

Michigan Mechanical Code

Incorporating the 2003 edition of
the International Mechanical Code

2003

**Michigan Department of Consumer & Industry Services
Bureau of Construction Codes & Fire Safety**



2003 Michigan Mechanical Code

First Printing

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PREFACE

Introduction

Internationally, code officials recognize the need for a modern, up-to-date mechanical code addressing the design and installation of mechanical systems emphasizing performance. The *International Mechanical Code*®, in this 2003 edition, is designed to meet these needs through model code regulations that safeguard the public health and safety in all communities, large and small.

This comprehensive mechanical code establishes minimum regulations for mechanical systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new mechanical system designs. This 2003 edition is fully compatible with all the *International Codes* ("I-Codes") published by the International Code Council (ICC), including the *International Building Code*, *ICC Electrical Code*, *International Energy Conservation Code*, *International Existing Building Code*, *International Fire Code*, *International Fuel Gas Code*, *ICC Performance Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code*, *International Residential Code*, *International Urban-Wildland Interface Code* and *International Zoning Code*.

The *International Mechanical Code* provisions provide many benefits, among which is the model code development process that offers an international forum for mechanical professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

Development

The first edition of the *International Mechanical Code* (1996) was the culmination of an effort initiated in 1995 by a development committee appointed by the International Code Council (ICC) and consisting of representatives of the three statutory members of the ICC: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International (SBCCI). The intent was to draft a comprehensive set of regulations for mechanical systems consistent with and inclusive of the scope of the existing model codes. Technical content of the latest model codes promulgated by BOCA, ICBO and SBCCI was utilized as the basis for the development. This 2003 edition presents the code as originally issued, with changes approved through the ICC Code Development Process through 2002. A new edition such as this is promulgated every three years.

With the development and publication of the family of *International Codes* in 2000, the continued development and maintenance of the model codes individually promulgated by BOCA ("BOCA National Codes"), ICBO ("Uniform Codes") and SBCCI ("Standard Codes") was discontinued. This 2003 *International Mechanical Code*, as well as its predecessor—the 2000 edition—is intended to be the successor mechanical code to those codes previously developed by BOCA, ICBO and SBCCI.

The development of a single set of comprehensive and coordinated *International Codes* was a significant milestone in the development of regulations for the built environment. The timing of this publication mirrors a milestone in the change in structure of the model codes, namely, the consolidation of BOCA, ICBO and SBCCI into the ICC. The activities and services previously provided by the individual model code organizations will be the responsibility of the consolidated ICC.

This code is founded on principles intended to establish provisions consistent with the scope of a mechanical code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Adoption

The *International Mechanical Code* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page v addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

Maintenance

The *International Mechanical Code* is kept up to date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the Code Development Cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Code and Standard Development Department of the International Code Council.

While the development procedure of the *International Mechanical Code* assures the highest degree of care, ICC and the founding members of ICC—BOCA, ICBO, SBCCI—their members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions because ICC and its founding members do not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

Letter Designations in Front of Section Numbers

In each code development cycle, proposed changes to this code are considered at the Code Development Hearing by the International Mechanical Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. Proposed changes to a code section whose number begins with a letter in brackets are considered by a different code development committee. For instance, proposed changes to code sections which have the letter [B] in front (for example, [B] 601.2), are considered by the International Building Code Development Committee at the Code Development Hearing. Where this designation is applicable to the entire content of a main section of the code, the designation appears at the main section number and title and is not repeated at every subsection in that section.

The content of sections in this code which begin with a letter designation are maintained by another code development committee in accordance with the following: [B] = International Building Code Development Committee; [E] = International Energy Conservation Code Development Committee; [EB] = International Existing Building Code Development Committee; and [F] = International Fire Code Development Committee.

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a change from the requirements of the 1998 edition except where a change was minor. Deletion indicators (➡) are provided in the margin where a paragraph or item listing has been deleted if the deletion resulted in a change of requirements. Double vertical lines in the margin denote amendments and additions promulgated by the State of Michigan Department of Consumer and Industry Services, modifying the 2003 *International Mechanical Code*. An asterisk in the margin identifies sections of the 2003 *International Mechanical Code* not adopted by the State of Michigan.

