

Grade I Insulation Compliance

§ 701.4.3.2



Overview

Grade I insulation installation is mandatory for NGBS compliance. The 2020 NGBS specifically states that “Insulation installation other than Grade I is not permitted” and devotes an entire page to the batt insulation installation criteria to ensure that it is done correctly. Yet, this green building practice, which is seemingly so simple, is by far the most common practice requiring corrective action as identified by Verifiers and has singularly thwarted more buildings from earning NGBS Green certification than any other specific green practice.

The question before Home Innovation is can continuous exterior insulation compensate for cavity insulation that is less than Grade I? Home Innovation says yes and will allow continuous exterior insulation to provide an efficiency backstop for buildings that present Grade II insulation installation, if the Verifier can demonstrate that the combination of CI and batt insulation provides an equivalent or better R-value to what the NGBS requires.

In contrast to batt insulation, continuous exterior insulation (CI) is easier to install correctly because cutting the insulation to fit in-between studs and around plumbing and electrical is unnecessary. Instead, the material can be cut so that it fits tightly together and is then fixed directly to the wall. And for metal framed buildings, continuous exterior insulation can address thermal bridging at the structural components of building assemblies improving the insulation’s impact on energy efficiency.

Interpretation

Home Innovation has determined that buildings with continuous exterior insulation installed as described below, in addition to Grade II batt insulation in the wall cavity, meets the intent of § 701.4.3.2 if the combination of continuous exterior insulation and batt insulation in the wall cavity is at least equivalent to the R-value required by the NGBS.

Verification Instructions

New Construction

The verifier must confirm the building has continuous rigid insulation, insulated siding, or combination of the two installed that meets the following: $\geq R-3$ in CZ 1-4; $\geq R-5$ in CZ 5-8. In addition, the building must have at least Grade II batt insulation installed with an R-value meeting the 2020 NGBS’s requirements. The batt insulation in the wall cavity should follow the RESNET definition of Grade II insulation.

Existing Buildings

The presence of continuous exterior insulation does not negate the need to follow the administrative appeals process in instances where drywall was installed prior to insulation inspection.

When following the administrative appeals process, photo evidence and third-party documentation should be submitted to confirm Grade II batt insulation installation and R-Value of both interior and exterior insulation products.