The following are the provisions referenced in the ORSC matrix for the Chapter 12-22 and Appendix F, mechanical provisions, and the Chapter 24, Fuel Gas provisions.

These provisions were reviewed by the code review committee on Aug. 25, 2020, and by the Residential and Manufactured Structures Board on Oct. 7, 2020.

The markings within the language denote:

Purple	New 2018 IRC
Blue/underline	2017 ORSC added
~~Red/strikethrough~~	2017 ORSC deleted
Bright-Blue/underline	New 2021 ORSC added
~~Bright-Red/strikethrough~~	New 2021 ORSC deleted
Green	Rescinded ORSC amendment
Pink/underline	Committee added
~~Pink/strikethrough~~	Committee deleted
Pink/underline/~~strikethrough~~	RMSB deleted

1 M1502.4.2 DUCT INSTALLATION

Type of change: **Clarification**

Proposal summary: Align the sealing requirements for exhaust duct in the code.

Background: This is a 2015 IRC change that required mechanical fastening and was not approved for adoption into the 2017 ORSC: see 2017 ORSC Errata

- This section refers to Section M1601.4.1 for sealing requirements.
- Section M1601.4.1 requires crimp joints to have mechanical fastening which conflicts with the deletion in M1502.4.2.

Code language:

2017 ORSC

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 4 feet (1219 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 ~~**and shall be mechanically fastened**~~. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct.

2021 ORSC

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 4 feet (1219 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. **Exhaust duct joints shall be sealed with *listed* tape** ~~**in accordance with Section M1601.4.1**~~**.** Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

M1601.4.1 Joints, seams and connections. …

Crimp joints for round metallic ducts shall have a contact lap of not less than 1 inch (25 mm) and shall be mechanically fastened by means of not less than three sheet-metal screws or rivets equally spaced around the joint.

2 M1503.1 & M1503.2 DOMESTIC COOKING EQUIPMENT

Type of change: **New model code**

Proposal summary: The IRC replace "range hoods" with "domestic cooking exhaust equipment" and requires compliance with one of four options. Oregon requires exhaust equipment for all domestic cooking equipment.

Code language:

M1503.1 General. Domestic cooking equipment shall be provided with exhaust equipment.

M1503.2 Domestic cooking exhaust. ~~Where~~ Domestic cooking exhaust equipment ~~is provided, it~~ shall comply with one of the following:

1. The fan for overhead range hoods and downdraft exhaust equipment not integral with the cooking appliance shall be listed and labeled in accordance with UL 507.
2. Overhead range hoods and downdraft exhaust equipment with integral fans shall comply with UL 507.
3. Domestic cooking appliances with integral downdraft exhaust equipment shall be listed and labeled in accordance with ANSI Z21.1 or UL 858.
4. Microwave ovens with integral exhaust for installation over the cooking surface shall be listed and labeled in accordance with UL 923.

3 M1503.3 EXHAUST DISCHARGE

Type of change: **New Oregon amendment**

Proposal summary: Add to the exception allowance for listed recirculating hoods where continuous mechanical exhaust of 20 cfm or more is provided and a natural ventilation opening is provided.

Code language:

M1503.3 Exhaust discharge. Domestic cooking exhaust equipment shall discharge to the outdoors through a duct. The duct shall have a smooth interior surface, shall be air tight, shall be equipped with a backdraft damper and shall be independent of all other exhaust systems. Ducts serving domestic cooking exhaust equipment shall not terminate in an attic or crawl space or areas inside the building.

Exception: Where installed in accordance with the manufacturer's instructions *listed* and *labeled* ductless range hoods shall not be required to discharge to the outdoors where all of the following conditions are met:

1. Continuous mechanical exhaust of not less than 20 cfm (0.0094 m^3/s) is provided in the space.
2. Natural ventilation is provided in accordance with Section R303.1, without exception, for the kitchen.

4 M1503.6.2 MAKEUP AIR DAMPERS

Type of change: **New model code**

Proposal summary: Adopt the new model code requirements for makeup air dampers to be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall also be located to allow access.

Code language: **M1503.6.2 Makeup air dampers.** Where makeup air is required by Section M1503.6, makeup air dampers shall comply with this section. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be located to allow access for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced. Gravity or barometric dampers shall not be used in passive makeup air systems except where the dampers are rated to provide the design makeup airflow at a pressure differential of 0.01 in. w.c. (3 Pa) or less.

5 M1505.4.3 MECHANICAL VENTILATION

Type of change: **New Oregon amendment**

Proposal summary: Require whole-house mechanical ventilation. Add a definition for balanced ventilation. Add an exception allowing for a 30 percent reduction in ventilation for distributed whole house ventilation systems.

