Although you’ve had a couple years to become acquainted with the 2012 New International Energy Conservation Code (IECC), there are still many questions to resolve. As building industry professionals who also happen to be, in many cases, home and/or commercial building owners, improved energy efficiency is something we can all wrap ourselves around.

As Scott Hughes, NGC construction design manager of the Northeast/Atlantic region, says, “Over the past year, Continuous Insulation has been a ‘top three’ topic of discussion with architects. Trying to find a system that meets the requirements but does not blow the budget is a big challenge. There are quite a few options to investigate, with each having its advantages and concerns.”

At National Gypsum, there are two issues we have focused on to help you comply with this new code: Continuous Insulation (CI) and the air tightness of buildings. Both of these important issues involve gypsum assemblies, and we take that subject seriously. As building industry professionals who also happen to be, in many cases, home and/or commercial building owners, improved energy efficiency is something we can all wrap ourselves around.

Continuous Insulation (CI)
CI helps to eliminate air and moisture leakage as well as reduce thermal bridging, or the heating/cooling loss transmitted through steel studs. An antide to both of these “energy stealers” can be found in our Gold Bond® eXP® Sheathing. eXP® sheathing not only reinforces the entire building system, but provides fire protection, mold and moisture resistance, and additional strength. Did we mention dimensional stability? eXP sheathing doesn’t budge, even during large swings in temperature and humidity, preventing the Weather Resistive Barrier (WRB) from being compromised as assembly components shift. With all these features, this product is an ideal substrate on which to build a high-performance wall assembly.

“Continuous Insulation moves with large temperature swings. Because of this movement, a solid cover board (roofing) or high-performance gypsum sheathing should still be incorporated into the design to help maintain the integrity of the assembly as this movement occurs from the insulation,” Marsal says. “The studs (wood or metal) generally account for 25 percent of the wall surface, which in theory is uninsulated. A Continuous Insulated system will help to mitigate the loss of heat/cold in that building.”

“A gypsum cover board or gypsum sheathing still needs to be specified in these systems to help manage the moisture, which will occur,” he adds.

Of course, the industry still has strides to make in Continuous Insulation, which includes exploring new CI attachment technologies to further prevent thermal bridging. Some of the methods currently being refined include Z-Furring channels, metal or wood batten strips, fiberglass clips and specialty fasteners.

Air tightness of buildings
The goal here is to avoid air leakage driven by pressure differences across the building envelope. With the new 2012 IECC regulations, stricter whole-building air tightness requirements were issued, including mandatory testing. This necessitates an exterior wall assembly that incorporates improved air leakage. This improved air tight structure that you are now designing and should still be incorporated into the design to help maintain the integrity of the assembly as this movement occurs from the insulation,” Marsal says.

“Continuous Insulation has been used in low-slope roof systems for years, so why not incorporate it in the exterior wall assemblies?”

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