

Continuous Insulation for Code-Compliant, High-Performance Walls in Types I-IV Construction

Module 2: Applications

Revised 10/31/2016



Applications of Continuous Insulation

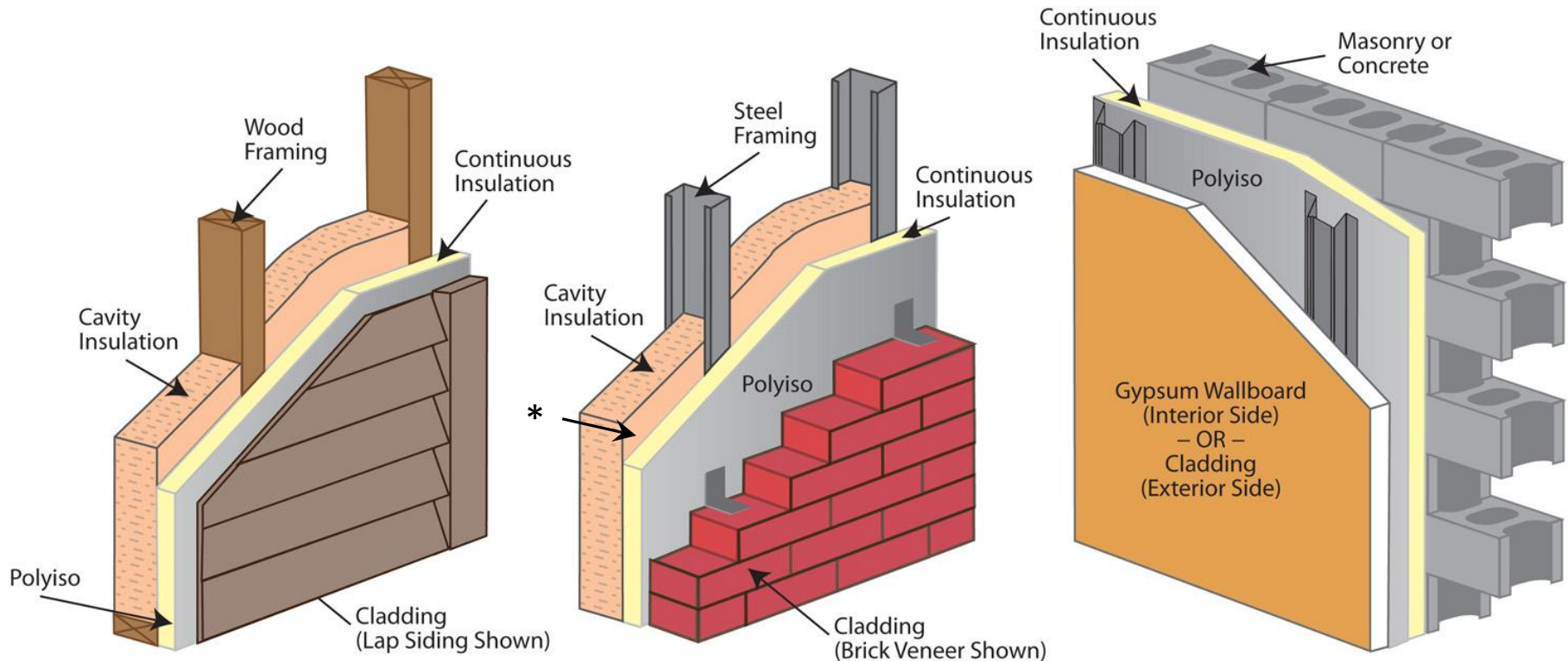
- Exterior Insulation – Commercial
 - Minimum R7.5 CI for climate zones 3 and above in the 2012 IECC for a metal framed building.
- CI meets energy code R-values or U-factors

Continuous Insulation in the Codes

- Prescriptive requirement in [IECC Table C402.2](#) has increased in most climate zones