ORDINANCE

The *International Codes* are designed and promulgated to be adopted by reference by ordinance. Jurisdictions wishing to adopt the 2003 *International Mechanical Code* as an enforceable regulation governing mechanical systems should ensure that certain factual information is included in the adopting ordinance at the time adoption is being considered by the appropriate governmental body. The following sample adoption ordinance addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

SAMPLE ORDINANCE FOR ADOPTION OF THE *INTERNATIONAL MECHANICAL CODE* ORDINANCE NO. _____

An ordinance of the [JURISDICTION] adopting the 2003 edition of the *International Mechanical Code*, regulating and governing the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of mechanical systems in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefor; repealing Ordinance No. _____ of the [JURISDICTION] and all other ordinances and parts of the ordinances in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as the *International Mechanical Code*, 2003 edition, including Appendix Chapters [FILL IN THE APPENDIX CHAPTERS BEING ADOPTED] (see *International Mechanical Code* Section 101.2.1, 2003 edition), as published by the International Code Council, be and is hereby adopted as the Mechanical Code of the [JURISDICTION], in the State of [STATE NAME] regulating and governing the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of mechanical systems as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Mechanical Code on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this ordinance.

Section 2. The following sections are hereby revised:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 106.5.2. Insert: [APPROPRIATE SCHEDULE]

Section 106.5.3. Insert: [PERCENTAGES IN TWO LOCATIONS]

Section 108.4. Insert: [OFFENSE, DOLLAR AMOUNT, NUMBER OF DAYS]

Section 108.5. Insert: [DOLLAR AMOUNT IN TWO LOCATIONS]

Section 3. That Ordinance No. _____ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE ORDINANCE OR ORDINANCES IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in the Mechanical Code hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 2 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the [JURISDICTION'S KEEPER OF RECORDS] is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect [TIME PERIOD] from and after the date of its final passage and adoption.

This is a preview of "ICC MI-IMC-2003". [Click here to purchase the full version from the ANSI store.](#)

Introduction

Amendments to the Construction Code Rules (Michigan Mechanical Code) take effect December 31, 2003. All units of government who administer and enforce a construction code are required to use the rules promulgated under 1972 PA 230, the State Construction Code Act. The State Construction Code Act was amended by 1999 PA 245, effective December 28, 1999, requiring the use of the State Codes as they are updated by rules promulgated after October 15, 1999.

These rules adopt by reference, in R 408.30901a of the Michigan Administrative Code, the International Mechanical Code, 2003 edition, as published by the International Code Council, Inc., and includes deletions, additions, and amendments to the International Code. The subsequent rules either add, amend, or delete certain provisions of the International Mechanical Code. The deletions, additions, and amendments have been incorporated into this publication for ease of use.

Michigan amendments are identified as follows:

Double vertical lines denote amendments and additions promulgated by the State of Michigan, Department of Consumer and Industry Services, modifying the 2003 International Mechanical Code. An asterisk in the margin identifies sections of the 2003 International Mechanical Code not adopted by the State of Michigan.

Additional copies of this publication are available from the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes and Fire Safety, P.O. Box 30255, Lansing, Michigan 48909 at a cost of \$45.00. Please make checks payable to the State of Michigan. This publication is also available from International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041.

Additional information relating to code administration and enforcement in the State of Michigan is available on the Bureau of Construction Codes and Fire Safety's web site www.michigan.gov/bccfs.

(By authority conferred on the director of the department of consumer and industry services by section 4 of 1972 PA 230 and Executive Reorganization Order No. 1996-2, MCL 125.1504 and 445.2001)

R 408.30901a, R 408.30902a, R 408.30906a, R 408.30907a, R 408.30908a, R 408.30909a, R 408.30910a, R 408.30918a, R 408.30923a, R 408.30935a, R 408.30936a, and R408.30995a of the Michigan Administrative Code are amended and R 408.30945a is added to the code as follows:

R 408.30901a Adoption by reference of international mechanical code.

