building thermal envelope of this chapter shall be considered above-grade one of the following:

1. Above-ground walls of concrete block, concrete, insulated concrete form (ICF), masonry cavity, brick (other than but not brick veneer), earth (adobe, compressed earth block, rammed earth) and, solid timber/ or solid logs, or any other walls
2. Any wall having a heat capacity greater than or equal to $6 \text{ Btu/ft}^2 \times ^\circ\text{F}$ ($123 \text{ kJ/m}^2 \times \text{K}$).

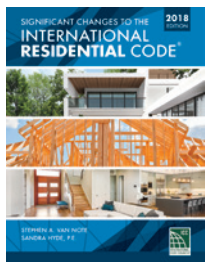
CHANGE SIGNIFICANCE: The IRC provides prescriptive requirements for the construction of mass walls for conserving energy. Mass walls are built of dense materials, typically concrete, concrete masonry units and brick. Alternative materials used for mass walls include solid logs, adobe and rammed earth. Frame walls and mass walls perform very differently and require different amounts of insulation. Mass walls store heat and require less insulation than frame walls. When part of the building thermal envelope, the minimum insulation R-values in Table N1102.1.2 are applicable. The amount of insulation depends on the location of the insulation on the mass wall. If more than 50% of the insulation is on the interior (conditioned) side, it impairs the efficiency of the mass wall and

Climate zone	Minimum total R-value based on insulation location		
	Outside	50% each side	Inside
3 and 4	8	8	13
5 and Marine 4	13	13	17
6	15	15	20
7 and 8	19	19	21



Above-ground concrete mass walls

significantly more insulation is required. A pointer to the mass wall provisions in Section N1102.2.5 has been added to the mass wall footnote in Table N1102.1.2. The provisions for mass walls in Section N1102.2.5 have been revised and itemized in a numbered list. To be considered a mass wall component of the thermal envelope, the wall must meet one of two items in the list. These changes are primarily editorial and intend to identify mass walls used in the building thermal envelope in an objective, measurable way. Once determined to be a mass wall in accordance with this section, the designer and builder can apply the advantages of reduced R-values in Table N1102.1.2.



This excerpt is taken from *Significant Changes to the International Residential Code®*, 2018 Edition.

Significant Changes publications take you directly to the most important changes that impact projects. Key changes are identified then followed by in-depth discussion of how the change affects real-world application. Photos, tables and illustrations are included to further clarify application. Available for the IBC, IRC, IFC and IPC/IMC/IFGC, the Significant Changes publications are very useful training and review tools for transitioning to a new code edition.