

1 Exam Prep

International Mechanical Code 2015

Tabs and Highlights

These 1 Exam Prep Tabs are based on the *International Mechanical Code-Building-2015 Edition*.

Each Tabs sheet has five rows of tabs. Start with the first tab at the first row at the top of the page, and proceed down that row placing the tabs at the locations listed below. Place each tab in your book setting it down one notch until you get to the bottom of the page, and then start back at the top again. After you have completed tabbing your book (the last tab is usually the glossary, appendix, or index), then you may start highlighting your book.

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*******This concludes the tabs for this book. Please continue with the highlights on the following page.*******

<u>Section #</u>	<u>Highlight</u>
101	Chapter 1: Scope Administration
101.2	Scope: This code shall regulate the design, installation ... equipment appliances specifically addressed herein. Exception: Detached one- and two-family dwellings ... shall comply with the International Building Code.
102	Applicability
102.1	General. Specific requirement shall be applicable ... the most restrictive shall govern.
102.10	Other Laws. The provisions of this code shall not be deemed to nullify local, state, or federal law.
106	Permits
106.1	Where Required. shall first make application to the building official and obtain the permit required.
106.1.1	Annual permit: The code official is authorized to issue an annual permit upon ... owned or operated by the applicant for the permit.
106.2	Permits not required: Permits shall not be required for the following: 1 – 5.
106.3.1	Construction documents
106.3.3	Time limitation of application: An application for a permit ... not exceeding 180 days each.
106.4.1	Approved construction documents
106.4.8	Posting of permit: Entire paragraph
106.5	Fees
106.5.1	Work commencing before permit issuance: Entire paragraph
107	Inspections and Testing
107.2	Required inspections and testing: The holder of the permit shall be responsible for scheduling such inspections: 1-3.
109	Means of Appeal
109.1	Application for Appeal: The application shall be filed on a form ... within 20 days after the notice was served.

Section #

Highlight

- 202 **Definitions**
- Boiler
 - Brazing
 - Combustion Air
 - Damper
 - Duct Furnace
 - Fuel Gas
 - Heat Exchanger
 - Listed
 - Mechanical Draft System
 - Modular Boiler
 - Natural Draft System
 - Safety Valve
 - Steam-Heating Boiler
 - Vent
- 302 **Protection of Structure**
- 302.3.1 **Joist notching.** Holes bored in joists ... middle third of the span.
- 302.3.2 **Stud cutting and notching.** In exterior walls and bearing partitions...of the wall not be notched in excess of 40 percent of its depth.
- 302.3.3 **Bored holes.** A diameter of bored holes in wood studs..... at the same section of stud as a cut or notch.
- 304 **Installation**
- 304.3 **Elevation of ignition source.** Equipment and appliances having ignition source ... floor surface on which the equipment or appliance rests.
- 304.5.1.2 **Louvers and grilles.** In calculating free area ... grilles will have 75 percent free area.
- 304.6 **Public garages.** Appliances located in public garages ... higher than the tallest garage door opening.
- 304.10 **Clearances from grade.** Equipment and appliances installed at grade level ... not less than 6 inches above adjoining grade.
- 304.11 **Guards.** Guards shall be provided where ... 10 feet of a roof edge.
- 304.12 **Area served.** Appliances serving different areas ... identifies the appliance and the area it serves.
- 305 **Piping Support**
- 305.2 **Materials.** Pipe hangers and supports ... that will not promote galvanic action.
- 305.5 **Protection against physical damage.** In concealed locations where piping, other than cast-iron ... 2 inches above sole plates and below top plates.