Rule 901a. The provisions of the international mechanical code, 2003 edition, except for sections 103.2, 103.4, 104.2, 106.5.1 to 106.5.3, 107.1.2 to 107.1.2.3, 109.2 to 109.7 and appendix B govern the construction, alteration, relocation, demolition, use and occupancy of buildings and structures. With the exceptions noted, the code is adopted in these rules by reference. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The code is available for inspection at the Okemos office of the Michigan department of consumer and industry services, bureau of construction codes and fire safety. The code may be purchased from the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, or from the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these rules of \$45.00 each.

Mailing Addresses:

P.O. Box 30254 (Codes: general correspondence)
P.O. Box 30255 (Codes: permits, licenses, and other documents containing payments)
P.O. Box 30700 (Office of Fire Safety)
P.O. Box 30704 (Office of Land Survey and Remonumentation)
P.O. Box 30222 (Office of Local Government and Consumer Services)
Lansing, Michigan 48909

Physical Addresses:

2501 Woodlake Circle, Okemos – Administration; Office of Administrative Services; Office of Management Services; Boiler Division; Building Division; Electrical Division; Elevator Safety Division; Mechanical Division; Plan Review Division; and Plumbing Division
7150 Harris Drive, Lansing – Office of Fire Safety
6546 Mercantile Way, Lansing - Office of Land Survey and Remonumentation; and Office of Local Government and Consumer Services

Fax Numbers:

Administration - 517/241-9570
Codes - 517/241-9308
Office of Fire Safety – 517/322-1356
Office of Land Survey and Remonumentation – 517/241-6301
Office of Local Government and Consumer Services - 517/241-6371

Web site:

www.michigan.gov/bccfs

Telephone Numbers:

Administration	517/241-9302
Office of Administrative Services (OAS)	517/335-2972
Office of Management Services (OMS).	517/241-9313
Boiler Division	517/241-9334
Building Division.	517/241-9317
Electrical Division	517/241-9320
Elevator Safety Division	517/241-9337
Mechanical Division	517/241-9325
Office of Fire Safety (OFS)	517/322-1123
Office of Land Survey and Remonumentation (OLSR)	517/241-6321
Office of Local Government and Consumer Services (OLGCS)	517/241-9347
Plan Review Division	517/241-9328
Plumbing Division	517/241-9330

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CHAPTER 1

ADMINISTRATION

SECTION 101 GENERAL

101.1 Title. These regulations shall be known as the Mechanical Code of [NAME OF JURISDICTION], hereinafter referred to as "this code."

101.2 Scope. This code regulates the design, installation, maintenance, alteration, and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings. This code shall also regulate the mechanical systems, system components, equipment, and appliances specifically addressed in this code.

Exceptions:

1. Mechanical systems within 1- and 2-family dwellings shall be constructed and maintained in accordance with the Michigan residential code for 1- and 2-family dwellings.
2. Mechanical systems in existing buildings undergoing repair, alterations, or additions, and change of occupancy shall be permitted to comply with the Michigan rehabilitation code for existing buildings.

R 408.30902a

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

101.3 Intent. 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 mechanical systems.

101.4 Severability. If a section, subsection, sentence, clause or phrase of this code is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this code.

Rule 927a. **Electric installation.** All equipment shall have an electrical disconnect switch on, or immediately adjacent to, the equipment.

R 408.30927a

SECTION 102 APPLICABILITY

102.1 General. The provisions of this code shall apply to all matters affecting or relating to structures and premises, as set forth in Section 101. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

102.2 Existing installations. Except as otherwise provided for in this chapter, a provision in this code shall not require the removal, alteration or abandonment of, nor prevent the continued

utilization and maintenance of, a mechanical system lawfully in existence at the time of the adoption of this code.