Metal Framed Wall R-Value (*except Group R)			
CLIMATE ZONE	IECC 2006	IECC 2009*	IECC 2012*
1	13	13	13 + 5
2	13	13	13 + 5
3	13	13 + 3.8	13 + 5
4 except Marine	13	13 + 7.5	13 + 7.5
5 and Marine 4	13 + 3.8	13 + 7.5	13 + 7.5
6	13 + 3.8	13 + 7.5	13 + 7.5
7	13 + 7.5	13 + 7.5	13 + 7.5
8	13 + 7.5	13 + 7.5	13 + 7.5

Applicable to Various Wall Types



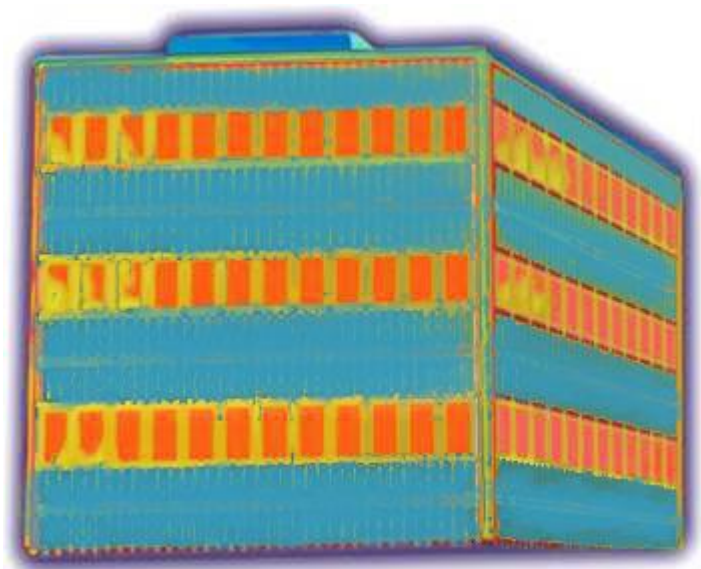
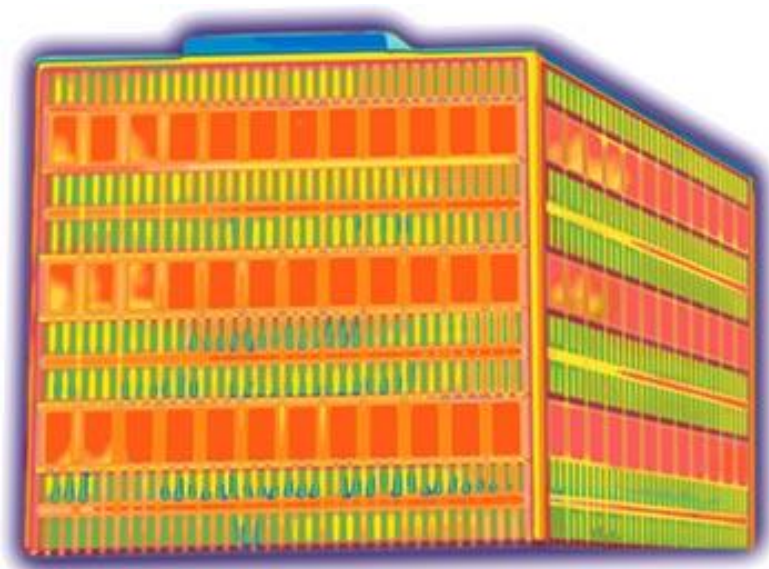
* Gypsum board typically added between steel stud and polyiso where fire resistance properties are needed

** Type I-IV assemblies in buildings greater than one story must also pass NFPA 285 (refer to manufacturer)

Thermal Bridging

Before: Cavity insulation only

After: ½" rigid foam CI added



Applications of Continuous Insulation

- Air Barrier (AB)
 - Most foam sheathing meets AB material requirements
 - Key to seal joints
 - Though code requires AB only on one side of wall, both is ideal
 - Know the difference between AB and vapor barrier
 - Do not use low perm AB (vapor barrier) on both sides of wall

Applications of Continuous Insulation

- Water-Resistive Barrier (WRB)
 - Only applies to approved products
 - Must be approved by building official
 - For foam sheathings, approved flashing tape required
 - Quality installations = durable
 - Rigorous code compliance testing
 - Very water- and air-infiltration resistant