

2009

# UNIFORM MECHANICAL CODE®



An American National Standard  
IAPMO/ANSI UMC 1 – 2009

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# 2009 UNIFORM MECHANICAL CODE<sup>®</sup>



## REVISION MARKINGS

Code changes from the 2006 edition are marked in the margins as follows:

→ An arrow denotes a deletion.

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**TIA** TIA indicates that the revision is the result of a Tentative Interim Amendment  
**TIA** For further information on tentative interim amendments see Section 5 of the IAPMO  
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Information on referenced publications can be found in Chapter 17.

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Twenty-Fifth Edition

First Printing, January 2009  
Second Printing, April 2009  
Third Printing, October 2010

ISSN 1081-0021

Published by the International Association of Plumbing and Mechanical Officials  
5001 E. Philadelphia Street • Ontario, CA 91761-2816 – USA  
Main Phone: (909) 472-4100 • Main Fax: (909) 472-4150

## 2009 UMC Foreword

The *Uniform Mechanical Code*<sup>™</sup> (UMC<sup>™</sup>) provides complete requirements for the installation and maintenance of heating, ventilating, cooling, and refrigeration systems, while at the same time allowing latitude for innovation and new technologies.

This code was first published in 1967. With the publication of the 2003 edition of the *Uniform Mechanical Code*, another significant milestone was reached. For the first time in the history of the United States, a mechanical code was developed through a true consensus process. The 2009 edition represents the most current approaches in the mechanical field and is the third edition developed under the ANSI Consensus process. Contributions to the content of this code were made by every segment of the built industry, including such diverse interests as consumers, enforcing authorities, installers/maintainers, labor, manufacturers, research/standards/testing laboratories, special experts, and users.

The public at large is encouraged and invited to participate in IAPMO's open consensus code development process. This code is updated every three years. A code development timeline and other relevant information is available at IAPMO's website at [www.iapmo.org](http://www.iapmo.org).

The *Uniform Mechanical Code* is dedicated to all those who, in working to achieve "the ultimate mechanical code," have unselfishly devoted their time, effort, and personal funds to create and maintain this, the finest mechanical code in existence today.

The 2009 *Uniform Mechanical Code* is supported by the American Society of Sanitary Engineering (ASSE), Mechanical Contractors Association of America (MCAA), Plumbing-Heating-Cooling Contractors National Association (PHCC-NA), the United Association (UA), and the World Plumbing Council (WPC). The presence of these logos, while reflecting support, does not imply any ownership of the copyright to the UMC which is held exclusively by IAPMO. Further, the logos of these associations indicates the support of IAPMO's open, consensus process being used to develop IAPMO's codes and standards.

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## **Tentative Interim Amendment (TIA)**

A Tentative Interim Amendment (TIA) to any Document may be processed if the Council Secretary determines, after a preliminary review, and consultation with the appropriate Chair, that the Amendment appears to be of an emergency nature requiring prompt action and has the endorsement of a Member of the involved Technical Committee.

**Sections 311.1 , 311.3 - 311.5** – This Tentative Interim Amendment (TIA) was issued on November 14, 2008.

**Chapter 4, Table 4-4** – This Tentative Interim Amendment (TIA) was issued on March 31, 2008.

**Section 511.2.1** – This Tentative Interim Amendment (TIA) was issued on October 15, 2009.

**Chapter 11, Table 11-2** – This Tentative Interim Amendment (TIA) was issued on October 15, 2009.

**For further information on TIAs see Section 5 of the IAPMO Rules Governing Committee Projects – [www.iapmo.org](http://www.iapmo.org)**

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- (d) a statement of the problem and substantiation for proposal;
- (e) the signature of the submitter; and
- (f) two copies of any document(s) (other than an IAPMO document) being proposed as a reference standard or publication (see 3-3.7).

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# CHAPTER 1

## ADMINISTRATION

### Part I — General.

#### 101.0 Title.

These regulations shall be known as the Uniform Mechanical Code, may be cited as such, and will be referred to herein as “this code.”

#### 102.0 Purpose.

The purpose of this code is to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, and maintenance or use of heating, ventilating, cooling, and refrigeration systems; incinerators; and other miscellaneous heat-producing appliances within this jurisdiction.

The purpose of this code is not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

#### 103.0 Scope.

**103.1 General.** The provisions of this code shall apply to the addition to or erection, installation, alteration, repair, relocation, replacement, use, or maintenance of any heating, ventilating, cooling, refrigeration systems; incinerators; or other miscellaneous heat-producing appliances within this jurisdiction.

Additions, alterations, repairs to, and replacement of equipment or systems shall comply with the provisions for new equipment and systems, except as otherwise provided in Section 104.0 of this code.

**103.2 Conflicts.** Where, in any specific case, different sections of this code or referenced standards specify different materials, methods of construction, or other requirements, the most restrictive shall govern as determined by the Authority Having Jurisdiction. When there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

**103.3 Design and Testing.** The design and testing of equipment regulated by this code shall be subject to the approval of the Authority Having Jurisdiction.

**103.4 Appendices.** The standards contained in Appendix A shall be considered as part of this code. Appendices B and C contain recommended practices that shall not apply unless specifically adopted.

Appendix D contains conversion tables and a table for determining the approximate minimum thickness for carbon sheet steel.

#### 104.0 Application to Existing Mechanical Systems.

**104.1 Additions, Alterations, or Repairs.** Additions, alterations, or repairs shall be permitted to be made to any mechanical system without requiring the existing mechanical system to comply with all the requirements of this code, provided the addition, alteration, or repair conforms to that required for a new mechanical system. Additions, alterations, or repairs shall not cause an existing system to become unsafe or create unhealthy or overloaded conditions.

Minor additions, alterations, and repairs to existing mechanical systems shall be permitted to be installed in accordance with the law in effect at the time the original installation was made, when approved by the Authority Having Jurisdiction.

**104.2 Existing Installations.** Mechanical systems lawfully in existence at the time of the adoption of this code shall be permitted to have their use, maintenance, or repair continued if the use, maintenance, or repair is in accordance with the original design and location and no hazard to life, health, or property has been created by such mechanical systems.

**104.3 Changes in Building Occupancy.** Mechanical systems that are a part of any building or structure undergoing a change in use or occupancy, as defined in the Building Code, shall comply with the requirements of this code that may be applicable to the new use or occupancy.

**104.4 Maintenance.** Mechanical systems, materials, and appurtenances, both existing and new, and parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard-free condition. Devices or safeguards that are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for maintenance of mechanical systems and equipment. To determine compliance with this subsection, the Authority Having Jurisdiction shall be permitted to cause a mechanical system or equipment to be reinspected.

**104.5 Moved Buildings.** Mechanical systems or equipment that is a part of buildings or structures moved into or within this jurisdiction shall comply with the provisions of this code for new installations.