102.3 Maintenance. Mechanical systems, 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 sanitary condition. Devices or safeguards which are required by this code shall be maintained in compliance with the code edition under which they were installed. The owner or the owner's designated agent shall be responsible for maintenance of mechanical systems. To determine compliance with this provision, the code official shall have the authority to require a mechanical system to be reinspected.

[EB] 102.4 Additions, alterations or repairs. Additions, alterations, renovations or repairs to a mechanical system shall conform to that required for a new mechanical system without requiring the existing mechanical system to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause an existing mechanical system to become unsafe, hazardous or overloaded.

Minor additions, alterations, renovations and repairs to existing mechanical systems shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous and is approved.

[EB] 102.5 Change in occupancy. It shall be unlawful to make a change in the occupancy of any structure which will subject the structure to any special provision of this code applicable to the new occupancy without approval. The code official shall certify that such structure meets the intent of the provisions of law governing building construction for the proposed new occupancy and that such change of occupancy does not result in any hazard to the public health, safety or welfare.

[EB] 102.6 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local jurisdiction as historic buildings when such buildings or structures are judged by the code official to be safe and in the public interest of health, safety and welfare regarding any proposed construction, alteration, repair, enlargement, restoration, relocation or moving of buildings.

102.7 Moved buildings. Except as determined by Section 102.2, mechanical systems that are a part of buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new installations.

102.8 Referenced codes and standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply.

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102.9 Requirements not covered by this code. Requirements necessary for the strength, stability or proper operation of an existing or proposed mechanical system, or for the public safety, health and general welfare, not specifically covered by this code, shall be determined by the code official.

SECTION 103 DEPARTMENT OF MECHANICAL INSPECTION

103.1 General. The position of mechanical inspector is created. The mechanical inspector shall be appointed in accordance with 1986 PA 54, MCL 338.2301 et seq.

R 408.30904a

* **103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees.

*

SECTION 104 DUTIES AND POWERS OF THE CODE OFFICIAL

104.1 General. The code official shall enforce the provisions of this code and shall act on any question relative to the installation, alteration, repair, maintenance or operation of mechanical systems, except as otherwise specifically provided for by statutory requirements or as provided for in Sections 104.2 through 104.8.

* **104.3 Applications and permits.** The code official shall receive applications and issue permits for the installation and alteration of mechanical systems, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.4 Inspections. The code official shall make all of the required inspections, or shall accept reports of inspection by approved agencies or individuals. All reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

104.5 Right of entry. Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in a building or upon any premises any conditions or violations of this code which make the building or premises unsafe, insanitary, dangerous or hazardous, the code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the code official by this code. If such building or premises is occupied, the code official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the code official has recourse to every remedy provided by law to secure entry.

When the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an

owner or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to promptly permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

104.6 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

104.7 Notices and orders. The code official shall issue all necessary notices or orders to ensure compliance with this code.

104.8 Department records. The code official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records as long as the building or structure to which such records relate remains in existence, unless otherwise provided for by other regulations.

SECTION 105 APPROVAL

105.1 Modifications. Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases, provided the code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the mechanical inspection department.

105.2 Alternative materials, methods, equipment and appliances. 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 design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

105.3 Required testing. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

105.3.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

105.3.2 Testing agency. All tests shall be performed by an approved agency.

105.3.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

105.4 Material, equipment and appliance reuse. Materials, equipment, appliances and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition and approved.

SECTION 106 PERMITS

106.1 Permits required. A contractor licensed pursuant to 1984 PA 192, MCL 338.971 et seq. who desires to erect, install, enlarge, alter, repair, remove, convert, or replace a mechanical system, the installation of which is regulated by this code, or to cause such work to be done, shall first make application in accordance with the requirements of section 10 of 1972 PA 230, MCL 125.1510.

Exception: A person who holds a valid boiler installer license issued under 1965 PA 290, MCL 408.751 et seq. shall secure a permit for the installation of a steam or hot water boiler which carries a pressure of not more than 15 psig for steam and 160 degrees Fahrenheit for hot water, and which is located in a private residence or in an apartment building having 5 or less dwelling units.

