



**Continuous Insulation (“ci”)
Prescriptive Requirements**

Continuous Insulation

Continuous insulation (ci) is required* by ASHRAE 90.1, the energy standard for all commercial buildings and for residential buildings greater than 3 stories in height. ASHRAE 90.1-2004 is referenced in the 2006 International Energy Conservation Code and is in effect over much of the USA. The updated ASHRAE 90.1-2007 was published early in 2008, and will be referenced in future codes.

Continuous insulation is defined in ASHRAE 90.1 as “insulation that is continuous across all structural members without thermal bridges other than fasteners and service openings. It is installed on the interior, exterior, or is integral to any opaque surface of the building envelope.”

The requirement* for “ci” over steel stud framing was first incorporated in the ASHRAE 90.1-1999 edition. Table 1 shows, by climate zone, the minimum prescriptive R value needed to comply with the standard for batt insulation in the steel stud cavity + the minimum R value for ci.*

Table 1
Steel Frame Wall
Prescriptive Insulation Requirements
ASHRAE 90.1

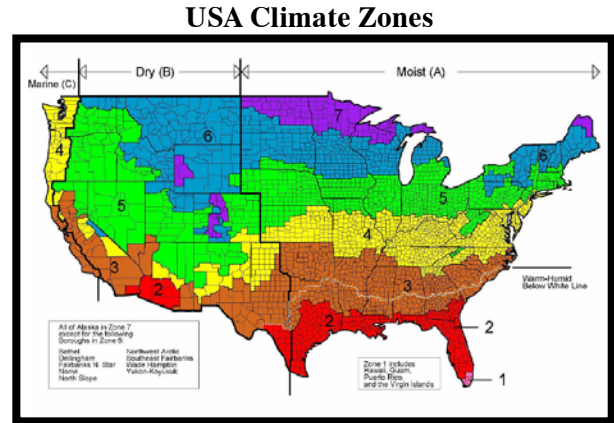
Climate Zone	2004 Edition		2007 Edition	
	Non-Res	Res	Non-Res	Res
1	13	13	13	13
2	13	13	13	13 + 7.5
3	13	13 + 3.8	13 + 3.8	13 + 7.5
4	13	13 + 7.5	13 + 7.5	13 + 7.5
5	13 + 3.8	13 + 7.5	13 + 7.5	13 + 7.5
6	13 + 3.8	13 + 7.5	13 + 7.5	13 + 7.5
7	13 + 7.5	13 + 7.5	13 + 7.5	13 + 15.6
8	13 + 7.5	13 + 10	13 + 7.5	13 + 18.8

Non-Res (Non-Residential)
Res (Residential)

Climate Zones for the continental USA are shown in Figure 1. Alaska is Zone 7, except the

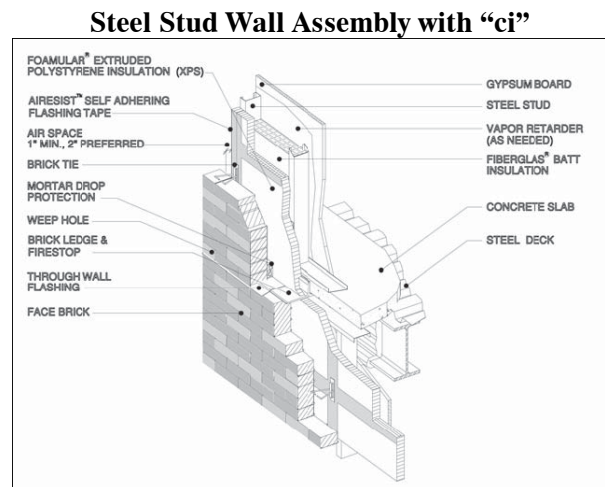
most northern boroughs that are Zone 8. Hawaii is Zone 1.

Figure 1



Continuous insulation such as Foamular Extruded Polystyrene (XPS) over steel stud framing, as shown in Figure 2, improves energy efficiency by diminishing the negative effect of thermal bridging. The excellent moisture resistance of XPS coupled with sealed joints also serves as an air and moisture barrier.

Figure 2



* When using the prescriptive compliance method.

Reference:

ASHRAE Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings; American Society of Heating, Refrigerating and Air-Conditioning Engineers; Atlanta, Ga. ; ASHRAE 90.1-2007 edition available in the fall of 2007.



OWENS CORNING WORLD HEADQUARTERS
ONE OWENS CORNING PARKWAY
TOLEDO, OHIO 43659

1-800-GET-PINK
www.owenscorning.com

FOAMULAR™ is a registered trademark of Owens Corning.
The color PINK is a registered trademark of Owens Corning.

April, 2008

Copyright © 2008 Owens Corning