



**LYNNE
SIMNICK**
SENIOR VICE
PRESIDENT
OF CODE
DEVELOPMENT

Referenced Standards in Model Codes

The purpose of the article is to provide information that will assist the user in understanding referenced standards criteria, and provide guidance to standard developers and other users of IAPMO codes on the application and implementation of these guidelines for referencing mandatory standards.

A model code is a compilation of minimum requirements based on a stated scope. Referenced standards set forth specific details of accepted practices, material specifications, or test methods in numerous specialized applications. When proposing a code change proposal with a specific standards reference, one should identify the code section(s) suitable for the standards reference and the specific application based on unique code requirements that support such reference.

The practical application of referencing standards in model codes must be considered on a case-by-case basis within their context and their applicability to provide guidance. Standards that are referenced in model codes carry an expectation of being as clear, concise and enforceable as code requirements. Referenced standards in model codes provide an efficient method of conveying complex information and specifications on the performance requirements for materials, products, and systems, and may provide instruction on applications and installation.

There are five types of standards that address material, design, installation, testing and certification (*see table opposite page*).

The manner and purpose for a standard's use and, in turn, code compliance, must be definitive in all references to the standard. If the standard is intended to be a requirement for judging code compliance, the code must state its intent for use. The standard should adequately address a defined need and at the same time specify the minimum performance requirements, technical characteristics and methods of testing, and required test results. A clear distinction must be made between requirements, statements, and recommendations. All relevant information is necessary to identify

the specific referenced document as there may be more than one standard listed for the same material or equipment. By providing specifically adopted standards, the construction and installation requirements necessary for compliance with the code can be readily determined. The basis for code compliance is, therefore, established and available on an equal basis to the code official, contractor, designer and owner.

The referenced standards table is organized in a manner that makes it easy to locate specific standards. It lists all of the referenced standards, alphabetically, by acronym of the promulgating agency of the standard. Each agency's standards are then listed in either alphabetical or numeric order based upon the standard identification. The list also contains the title of the standard; the edition (date) of the standard referenced; and the section or sections of this code that reference the standard.

References to the correct promulgator and contact information should be located within this chapter in order to contact the promulgating agency for further information or ease of identification.

Guidelines for Referencing Mandatory Standards

(Adopted by the IAPMO Standards Council on August 21, 2013)

1.0 General.

1.1 Scope. These guidelines provide guidance to Technical Committees (TCs) for referencing mandatory standards. These guidelines are meant to supplement but not conflict with IAPMO's Regulations Governing Committee Projects. In order for a standard to be considered for reference or to continue to be referenced by the Codes, a standard shall meet the following criteria set forth in Section 2.0.

»The need for guidelines is apparent as the basis for technical requirements in the code are contained in standards that are referenced or incorporated into the body of the code. This will foster a cooperative collaboration and communication between codes and standards.

Standard Type	Description	Standard (Examples)
Product/Material	Address product quality characteristics such as composition, dimensions and uniformity.	ASTM C 315 Specification for Clay Flue Linings
Design/Engineering	Include basic design procedures and engineering formulas. Describes methods of testing that determine the physical, functional or performance characteristics of specific materials or products.	ASHRAE 15 Safety Standard for Refrigeration Systems
Installation	Govern the installation of specific products or systems.	NFPA 853 Installation of Stationary Fuel Power Plants
Testing	Identifies methods and procedures for evaluating structural strength, fire resistance and other performance criteria. They are generally used to assess the performance or other characteristics of a product.	ASSE 1012 Performance Requirements for Backflow Preventers with Intermediate Atmospheric Vent
Personnel Certification	Contains principles and requirements for a body certifying persons against specific requirements, and includes the development and maintenance of a certification scheme for persons.	ASSE 6000 Professional Qualifications Standard for Medical Gas Systems Personnel

1.2 Code References. Mandatory standards shall be identifiable by title, date or edition, and name of the developing organization. The manner in which it is to be utilized shall be specifically referenced in the Code text (referenced section that applies), all in accordance with the IAPMO Manual of Style.

»The roles of standards are not intended for adoption as primary law; rather they are intended to set forth detailed procedures for the design, manufacture or installation of a specialized material or method.