106.2 Permits not required. A person is not required to obtain a permit to perform mechanical work on any of the following items:

- (a) A portable heating or gas appliance.
- (b) Portable ventilation equipment.
- (c) A portable cooling unit.
- (d) A minor part that is replaced if the replacement does not affect equipment approval or make it unsafe.
- (e) A portable evaporative cooler.
- (f) Self-contained refrigeration equipment and a window-type air conditioner that is not more than 1.5 horsepower.
- (g) A boiler or pressure vessel for which a permit is required by sections 17 and 18 of 1965 PA 290, MCL 408.767 and 408.768.
- (h) An oil burner that does not require connection to a flue, such as an oil stove and a heater equipped with a wick.
- (i) A portable gas burner that has inputs of less than 30,000 Btu's per hour.
- (j) Gas piping limited to 10 feet (3048 mm) in length and not more than 6 fittings.

106.3 Application for permit. Each application for a permit with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The contractor who is performing the work shall sign the application. The permit application shall indicate the proposed occupancy of all parts of the building and of that portion of the site or lot, if any, not covered by the building or structure and shall contain the information required by section 10 of 1972 PA 230, MCL 125.1510.

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106.3.1 Construction documents. Construction documents, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional when required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than two stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking.

Exception: The code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with this code.

106.4 Permit issuance. The enforcing agency shall review the application, construction documents, and other data filed by an applicant for permit in accordance with 1972 PA 230, MCL 125.1501 et seq. If the enforcing agency finds that the proposed work conforms to the requirements of the act, the code, and all other applicable laws and ordinances thereto, and that all fees prescribed by the act have been paid, then the enforcing agency shall issue a permit to the applicant.

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106.4.1 Approved construction documents. When the code official issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "APPROVED." Such approved construction documents shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the approved construction documents.

The code official shall have the authority to issue a permit for the construction of part of a mechanical system before the construction documents for the entire system have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holder of such permit shall proceed at his or her own risk without assurance that the permit for the entire mechanical system will be granted.

106.4.2 Validity. The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the jurisdiction. A permit presuming to give authority to violate or cancel the provisions of this code shall be invalid.

The issuance of a permit based upon construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in said construction documents and other data or from preventing building operations from being carried on thereunder when in violation of this code or of other ordinances of this jurisdiction.

106.4.3 Expiration. Each permit issued by the code official under the provisions of the code shall expire by limitation and become null and void if the work authorized by the permit is not begun within 180 days from the date of the permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is begun for a period of 180 days. Before work is recommenced, a new permit shall be first obtained, provided no changes have been made or will be made in the original construction document and that suspension or abandonment has not exceeded 1 year.

106.4.4 Extensions. A permittee holding an unexpired permit may apply for an extension of the time within which the permittee may begin work under that permit if for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. No permit shall be extended more than once.

R 408.30906a

106.4.5 Suspension or revocation of permit. The code official shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents upon which the permit or approval was based.

106.4.6 Retention of construction documents. One set of construction documents shall be retained by the code official until final approval of the work covered therein. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress.

106.5 Fees. The fees prescribed by section 22 of 1972 PA 230, MCL 125.1522, shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee is paid.

R 408.30907a

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SECTION 107 INSPECTIONS AND TESTING

107.1 Required inspections and testing. The code official, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or the permit holder's agent of violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before backfill is put in place. When excavated soil contains rocks, broken concrete, frozen chunks and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.

2. Rough-in inspection shall be made after the roof, framing, fireblocking and bracing are in place and all ducting and other components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the mechanical system.

Exception: Ground-source heat pump loop systems tested in accordance with Section 1208.1.1 shall be permitted to be backfilled prior to inspection.

The requirements of this section shall not be considered to prohibit the operation of any heating equipment or appliances installed to replace existing heating equipment or appliances serving an occupied portion of a structure provided that a request for inspection of such heating equipment or appliances has been filed with the department not more than 48 hours after such replacement work is completed, and before any portion of such equipment or appliances is concealed by any permanent portion of the structure.

