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Continuous Insulation

Code: 2012 Energy Conservation Code **Date:** 05/17/2013
Section: 502.1.1

Question:
In Table 502.2(1), there is a footnote referring to "ci = continuous insulation". Where is this defined?

Answer:
The technical standard these tables are based on is the ASHRAE 90.1 standard. The definition in that standard reads as follows:

Continuous insulation (c.i.): insulation that is continuous across all structural members without thermal bridges other than fasteners and service openings. It is installed on the interior or exterior or is integral to any opaque surface of the building envelope.

Further description is provided in the ASHRAE 90.1 Appendices, particularly A.3.2 concerning metal building walls:

"…additional assemblies include continuous insulation, uncompressed and uninterrupted by framing".

There are tables in ASHRAE 90.1 that document wall and roof assemblies that have compressed fibrous insulation as part of the assembly, and ComCheck or NC ECC U-value Table 502.1.2 do not prohibit these assemblies, but these assemblies' U-values do not take credit for compressed insulation as equivalent to continuous insulation[2].

If Comcheck is used as a compliance path, note that ComCheck's user manual also references the ASHRAE 90.1 standard. For more information please reference:
http://www.energycodes.gov/sites/default/files/documents/BECP_Technical%20Support%20Document%20for%20Version%20391%20of%20the%20COMcheck%20Software_Sept2012_v00.pd
Therefore users of ComCheck shall not use R-values[1] for compressed or cavity insulation as equivalent to an R-value[1] of a continuous insulation[2] layer.

[1]For equal insulating material and thickness
[2]As defined in the ASHRAE 90.1 standard

Keywords:
Metal