The standard to which compliance is expected must be identified by their title, edition or date, and name of developing organization, so as to permit the code user to understand what or which standard is the law. Lastly, the manner and purpose for the standard’s use and, in turn, code compliance, must be definitive in all references to the standard. If the standard is intended to be a requirement for judging code compliance, the code must state its intent for use.

2.0 Standard Content.

Mandatory standards shall at a minimum include the following:

- (1) Standards or portions of standards- in order to be considered “Mandatory Standards” under these guidelines- shall be written using mandatory language and

meet the requirements of Section 3-3.7.1 of the IAPMO Regulations Governing Committee Projects for the *UPC/UMC* and Section 15.0 of the Regulations Governing Consensus Development of the *USEHC/USPSHTC*.

»A standard is a published technical document that represents an industry consensus on how a material or assembly is to be designed, manufactured, tested or installed in order to obtain a specific level of performance. The use of recommendations, advisory comments and permissive non-mandatory language fails to provide specific directions to the reader. The language in standards requires precise meaning. For example, the ambiguity of “may” confuses the reader. “It may” means either “It is possible,” or “It is permissible.” The requirements should be free from subjective elements; the use of such phrases as “sufficiently strong to” or “of adequate strength” should be avoided. This is not intended to mean that “may”, “should” or “can” is prohibited from use in any location within a standard as informational or explanatory materials may aid the reader in clarification of its intended use.

- (2) The scope of application of a mandatory standard shall be clearly described. The scope defines without ambiguity the subject of the

document and the aspects covered, thereby indicating the limits of applicability of the standard.

»*The scope defines without ambiguity the subject of the document and the aspects covered, thereby indicating the limits of applicability of the standard.*

(3) The measure of performance for which the test is conducted shall be clearly defined in either the test standard or in code text.

»*The standard must adequately address a defined need and at the same time specify the minimum performance requirements, technical characteristics and methods of testing, and required test results. A clear distinction must be made between requirements, statements and recommendations.*

3.0 Referenced Standards Table.

The Referenced Standards Table shall include referenced standards and shall consist of three sections as follows:

(1) Standards for Materials, Equipment, Joints and Connections. When more than one standard has been listed for the same material or method, the relevant portions of all such standards shall apply.

»*All relevant information is necessary to identify the specific referenced document as there may be more than one standard listed for the same material or equipment. By providing specifically adopted standards, the construction and installation requirements necessary for compliance with the code can be readily determined. The basis for code compliance is, therefore, established and available on an equal basis to the code official, contractor, designer and installer.*

(2) All reference listings in the Referenced Standards Table shall contain complete reference information (e.g., promulgator, standard number and date of publication, standard title, application, and referenced sections).

»*The referenced standards table is organized in a manner that makes it easy to locate specific standards. It lists all of the referenced standards, alphabetically, by acronym of the promulgating agency of the standard. Each agency's standards are then listed in either*

alphabetical or numeric order based upon the standard identification. The list also contains the title of the standard; the edition (date) of the standard referenced; and the section or sections of the code that reference the standard.

(3) Abbreviations used in the Referenced Standards Table shall contain a list for the referenced promulgator and contact information located at the end of the chapter.

»*References to the correct promulgator and contact information should be located within the code in order to contact the promulgating agency for further information or ease of identification.*

4.0 Indicating References.

References shall be referred to throughout the document by only their promulgator and numerical designation (e.g., ASTM A74).

»*When referencing standards throughout the code, it appears that the consensus of model code developers is to reference the acronym of the standard promulgator and numerical designation, thereby leaving the standards table to reference the edition or year. There may be hundreds of references to standards, and it would be cumbersome to update each reference throughout the code versus having one location to update all standard references.*