107.1.1 Approved inspection agencies. The code official shall accept reports of approved agencies, provided that such agencies satisfy the requirements as to qualifications and reliability.

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107.2 Testing. Mechanical systems shall be tested as required in this code and in accordance with Sections 107.2.1 through 107.2.3. Tests shall be made by the permit holder and observed by the code official.

107.2.1 New, altered, extended or repaired systems. New mechanical systems and parts of existing systems, which have been altered, extended, renovated or repaired, shall be tested as prescribed herein to disclose leaks and defects.

107.2.2 Apparatus, material and labor for tests. Apparatus, material and labor required for testing a mechanical system or part thereof shall be furnished by the permit holder.

107.2.3 Reinspection and testing. Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then be resubmitted to the code official for inspection and testing.

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107.3 Approval. After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official.

107.4 Temporary connection. The code official shall have the authority to authorize the temporary connection of a mechanical system to the sources of energy for the purpose of testing mechanical systems or for use under a temporary certificate of occupancy.

SECTION 108 VIOLATIONS

108.1 Unlawful acts. It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a mechanical system, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

108.2 Notice of violation. The code official shall serve a notice of violation or order to the person responsible for the erection, installation, alteration, extension, repair, removal or demolition of mechanical work in violation of the provisions of this code, or in violation of a detail statement or the approved construction documents thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

108.3 Prosecution of violation. If the notice of violation is not complied with promptly, the code official shall request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

108.4 Violation penalties. Any person who violates a provision of this code, who fails to conform with any of the requirements thereof, or who erects, installs, alters, or repairs mechanical work in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the provisions of this code, shall be fined in accordance with section 23 of 1972 PA 230, MCL 125.1523.

R 408.30909a

108.5 Stop work orders. Upon notice from the enforcing agency that mechanical work is being done contrary to the provisions of this code or in a dangerous or unsafe manner, the work shall immediately cease. Notice shall be in accordance with section 12 of 1972 PA 230, MCL 125.1512. A person who is served with a stop work order, except for work that a person is directed to perform to remove a violation or unsafe condition, is subject to the penalty provisions prescribed by section 23 of 1972 PA 230, MCL 125.1523.

R 408.30910a

108.6 Abatement of violation. The imposition of the penalties herein prescribed shall not preclude the legal officer of the jurisdiction from instituting appropriate action to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent illegal occupancy of a building, structure or premises, or to stop an illegal act, conduct, business or utilization of the mechanical system on or about any premises.

108.7 Unsafe mechanical systems. A mechanical system that is unsafe, constitutes a fire or health hazard, or is otherwise dangerous to human life, as regulated by this code, is hereby declared as an unsafe mechanical system. Use of a mechanical system regulated by this code constituting a hazard to health, safety or welfare by reason of inadequate maintenance, dilapidation, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Such unsafe equipment and appliances are hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

108.7.1 Authority to condemn mechanical systems. Whenever the code official determines that any mechanical system, or portion thereof, regulated by this code has become hazardous to life, health, property, or has become insanitary, the code official shall order in writing that such system either be removed or restored to a safe condition. A

time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective mechanical system after receiving such notice.

When such mechanical system is to be disconnected, written notice as prescribed in Section 108.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

108.7.2 Authority to order disconnection of energy sources. The code official shall have the authority to order disconnection of energy sources supplied to a building, structure or mechanical system regulated by this code, when it is determined that the mechanical system or any portion thereof has become hazardous or unsafe. Written notice of such order to disconnect service and the causes therefor shall be given within 24 hours to the owner and occupant of such building, structure or premises, provided, however, that in cases of immediate danger to life or property, such disconnection shall be made immediately without such notice. Where energy sources are provided by a public utility, the code official shall immediately notify the serving utility in writing of the issuance of such order to disconnect.

108.7.3 Connection after order to disconnect. A person shall not make energy source connections to mechanical systems regulated by this code which have been disconnected or ordered to be disconnected by the code official, or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such mechanical systems.

