2025 Oregon Mechanical Specialty Code

First Printing: Month 2025

ISBN: 978-1-967590-52-0 (soft-cover edition)
ISBN: 978-1-967590-53-7 (PDF download)

PRINTED IN THE USA

T031552

PREFACE

INTRODUCTION TO THE OREGON MECHANICAL SPECIALTY CODE

The *Oregon Mechanical Specialty Code* (OMSC) is based on the *International Mechanical Code*® (IMC®) and the *International Fuel Gas Code*® (IFGC®).

The OMSC regulates the design and installation of mechanical systems, appliances, appliance venting, duct and ventilation systems, combustion air provisions, hydronic systems, solar systems, fuel gas distribution piping and systems, and gaseous hydrogen systems.

The purpose of this code is to establish the minimum acceptable level of safety and to protect life and property from the potential dangers associated with the installation and operation of mechanical systems. The code also protects the personnel that install and replace the systems and appliances addressed by this code.

ARRANGEMENT AND FORMAT OF THE 2024 IMC

The format of the OMSC allows each chapter to be devoted to a particular subject with the exception of Chapter 3, which contains general subject matters that are not extensive enough to warrant their own independent chapter.

The following table shows how the OMSC is divided. The chapter synopses detail the scope and intent of the provisions of the OMSC.

CHAPTER TOPICS	
CHAPTERS	**SUBJECTS**
1	Scope and Administration
2	Definitions
3	General Regulations
4	Ventilation
5	Exhaust Systems
6	Duct Systems
7	Combustion Air
8	Chimneys and Vents
9	Specific Appliances, Fireplaces and Solid Fuel-burning Equipment
10	Boilers, Water Heaters and Pressure Vessels
11	Refrigeration
12	Hydronic Piping
13	Fuel Oil Piping and Storage
14	Solar Thermal Systems
15	Referenced Standards
Appendix A	Chimney Connector Pass-throughs
Appendix B	Recommended Permit Fee Schedule
Appendix C	Fuel Gas

Chapter 1 Scope and Administration.

Chapter 1 establishes the limits of applicability of the code and describes how the code is to be applied and enforced. The provisions of Chapter 1 establish the authority and duties of the building official appointed by the authority having jurisdiction and also establish the rights and privileges of the design professional, contractor and property owner.

Chapter 2 Definitions.

Chapter 2 is the repository of the definitions of terms used in the body of the code. The user of the code should be familiar with and consult this chapter because the definitions are essential to the correct interpretation of the code and because the user may not be aware that a term is defined.

Chapter 3 General Regulations.

Chapter 3 contains broadly applicable requirements related to appliance location and installation, appliance and systems access, protection of structural elements, condensate disposal and clearances to combustibles, among others.

Chapter 4 Ventilation.

Chapter 4 includes means for ventilating spaces within buildings to promote a healthy and comfortable environment for the occupants, to protect the building structure from the harmful effects of excessive humidity and heat to minimize the potential for toxic or otherwise harmful substances to reach dangerously high concentrations in air.

Chapter 5 Exhaust Systems.

Chapter 5 provides requirements for reasonable protection of life, property and health from the hazards associated with exhaust systems, air contaminants and smoke development in the event of a fire. In most cases, these hazards involve materials and gases that are flammable, explosive, toxic or otherwise hazardous, including commercial kitchen grease- and smoke-laden air; hazardous fumes and toxic gases; clothes dryer moisture and heat; and dust, stock and refuse materials.

Chapter 6 Duct Systems.

Chapter 6 of the code regulates the materials and methods used for constructing and installing ducts, plenums, system controls, exhaust systems, fire protection systems and related components that affect the overall performance of a building's air distribution system. This chapter also provides for the reasonable protection of life and property from the hazards associated with air-moving equipment and systems. The provisions for the protection of duct penetrations of wall, floor, ceiling and roof assemblies are extracted from the *Oregon Structural Specialty Code.*

Chapter 7 Combustion Air.

The specific combustion air requirements provided in previous editions of the code have been deleted in favor of a single section that directs the user to NFPA 31 for oil-fired appliance combustion air requirements and the manufacturer's installation instructions for solid fuel-burning appliances. Complete combustion of solid and liquid fuel is essential for the proper operation of appliances, for control of harmful emissions and for achieving maximum fuel efficiency.

