

Product Information Bulletin

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NBC 2005 and 2010 - Insulating Sheathing In Lieu of Sheathing Membrane

This bulletin addresses National Building Code of Canada (NBC) 2005 and 2010 requirements for sheathing relative to wall assemblies constructed using the Advantage ICF System®.

The purpose of a sheathing membrane in the building envelope is to resist bulk water – e.g. rain water – movement into the wall assembly, but to allow smaller moisture vapour molecules to pass through. In walls constructed using wood framing, this function is often provided using traditional asphalt-impregnated building paper or a variety of spun-bonded olefin fiber rolled sheet goods using either polypropylene or polyethylene filaments, that are used to wrap the exterior of the building envelope.

NBC Article 9.27.3.4. permits the use of insulating sheathing as described below to provide this protection in wall assemblies in lieu of a separate sheathing membrane.

9.27.3.4. Insulating Sheathing in Lieu of Sheathing Membrane

- 1) Where non-wood-based rigid exterior insulating sheathing, or exterior insulating sheathing with an integral sheathing membrane is installed, a separate sheathing membrane is not required.
- 2) Where insulating sheathing is installed as provided in Sentence (1),
 - a) sheathing panels subject to moisture deterioration shall be sealed at all joints, and
 - b) the joints of sheathing panels not subject to moisture deterioration shall be,
 - i) sealed at all joints, or
 - ii) lapped or tongue and groove, and detailed to ensure drainage of water to the exterior.

As indicated in Article 9.27.3.4., the shape of the joint between insulating sheathing panels is critical to its ability to shed water. The EPS insulation panels that form the interior and exterior faces of the Advantage ICF System have tongue and groove joints on the horizontal and vertical edges of the panels. When panel joints are butted tightly together they provide the required detailing to ensure drainage of water to the exterior.

Vertical joints that are not butted tightly together can be sealed using expansive foam prior to application of cladding. If the joints between Advantage ICF System panels are not butted tightly together as noted above, Sentence (3) of NBC Article 9.27.3.5. may be applicable.

9.27.3.5. Sheathing Membranes in lieu of Sheathing

- 1) Except as provided in Article 9.27.3.6., where no sheathing is used, at least 2 layers of sheathing membrane shall be applied beneath the cladding. (See Article 9.23.17.1. and Appendix A.)
- 2) All joints in the sheathing membrane required in Sentence (1) shall occur over framing, and the membrane shall be fastened to the framing with roofing nails or staples spaced not more than 150 mm along the edges of the outer layer of sheathing membrane.
- 3) Wall sheathing is permitted to be used in lieu of one layer of sheathing membrane required in Sentence (1), and its thickness need not conform to Table 9.23.17.2.A.