



Code Amendment Proposal Application

OMSC 22-02

**Department of Consumer & Business Services
Building Codes Division**

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APPLICANT INFORMATION

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PROPOSAL INFORMATION

Specialty code:	Oregon Mechanical Specialty Code (OMSC)
Code section(s):	Section 401.4 and 501.3.1
Briefly explain the subject of your proposal:	Remove the requirement for special approval of factory-built intake/exhaust termination combination fittings.

Code Review Committee Outcomes

Feb. 3 Approved as modified.

The committee approved the deletion of "approved", but disapproved the addition of "appliance."

Proposal: IMC 401.4 and 501.3.1

Submitted by: Mike Moore, Stator LLC on behalf of Broan-NuTone

Part I: Code Amendment Language

Revise the 2021 IMC as follows:

401.4 Intake opening location. Air intake openings shall comply with all of the following:

...

3. Intake openings shall be located not less than 3 feet (914 mm) below contaminant sources where such sources are located within 10 feet (3048 mm) of the opening. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an **approved** factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the **appliance** manufacturer's instructions.

[Rest of section unchanged]

501.3.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

...

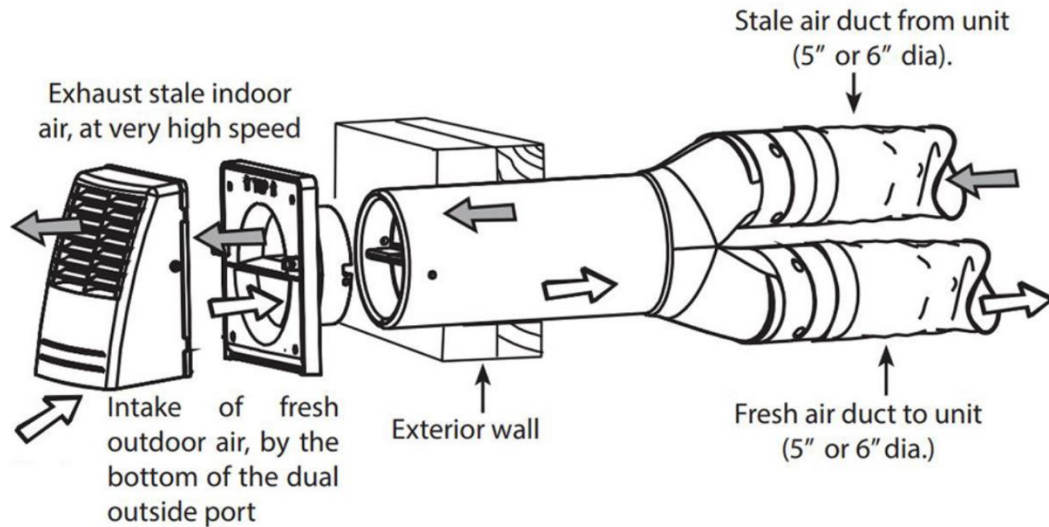
3. For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U; and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an **approved** factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the **appliance** manufacturer's instructions.

[Rest of section unchanged]

Part III: Code Amendment Proposal Criteria

Proposal

1. Describe the concept and purpose of this proposal. *Factory-built intake/exhaust combination termination fittings are regularly provided by manufacturers and installed by builders to separate mechanical air intakes from mechanical exhaust serving dwelling unit or sleeping unit mechanical ventilation systems. The included image from a ventilation system manufacturer's installation instructions provides an example of a typical fitting serving this purpose.*



Intake/exhaust combination terminations are regularly installed with heating and energy recovery ventilators (H/ERVs) used for dwelling units. Benefits associated with the use of these terminations include reduced duct length, improved architectural flexibility, reduced penetrations within the building envelope (and associated improvements in building durability), reduced leakage in the building envelope (and associated improvement in building energy efficiency), and reduced first-costs for builders and consumers.

Manufacturer tests conducted by Natural Resources Canada (NRC) have demonstrated that use of intake/exhaust combination terminations results in minimum cross-contamination of airflows (i.e., not exceeding 4%; see NRC report A1-007793). These results are aligned with ASHRAE 62.2 approval of such devices.

IMC Sections 401.4 and 501.3.1 approve the use of "approved factory-built intake/exhaust combination termination fittings" to separate the air streams associated with mechanical intake air openings and living space exhaust air, when the fitting is provided in accordance with manufacturer's instructions. Similarly, Section G2407.1 of the Fuel Gas Code (see below for reference) approves the use of concentric vent termination fittings to separate combustion air from flue gases provided that such fittings are installed "in accordance with the appliance manufacturer's instructions". Like the Fuel Gas Code's treatment of concentric vent termination fittings, no special approval should be required for factory-built intake/exhaust combination termination fittings when installed in accordance with appliance manufacturer's instructions.*

By removing the requirement for special approval of these terminations, the permitting and inspection burden and associated costs are reduced for code officials and builders.