Chapter 8 Chimneys and Vents.

Chapter 8 is intended to regulate the design, construction, installation, repair and approval of chimneys, vents and their connections to solid and liquid fuel-burning appliances in order to achieve the complete removal of the products of combustion from fuel-burning appliances and equipment.

Chapter 9 Specific Appliances, Fireplaces and Solid Fuel-Burning Equipment

Chapter 9 sets minimum construction and performance criteria for fireplaces, appliances and equipment and provides for the safe installation of these items. Other regulations affecting the installation of solid fuel-burning fireplaces, appliances and accessory appliances are found in Chapters 3, 6, 7, 8, 10, 11, 12, 13 and 14.

Chapter 10 Boilers, Water Heaters and Pressure Vessels.

Chapter 10 presents regulations for the proper installation of steam and hot water boilers, water heaters and pressure vessels, and associated piping not regulated by the *Oregon Boiler and Pressure Vessel Code* and the *Oregon Plumbing Specialty Code* to protect life and property from the hazards associated with those appliances and vessels. Certain safety features are therefore provided in Chapter 10 to reduce the potential for explosion hazards.

Chapter 11 Refrigeration.

Chapter 11 contains regulations that establish minimum requirements to achieve the proper design, construction, installation and operation of refrigeration systems. This chapter establishes reasonable safeguards for the occupants by defining and mandating practices that are consistent with the practices and experience of the industry.

Chapter 12 Hydronic Piping.

Hydronic piping includes piping, fittings and valves used in building space conditioning systems. Applications include hot water, chilled water, steam, steam condensate, brines and water/antifreeze mixtures. Chapter 12 contains the provisions that govern the construction, installation, alteration and repair of all hydronic piping systems that affect reliability, serviceability, energy efficiency and safety.

Chapter 13 Fuel Oil Piping and Storage.

Chapter 13 regulates the design and installation of fuel oil storage and piping systems by providing reference to construction standards, material standards and extensive requirements for the proper assembly of system piping and components. The provisions in this chapter are intended to prevent fires, leaks and spills involving fuel oil storage and piping systems.

Chapter 14 Solar Thermal Systems.

Chapter 14 establishes provisions for the safe installation, operation and repair of solar energy systems used for space heating or cooling, domestic hot water heating or processing. Although such systems use components similar to those of conventional mechanical equipment, many of these provisions are unique to solar energy systems.

Chapter 15 Referenced Standards.

Chapter 15 lists all of the product and installation standards and codes that are referenced throughout Chapters 1 through 14 and includes identification of the promulgators and the section numbers in which the standards and codes are referenced. As stated in Section 102.2, these standards and codes become an enforceable part of the code (to the prescribed extent of the reference) as if printed in the body of the code.

Appendix A Chimney Connector Pass-Throughs.

Appendix A provides figures that illustrate various requirements in the body of the code. Figures A101.1(1) and A101.1(2) illustrate the chimney connector clearance requirements of Table 803.10.4.

Appendix B Recommended Permit Fee Schedule.

Appendix B provides a sample permit fee schedule for mechanical permits. The local jurisdiction can adopt this appendix and fill in the dollar amounts in the blank spaces to establish their official permit fee schedule.

Fees are established by the municipality under the authority of ORS 455.020 and 455.210, or as set forth in OAR Chapter 918, Division 440 where the State of Oregon has jurisdiction.

Appendix C Fuel Gas

Appendix C provides installation standards for fuel gas piping systems, fuel gas appliances, gaseous hydrogen systems and related accessories. The base code for the provisions in Appendix C is the *International Fuel Gas Code* (IFGC).

Sections C101 through C105 Scope and General Requirements. Sections C101 through C105 establish the limits of applicability of the appendix and describe how the appendix is to be applied and enforced. These provisions establish the authority and duties of the building official appointed by the local municipality and also establish the rights and privileges of the design professional, contractor and property owner.

Sections C201 and C202 Definitions. Sections C201 and C202 are the repository of the definitions of terms used in the body of the appendix. The defined terms are deemed to be of prime importance in establishing the meaning and intent of the text that uses the terms. The user of this appendix should be familiar with and consult these definitions because they are essential for correct interpretation and because the user may not be aware that a term is defined.

