

WRITTEN BY ROB PICKETT

THREE EASY STEPS TO VERIFY BUILDING PRODUCTS

Are new products and new code requirement causing you to wonder what happened to the old, traditional way we built homes? With so many homes still standing after more than 200 years in New England, what's the beef? How can you decipher the situation that many experts in the field have argued about in code forums for the last three years? What changes should a builder make in the specification and installation of products, components, and assemblies that will result in a new, code-compliant home? And what about the latest in green building?

The good thing about all of these questions is that there are a few quick steps that a building professional can take to be assured that a method or material is appropriate for the use that is being considered. When it comes to building, several references can be used.

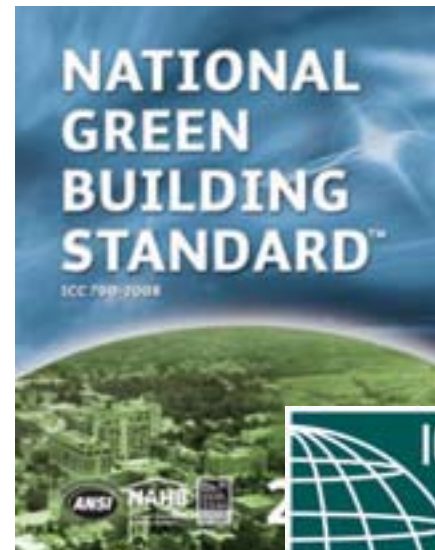
First, consult the code. The ICC publishes a family of codes (the I-Codes) that cover structural (IBC), mechanical (IMC), plumbing (IPC), energy conservation (IECC), residential construction (IRC), and more. Each of those codes provides the minimum requirement to achieve proper performance of a building or system with references to existing standards published on the subject. It is important to note that the I-Codes are developed under specific ANSI-consensus procedures, which means that the public can view and comment on the changes proposed to the documents. Changes in the life and fire safety codes are incorporated in response to events that could have been prevented if certain steps had been taken in the design and construction phases. There is evidence to show the success of structures that were built to or better than the requirements in the building codes.

The ICC700 *National Green Building Standard* is a good premise for a voluntary, above-code standard. ICC700 provides an evaluation method for residential construction that results in a rating of

Bronze, Silver, Gold, or Emerald (from good to best, respectively). A Bronze-certified home is 15% more energy-efficient than the IECC recommendations, with conservation measures taken to minimize contributions to landfill or erosion from storm water and other methods to ensure long-term durability of a healthy indoor environment. Many ICC700 point requirements are tied to organizations that have developed independent third-party programs that oversee standards for products. If you have a question about why you should use a particular product to be green, your answer may come from this standard or from one of the referenced programs.

The second option is to look at an independent third-party evaluation report for a specific product. When you are considering materials and methods of construction that are not covered in the I-Codes, the next best step is to check with ICC Evaluation Services (www.icc-es.org). This organization establishes guidelines for the evaluation of building products called Acceptance Criteria (AC). These, too, are developed under a consensus process, but most comments come from the industry to which the AC applies. Once the AC is approved, all products evaluated under the AC comply with the same requirements. The process is completed by the publication of an Evaluation Service Report (ESR). Each ESR will describe the product, material specifications, design and installation, conditions of use, evidence submitted (what did the reviewing engineer actually see?), and identification (how do you know that you bought the right product?). Conditions of use are very important to review to make sure that what you are intending to do with the product will generate the expected results.

For green building products and systems, there are two independent references available. One is available from ICC-ES and is called the SAVE program (<http://saveprogram.icc-es.org/>). Another is the NAHB Research



Center's Green Approved Products site, www.greenapprovedproducts.com/FindProducts.aspx.

Choosing from a list of product types, you can select a category such as modular homes. One approved product is listed, and opening the link shows the section of ICC700 that applies to the product and how many points can be achieved when it is used per the conditions noted. The advantage of this resource is that, like the ICC-ES reports, this is a third-party evaluation of the product relative to ICC700.

There are also independent engineering offices that provide testing services and have developed evaluation reports (e.g., www.archtest.com). In addition, other organizations (e.g., www.iapmo.org) publish product evaluations based on engineering, test results, etc. While these reports are likely to be accurate, the proponent of the report has a bigger role in how the results are reported and may introduce marketing devices. In this case, look for an indication of oversight by an accreditation organization like ANSI, IAS (International Accreditation Service), and ISO (International Organization for Standardization) to feel confident in the

contents of the report.

A third document with important information is a Material Safety Data Sheet (MSDS). The OSHA format covers 16 sections ranging from hazard information to first-aid measures to exposure controls. All builders would be advised to have MSDS sheets on file for all products included in their standard specifications for building. For product manufacturers, the process starts with OSHA Form 174, available at www.osha.gov/dsg/hazcom/msds-osha174/msdsform.html.

Many good product decisions are

regularly made based on a simple review of the above references. However, issues of testing and compatibility may take more extensive research. An example is the impact of ACQ wood preservative treatment on other components of construction. The chemical is not compatible with steel and aluminum products, which include fasteners, hangers, and even foil-faced insulation (see http://dow-styrofoam.custhelp.com/app/answers/detail/a_id/3927/~/what-is-the-compatibility-of-dow-polyisocyanurate-polyisocyanurate-foam). When ACQ was

first introduced and adopted as “the” wood preservative, we didn’t know how corrosive it was. However, we found out quickly that nails and screws on decks dissolved in a very short time. While many builders were happy to use the latest product, they would soon be faced with the need to rebuild the deck.

With the proper information on hand, a builder can make the correct purchasing decisions for a secure and durable assembly. ■



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