When a mechanical system is maintained in violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the code official shall institute appropriate action to prevent, restrain, correct or abate the violation.

SECTION 109 MEANS OF APPEAL

109.1 Means of appeal. A person may appeal a decision of the enforcing agency to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The application shall be filed under section 14 of 1972 PA 230, MCL 125.1514.

R 408.30908a

109.1.1 Limitation of authority. The board of appeals shall have no authority relative to interpretation of the administration of this code nor shall such board be empowered to waive requirements of this code.

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CHAPTER 2

DEFINITIONS

SECTION 201 GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *International Building Code*, *ICC Electrical Code*, *International Fire Code*, *International Fuel Gas Code* or the *International Plumbing Code*, such terms shall have meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202 GENERAL DEFINITIONS

ABRASIVE MATERIALS. Moderately abrasive particulate in high concentrations, and highly abrasive particulate in moderate and high concentrations, such as alumina, bauxite, iron silicate, sand and slag.

ABSORPTION SYSTEM. A refrigerating system in which refrigerant is pressurized by pumping a chemical solution of refrigerant in absorbent, and then separated by the addition of heat in a generator, condensed (to reject heat), expanded, evaporated (to provide refrigeration), and reabsorbed in an absorber to repeat the cycle; the system may be single or multiple effect, the latter using multiple stages or internally cascaded use of heat to improve efficiency.

ACCESS (TO). That which enables a device, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction [see also "Ready access (to)"].

AIR. All air supplied to mechanical equipment and appliances for combustion, ventilation, cooling, etc. Standard air is air at standard temperature and pressure, namely, 70°F (21°C) and 29.92 inches of mercury (101.3 kPa).

AIR CONDITIONING. The treatment of air so as to control simultaneously the temperature, humidity, cleanness and distribution of the air to meet the requirements of a conditioned space.

AIR-CONDITIONING SYSTEM. A system that consists of heat exchangers, blowers, filters, supply, exhaust and return ducts, and shall include any apparatus installed in connection therewith.

AIR DISTRIBUTION SYSTEM. Any system of ducts, plenums and air-handling equipment that circulates air within a space or spaces and includes systems made up of one or more air-handling units.

AIR, EXHAUST. Air being removed from any space, appliance or piece of equipment and conveyed directly to the atmosphere by means of openings or ducts.

AIR-HANDLING UNIT. A blower or fan used for the purpose of distributing supply air to a room, space or area.

AIR, MAKEUP. Air that is provided to replace air being exhausted.

ALTERATION. A change in a mechanical system that involves an extension, addition or change to the arrangement, type or purpose of the original installation.

APPLIANCE. A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirements.

APPLIANCE, EXISTING. Any appliance regulated by this code which was legally installed prior to the effective date of this code, or for which a permit to install has been issued.

APPLIANCE TYPE.

High-heat appliance. Any appliance in which the products of combustion at the point of entrance to the flue under normal operating conditions have a temperature greater than 2,000°F (1093°C).

Low-heat appliance (residential appliance). Any appliance in which the products of combustion at the point of entrance to the flue under normal operating conditions have a temperature of 1,000°F (538°C) or less.

Medium-heat appliance. Any appliance in which the products of combustion at the point of entrance to the flue under normal operating conditions have a temperature of more than 1,000°F (538°C), but not greater than 2,000°F (1093°C).

APPLIANCE, VENTED. An appliance designed and installed in such a manner that all of the products of combustion are conveyed directly from the appliance to the outside atmosphere through an approved chimney or vent system.

APPROVED. Approved by the code official or other authority having jurisdiction.

APPROVED AGENCY. An established and recognized agency that is approved by the code official and regularly engaged in conducting tests or furnishing inspection services.

AUTOMATIC BOILER. Any class of boiler that is equipped with the controls and limit devices specified in Chapter 10.

BATHROOM. A room containing a bathtub, shower, spa or similar bathing fixture.

BOILER. A closed heating appliance intended to supply hot water or steam for space heating, processing or power purposes.