Sections C301 through C310 General Regulations. Sections C301 through C310 contain broadly applicable requirements related to appliance location and installation, appliance and systems access, protection of structural elements, and clearances to combustibles, among others. These sections also cover combustion air provisions for gas-fired appliances.

Sections C401 through C417 Gas Piping Installations. Sections C401 through C417 cover the allowable materials for gas piping systems and the sizing and installation of such systems. They also cover pressure regulators, appliance connections and overpressure protection devices. Gas piping systems are sized to supply the maximum demand while maintaining the supply pressure necessary for safe operation of the appliances served.

Sections C501 through C506 Chimneys and Vents. Sections C501 through C506 regulate the design, construction, installation, repair and approval of chimneys, vents, venting systems and their connections to gas-fired appliances. Properly designed chimneys, vents and venting systems are necessary to conduct to the outdoors the flue gases produced by the combustion of fuels in appliances. The provisions of this chapter are intended to minimize the hazards associated with high temperatures and potentially toxic and corrosive combustion gases. These sections address all of the factory-built and site-built chimneys, vents and venting systems used to vent all types and categories of appliances. It also addresses direct-vent appliances, integral vent appliances, side-wall mechanically vented appliances and exhaust hoods that convey the combustion byproducts from cooking and other process appliances.

Sections C601 through C635 Specific Appliances. Sections C601 through C635 address specific appliances that the appendix intends to regulate. Each main section applies to a unique type of gas-fired appliance and specifies the product standards to which the appliance must be listed. The general requirements found in the previous Appendix C sections also apply and these sections add the special requirements that are specific to each type of appliance.

Sections C701 through C708 Gaseous Hydrogen Systems. Sections C701 through C708 are specific to gaseous hydrogen generation, storage, distribution and utilization systems, appliances and equipment. Note that hydrogen is not within the definition of "Fuel gas," but it is, nonetheless, commonly used as a fuel for fuel-cell power generation and fuel-cell-powered motor vehicles. The scope of these sections is not limited to any particular use of hydrogen. Hydrogen systems have unique potential hazards because of the specific gravity of the gas, its chemical effect on materials and the fact that it is not odorized.

Section C801 Referenced Standards. Section C801 lists all of the product and installation standards and codes that are referenced throughout Appendix C. As stated in Section C102.2, these standards and codes become an enforceable part of the code (to the prescribed extent of the reference) as if printed in the body of the code. Section C801 provides the full title and edition year of the

standards and codes in addition to the address of the promulgators and the section numbers in which the standards and codes are referenced.

Appendix C-A Sizing and Capacities of Gas Piping. This appendix is informative and not part of the code. It provides design guidance, useful facts and data, and multiple examples of how to apply the sizing tables and sizing methodologies of Sections C401 through C417.

Appendix C-B Sizing of Venting Systems Serving Appliances Equipped with Draft Hoods, Category I Appliances and Appliances Listed for Use with Type B Vents. This appendix is informative and not part of the code. It contains multiple examples of how to apply the vent and chimney tables and methodologies of Sections C501 through C506.

Appendix C-C Exit Terminals of Mechanical Draft and Direct-Vent Venting Systems. This appendix is informative and not part of the code. It consists of a figure and notes that visually depict code requirements from Sections C501 through C506 for vent terminals with respect to the openings found in building exterior walls.

Appendix C-D Recommended Procedure for Safety Inspection of an Existing Appliance Installation. This appendix is informative and not part of the code. It provides recommended procedures for testing and inspecting an appliance installation to determine if the installation is operating safely and if the appliance is in a safe condition.

MARGINAL MARKINGS

➡ = Indicates where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted from the 2024 edition of the International Code.

| = Indicates a technical change from the requirements of the 2024 edition of the International Code.

> = Indicates International Code language deleted by Oregon.

|| = Indicates a State of Oregon amendment has been made to the International Code.

¦ = Indicates a State of Oregon amendment has been made to include language from the *International Fire Code*® (IFC®) language as part of the *Oregon Mechanical Specialty Code* (OMSC).

Minor changes such as section renumbering and removal of references to International Codes are not indicated with a double rule in the margin.

ITALICIZED TERMS

Words and terms defined in Chapter 2, Definitions, are italicized where they appear in code text and the Chapter 2 definitions apply. Where such words and terms are not italicized, common-use definitions apply. The words and terms selected have code-specific definitions that the user should read carefully to facilitate better understanding of the code.

CONTENTS