**Fuel Gas Code reference: "G2407.1 (304.1) General. ...Direct-vent appliances, gas appliances of other than natural draft design, vented gas appliances not designated as Category I and appliances equipped with power burners, shall be provided with combustion, ventilation and dilution air in accordance with the appliance manufacturer's instructions."*

This proposal was submitted to the IMC Committee at the April 2021 Committee Action Hearings as M16-21 and was approved as submitted. It is expected to carry through to the 2024 IMC.

2. What problem in the existing Oregon code or national model code is this proposal solving? How does this amendment address the issue? If you have evidence demonstrating the problem, submit that information.

a) If this proposal corrects any unforeseen or probable outcomes resulting from the application of a code section, explain how. *This proposal removes the requirement for special approval of termination fittings that are regularly installed in accordance with the ventilation system manufacturer's installation instructions and in accordance with their listing.*

b) If this proposal corrects inadequate application by a code section to a method, material or design, explain how.

c) If this proposal eliminates conflicting, obsolete, or duplicative code provisions or standards between Oregon-adopted codes, statutes or regulations, explain why.

d) If this proposal is for a fire or life safety matter, or is it otherwise needed to protect the health, safety, welfare, comfort and security of occupants and the public, explain why.

e) If this proposal is necessary to address unique geographic or climatic conditions within Oregon, explain why.

f) If there are alternatives to this proposal that solve the problem, explain why this proposal is the best or a necessary solution. *The 2021 IMC permits factory-built intake/exhaust combination termination fittings to be used with ventilation systems only where special approval is granted. The 2021 language is an alternative to this proposal that removes the requirement for special approval. This proposal is superior to the 2021 language in that it reduces costs and time associated with special approval of a product that is already regularly installed in accordance with the ventilation system's manufacturer installation instructions and in accordance with the product's listing.*

g) If this proposal provides for the use of unique or emerging technologies, or promotes advances in construction methods, devices, materials and techniques, explain how. *This proposal supports the specification of factory-built intake/exhaust combination termination fittings for use with ventilation systems, especially H/ERVs, which are now required for most R-2 dwelling units in the prescriptive path of the OEESC. Benefits associated with the use of these terminations include reduced duct length, improved architectural flexibility, reduced penetrations within the building envelope (and associated improvements in building durability), reduced leakage in the building envelope (and associated improvement in building energy efficiency), and reduced first-costs for builders and consumers.*

h) If this proposal meets any energy conservation or indoor air quality requirements, explain how. *This proposal supports the cost-effective installation of ventilation systems (especially H/ERVs, which are required for most R-2 dwelling units by the prescriptive path of the OEESC) that support indoor air quality.*

i) If this proposal involves the adoption of an electrical or plumbing building product, note if the appropriate advisory board approved the product.

3. Has this been proposed at the national model code level. If so, explain when it was proposed, what happened, and why it was not adopted. Provide all associated national model code hearing information and background. *This proposal was submitted to the IMC Committee at the April 2021 Committee Action Hearings as M16-21 and was approved as submitted. It is expected to carry through to the 2024 IMC.*

Implementation and fiscal impact

1. Explain how the proposed provisions would be enforced? Are additional inspections or permits required? Describe any necessary equipment, training, tests or special certifications. *This proposal results in no additional requirements for enforcement; rather, it reduces the burden associated with permitting and inspection.*

2. What is the fiscal impact of this proposal? Provide a cost benefit analysis and include the resources or methods you used to determine the fiscal impact.

a) If this proposal adds to the cost of construction, explain how the added cost contributes to the health and safety of occupants, or is necessary to conserve scarce resources. *By removing the requirement for special approval of these terminations, the time and costs associated with permitting and inspection can be reduced.*

b) If there are any other adverse fiscal impacts or cost savings passed on to the general public, the construction industry, local and state governments, and small businesses, an interested person must describe the added or reduced cost of a proposed code amendment, and describe the adverse fiscal impact or cost savings in relation to the current Oregon specialty code.

c) If this proposal will affect the cost of development of a detached single-family dwelling, please indicate the cost. For the purposes of illustrating the change on the cost, please use a 6,000-squarefoot parcel and the construction of a 1,200-square-foot detached single-family dwelling on that parcel. The information on the cost must be sufficient to assist the division in preparing a housing cost impact statement.

Impacted stakeholders and other specialty codes

1. It is important that proposals be shared with stakeholders that will be impacted by them. Was this proposal developed with people or organizations likely to be affected by it? Has it been reviewed or shared with people or organizations likely to be affected by it? If so, who, and if not, why not? *Yes, this proposal was submitted to the IMC Committee at the April 2021 Committee Action Hearings as M16-21 and was approved as submitted. It is expected to carry through to the 2024 IMC.*

2. Does this proposal impact other specialty codes or statewide programs? *This proposal improves coordination across Oregon's codes by allowing for the reduction of costs associated with the installation of systems required within the prescriptive path of the OEESC (i.e., H/ERVs).*