Code language: **CHAPTER 3**

Oct. 7 RMSB disapproved the proposed pointer to N1105.6

R303.4 Mechanical ventilation. ~~Where the air infiltration rate of a *dwelling unit* is 5 air changes per hour or less where tested with a blower door at a pressure of 0.2 inch w.c (50 Pa) in accordance with Section N1102.4.1.2, the~~ Each *dwelling unit* shall be provided with whole-house mechanical ventilation in accordance with Section M1505.4 ~~and, where required, a heat recovery ventilator in accordance with Section N1105.6~~.

CHAPTER 2

BALANCED VENTILATION. Any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust airflow rate is within 10 percent of the total mechanical supply airflow rate.

WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM. An exhaust and ~~system,~~ supply system, including associated ducts and controls~~, or combination thereof~~ that is designed to mechanically exchange indoor air for outdoor air where operating continuously or through a programmed intermittent schedule to satisfy the whole-house ventilation rate.

CHAPTER 15

M1505.4 Whole-house mechanical ventilation system. *Whole-house mechanical ventilation systems* shall be designed in accordance with Sections M1505.4.1 through M1505.4.4.

M1505.4.1 System design. The *whole-house mechanical ventilation system* shall provide *balanced ventilation* ~~consist of one or more supply or exhaust fans, or a combination of such, and associated ducts and controls~~. Local exhaust or supply fans are permitted to serve as part of such a system. Outdoor air ~~ducts connected~~ ventilation provided by a supply fan ducted to the return side of an air handler shall be considered as providing supply ventilation for the balanced system.

M1505.4.2 System controls. The *whole-house mechanical ventilation system* shall be provided with controls that enable manual override.

M1505.4.3 Mechanical ventilation rate. The *whole-house mechanical ventilation system* shall provide outdoor air at a continuous rate as determined in accordance with Table M1505.4.3(1) or Equation 15-1.

Ventilation rate in cubic feet per minute = (0.01 × total square foot area of house) + [7.5 × (number of bedrooms + 1)] **Equation 15-1**

Exception:

~~1.~~ The *whole-house mechanical ventilation system* is permitted to operate intermittently where the system has controls that enable operation for not less than 25 percent of each 4-hour segment and the ventilation rate prescribed in Table M1505.4.3(1) is multiplied by the factor determined in accordance with Table M1505.4.3(2).

Oct. 7 RMSB disapproved the following proposed provisions:

~~2. The minimum mechanical ventilation rate determined in accordance with Table M1505.4.3(1) or Equation 15–1 shall be permitted to be reduced by 30 percent, provided that all of the following conditions are met:~~

~~2.1 A ducted system supplies ventilation air directly to each sleeping room and to one or more of the following rooms:~~

~~a. Living room~~

~~b. Dining room~~

~~c. Kitchen~~

~~2.2. Where ventilation is distributed by a central furnace, the thermostat or other approved controller shall include a ventilation mode for the fan operation to circulate a minimum of 15 minutes per hour.~~

6 M1505.6 WATER CLOSETS, BATHING FACILITIES, OR SPA FACILITIES

Type of change: **Revisions to existing Oregon amendments**

Proposal summary: Revise existing amendments to require that any room with a toilet, bathing facilities, or spa facilities be provided with a mechanical ventilation system controlled by a dehumidistat, timer, or similar means of automatic control.

Code language: **M1505.6 Rooms with water closets, bathing facilities, or spa facilities**. All rooms containing waters closets, bathing facilities, or spa facilities shall be provided with a mechanical ventilation system controlled by a dehumidistat, timer, or similar means of automatic control.

7 M1601.4.1 JOINTS, SEAMS AND CONNECTIONS

Type of change: **New Oregon amendments**

Proposal summary: Revise this section to require that all joints and seams be sealed and that metal ductwork not be sealed with tape (mastic or other method required)

Oregon amendment exception for adjustable metal elbow gore, longitudinal pipe joints, integral seams within a boot fitting or similar fitting, and integral seams within a "Y" fitting, no. 4, is rescinded.

Code language: **M1601.4.1 Joints, seams and connections. …** Tape shall not be used to seal metal ductwork or be used as the only sealing method between metal duct and flexible or fibrous duct; tape is permitted to be used with metal duct at connections to equipment requiring future replacement.

8 M1601.4.11 DUCTWORK INSTALLATION LOCATION

Type of change: **New Oregon amendment**

Proposal summary: Adopt a new section requiring that supply and return ductwork be installed within the thermal envelope in accordance with Chapter 11, including the exception for ductwork deeply buried in insulation.

Code language: **M1601.4.11 Ductwork installation location.** All supply and return ductwork shall be installed within the building thermal envelope in accordance with Section N1105.3.