

Standards, Certifications, Listings and Labels

Plumbing codes are the legally adopted and enforceable law governing the proper installation of potable water and wastewater drainage systems in commercial and residential buildings. *Standards* govern the construction and performance of component products that are installed in these systems. Plumbing codes rely on approved third party testing laboratories to *certify* component products to the approved standards contained within the codes. These approved third party agencies then list those products they have certified and the manufacturer then *labels* their products in accordance with the requirements of the standards they are certified to.

There are a number of products that get installed in plumbing systems for which there is no standard governing their construction and performance. For example, there are no standards governing food waste solids interceptors or sampling ports. This is not a new phenomenon and plumbing codes provide a path to approval for products that do not have governing standards.

2015 Uniform Plumbing Code

Chapter 3 provides the general requirements for the installation of plumbing systems which are not dealt with specifically in other chapters.

Section 301.2 Minimum Standards, states, "Pipe, pipe fittings, traps, fixtures, material, and devices used in a plumbing system shall be listed or labeled (third-party certified) by a listing agency (accredited conformity assessment body) and shall comply with the approved applicable recognized standards referenced in this code, and shall be free from defects. Unless otherwise provided for in this code, materials, fixtures, or devices used or entering into the construction of plumbing systems, or parts thereof, shall be submitted to the Authority Having Jurisdiction for approval."

What that means is that if there is no standard or provision within the code that governs a product that would be installed in a plumbing system, that product must be submitted to the AHJ for approval. The AHJ in this case is the chief plumbing or building official.

Section 301.3 Alternative Materials and Methods of Construction Equivalency, states, "Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code. Technical documentation shall be submitted to the Authority Having Jurisdiction to demonstrate equivalency. The Authority Having Jurisdiction shall have the authority to approve or disapprove the system, method, or device for the intended purpose."

The code gives broad powers to the AHJ in approving products for which there is no governing standard, including requiring tests as proof of equivalency and even to specify the testing procedure if no such procedure exists in approved standards.

Section 301.5 Alternative Engineered Design, allows a licensed plumbing engineer to submit an alternative engineered design for a project that may contain products for which there is no standard or even products for which there is a standard but that standard may not be approved in the code. The engineer must prove that the design will provide an equivalent level of quality, strength, effectiveness, fire resistance, durability, and safety. This section provides the requirements for permitting, testing data and design document submittal and leaves the approval at the sole discretion of the AHJ.

2015 International Plumbing Code

Chapter 1 Section 105.2 Alternative materials, methods and equipment, states, "The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the code official finds that the proposed alternative material, method or equipment complies with the intent of the provisions of this code and is at least the equivalent of that prescribed in this code."

The code gives broad powers to the code official in approving products for which there is no governing standard, including requiring tests as proof of equivalency and even to specify the testing procedure if no such procedure exists in approved standards.

Section 316 Alternative Engineered Design, as with the UPC this section allows a licensed plumbing engineer to submit an alternative engineered design for a project that may contain products for which there is no standard or even products for which there is a standard but that standard may not be approved in the code. The engineer must prove that the design will provide an equivalent level of quality, strength, effectiveness, fire resistance, durability, and safety. This section provides the requirements for permitting, testing data and design document submittal that, so long as the alternative engineered design conforms to the intent of the code, shall be approved by the code official.