<u>Section #</u>	<u>Highlight</u>
306	Access and Service Space
306.1.1	Central furnaces. Central furnaces within compartments or alcoves ... 12 inches wider than the furnace.
Table 305.4	Piping Support Spacing
306.3	Appliances in attics. Attics containing appliances shall be provided with an opening ... not less than 24 inches (610mm) wide.
306.4	Appliances under floors. Underfloor spaces containing appliances shall be provided ... and large enough to allow removal of the largest appliance.
306.5	Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure ... an interior or exterior means of access shall be provided.
307	Condensate Disposal
307.2.1	Condensate disposal. Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.
307.2.2	Drain pipe materials and sizes. Condensate waste and drain line size ... to the place of condensate disposal.
308	Clearance Reduction
Table 308.4.2	Clearance Reduction Methods
401.4	Intake opening location shall: Air intake openings comply with all of the following (Highlight #2 Only)
401.5	Intake opening protection
Table 401.5	Opening Sizes in Louvers, Grilles, Screens Protecting Air Intake Openings
403	Mechanical Ventilation
403.2.1	Recirculation of air: (Highlight #1 Only).
406	Ventilation of Uninhabited Spaces
406.1	General. Uninhabited spaces, such as crawl spaces ... when relative humidity in the space served exceeds 60 percent.
501.3.2	Exhaust opening protection. Exhaust openings that terminate outdoors ... and not larger 1/2 inch (13 mm).
502.8.1.1	System requirements. Exhaust ventilation systems shall comply with all the following: (1-7)

<u>Section #</u>	<u>Highlight</u>
504	Clothes Dryer Exhaust
504.4	Exhaust installation. Clothes dryer exhaust ducts shall not be connected to a vent connector, vent or chimney.
504.5	Makeup air. Installations exhausting more than 200 cfm ... shall be provided by other approved means.
504.8	Domestic clothes dryer ducts
504.8.1	Material and size. Exhaust ducts shall have smooth ... shall be 4 inches nominal in diameter.
505	Domestic Kitchen Exhaust Equipment.
505.1	Domestic systems: Such ducts shall have smooth inner walls ... independent of other exhaust systems.
506	Commercial Kitchen Hood Ventilation System Ducts and Exhaust Equipment
506.3.2.1	Duct joint types. The length of overlap for overlapping duct joints shall not exceed 2 inches (51mm).
506.3.9	Grease duct horizontal cleanouts. Cleanouts serving horizontal sections of grease ducts shall: (Highlight #1 Only)
507	Commercial Kitchen Hood
Table 507.2.8	Minimum Distance Between The Lowest Edge of A Grease Filter and The Cooking Surface or The Heating Surface
510	Hazardous Exhaust Systems
Table 510.9	Minimum Duct Thickness
602	Plenums
602.2.1	Materials within plenums. Shall be listed and labeled has having a flame spread index ... in accordance with ASTM E 84 or UL 723.
602.2.1.1	Wiring. Electrical wires and cables ... shall be installed in accordance with NFPA 70.
602.3	Stud cavity and joist space plenums. Stud wall cavities ... shall comply with the following conditions: (1-5)
603	Duct Construction and Installation
603.3	Duct classification. Ducts shall be classified based on the maximum ... of water column.
603.5	Nonmetallic ducts. The air temperature within non-metallic ducts shall not exceed 250 F.

<u>Section #</u>	<u>Highlight</u>
603.6.2.1	Connector length. Flexible air connectors shall be limited to 14 feet (4267 mm).
Table 603.4	Duct Construction Minimum Sheet Metal Thickness for Single Dwelling Units
603.8	Underground ducts. Ducts shall be approved for ... encased in not less than 2 inches (51 mm) of concrete.
603.8.1	Slope. Ducts shall have a minimum slope of 1/8 inch per foot.
603.8.2	Sealing. Ducts shall be sealed and secured prior to pouring the concrete encasement.
603.10	Supports. Ducts shall be supported in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
604	Insulation
604.3	Coverings and linings. Coverings and linings, including adhesives ... index not more than 50.
604.8	Lining installation. Lining shall be interrupted at the ... fuel-burning heaters in the duct system.
604.10	Service openings. Service openings shall not be concealed ... opening is properly identified.
605	Air Filters
605.1	General. Heating and air-conditioning systems shall be provided ... upstream from any heat exchanger or coil.
606	Smoke Detection Systems Control
606.2.1	Return air systems. Smoke detectors shall be installed in ... in the return air duct or plenum upstream of any filters.
607	Duct and Transfer Openings
607.3.3.1	Fire damper actuation device. The fire damper actuation device shall meet the following requirements. (Highlight #1 Only).
607.4	Access and identification. Access points shall be permanently identified on the exterior ... suitable for the required duct construction.
607.5.1	Fire walls. Ducts and air transfer openings ... installed with their listing.
803	Connectors
Table 803.9 (1)	Minimum Chimney Connector Thickness for Low-Heat Appliances
Table 803.9 (2)	Minimum Chimney Connector Thickness for Medium – and High Heat Appliance
804	Direct-Vent, Integral Vent and Mechanical Draft Systems