4.1 Cross-References to Standards.

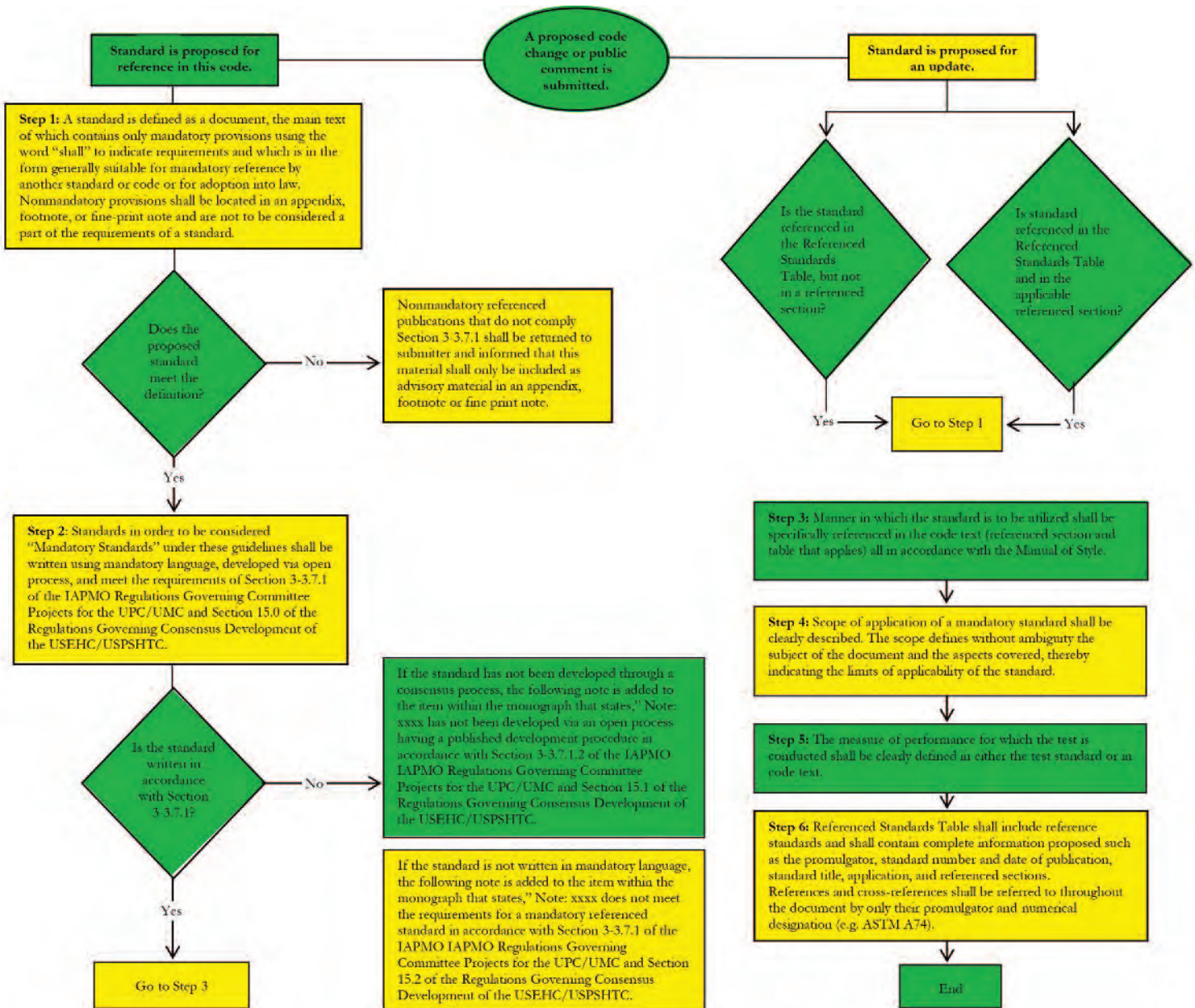
A cross-reference to a standard shall include the standard promulgator and number (e.g., ASTM D2665)

»*The majority of model codes include the acronym of the standard promulgator and numerical designation for the style in which one references standards.*

5.0 Procedure for Updating Mandatory Standards.

Standards shall be kept current with that of the source document by administratively sending requests for updates to the standard promulgator. Updates shall be accomplished via a proposal or a comment during the regular revision process of the document.

»*The most currently available edition of referenced standards is determined by the staff liaison by contacting the standard promulgator. Updates to referenced*



standards are typically processed as a single code change by each promulgator during the proposal and comment stage.

In order for a standard to be considered for reference or to continue to be referenced by the codes, a proposed code change or comment is submitted. In order to simplify the process a flow chart is created for use based on the guidelines. 📄



CONTACT INFO:
4755 E. Philadelphia St.
Ontario, CA 91761 – USA

Ph: 909-472-4110
Fax: 909-472-4152

Email:
lynne.simnick@iapmo.org