<u>Section #</u>	<u>Highlight</u>
804.3.4	Horizontal terminations. Horizontal terminations shall comply with the following requirements: (Highlight #1 Only)
804.3.5	Vertical terminations. Vertical terminations shall ... comply with the following requirements: 1 -6.
908	Cooling Towers, Evaporative Condensers and Fluid Coolers
908.3	Location. Cooling towers, evaporative condensers and ... from any ventilation inlet to a building.
1004	Boilers
1004.2	Installation. In addition to the requirements of this code shall be attached to the boiler.
1004.3	Working clearance. Passageways around all sides of boilers ... unless otherwise approved.
Table 1004.3.1	Boiler Top Clearances
1005	Boiler Connections
1005.1	Valves. Every boiler or modular boiler ... shutoff valves and return piping. Exception. Shutoff valves are not required ... pressure steam boiler.
1006	Safety and Pressure Relief Valves and Controls
1006.2	Safety relief valves for hot water boilers. Hot water boilers shall be protected with a safety relief valve.
1006.6	Safety and relief valve discharge. High pressure-steam safety valves shall be vented to the outside of the structure.
1008	Steam Blowoff Valve
1008.1	General. Where maximum allowable working pressure of the boiler exceeds 100 psig ... installed closest to the boiler.
1009	Hot Water Boiler Expansion Tank
1009.1	Where required. An expansion tank shall be installed ... not less than one expansion tank is required.
1010	Gauges
1010.2	Steam boiler gauges. Every steam boiler shall have a water-gauge and a pressure gauge.
1010.2.1	Water-gauge glass. The gauge glass shall be installed so that the midpoint is at the normal boiler water level.

<u>Section #</u>	<u>Highlight</u>
1011	Tests
1011.1	Tests. A copy of all test documents ... submitted to the code official.
1103	Refrigeration System Classification
Table 1103.1	Refrigerant Classification, Amount and OEL
1107	Refrigerant Piping
1107.3	Pipe enclosures. Rigid or flexible metal enclosures ... containing other than Group A1 or B1 refrigerants.
1107.4	Condensation. All refrigerating piping and fittings ... in an approved manner to prevent such damage.
1107.5.2	Copper and brass pipe. Standard iron-pipe size, copper and red brass (not less than 80-percent copper) pipe shall conform to ASTM B 42 and ASTM B 43.
1107.5.3	Copper tube. Annealed temper copper tube shall not be used ... sizes larger than 7/8- inch (22.2 mm) OD size.
1108	Field Test
1108.1	General. Test shall include both the high and low ... setting of the pressure relief device(s).
1108.2	Test gases. Test shall be performed with an inert ... containing such gases shall not be used. Exception: The use of air is allowed to test R-717 ... before charging with refrigerant.
1203	Joints and Connections
1203.1.1	Joints between different piping materials. Joints between different piping materials shall be made with approved adapter fittings.
1203.11.2	Plastic-to-metal connections. Soldering on the metal portion of the system ... adapter in the same water line.
1204	Pipe Insulation
1204.1	Insulation characteristics. Shall have a maximum flame spread index of 25 ... shall comply with Section 602.2.1.
1206	Piping Installation
1206.5	Clearance to combustibles. A pipe in a hydronic piping system shall have a minimum clearance of 1 inch to combustible materials.
1208	Tests

<u>Section #</u>	<u>Highlight</u>
1208.1	General. Hydronic piping systems shall be tested ... but not less than 100 psi (689 kPa)
1209	Embedded Piping
1209.3.1	Steel pipe joints: Steel pipe shall be welded by electrical arc or oxygen/acetylene method.
1209.3.2	Copper tubing joints. Copper tubing shall be joined by brazing complying with Section 1203.3.1
1209.3.3	Polybutylene joints. Polybutylene pipe and tubing shall be ... in accordance with Section 1203.10.1.
1305	Fuel Oil System Installation
1305.1	Size. Copper tubing shall have 0.035-inch (0.9 mm) nominal and 0.032-inch (0.8) minimum wall thickness.