



Washington State Building Code Council

Improving the built environment by promoting health, safety and welfare

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STATE BUILDING CODE OPINION NO. 24-16

CODE: 2021 International Mechanical Code

SECTION: 1109.2.5 Exception 2, Refrigerant Piping Shaft
ASHRAE 15 9.12.1.5.1 Item b, Shaft Alternate

QUESTION: The 2021 IMC Section 1109.2.5, Exception 2 is limited to refrigeration systems using Group A1 refrigerants. ASHRAE 15-2022 Section 9.12.1.5.1 Item b does not include specific limitations by refrigerant classification safety group. Is it acceptable to follow the “shaft alternative” requirements of ASHRAE 15 in lieu of IMC Section 1109.2.5, Exception 2, for other than Group A1 refrigerants?

ANSWER: **Yes. It is acceptable to install refrigeration systems without rated, vented shafts with other than Group A1 refrigerants where the refrigerant concentration does not exceed the amounts shown in ASHRAE Standard 34, Table 4-1 and 4-2. Please note the following:**

- Refrigerant piping to be protected in accordance with IMC Section 1109.3.1.
- Annular space of each refrigerant pipe to be sealed at each floor or ceiling assembly in accordance with IMC Section 1109.5.
- Refrigerant piping to be routed vertically where the adjacent space(s) meet the requirements for refrigerant quantity to not exceed the limits of ASHRAE 15-2022 and ASHRAE 34-2022.
- See ASHRAE 15-2022 with approved Addenda and ASHRAE 34-2022 with approved Addenda for requirements for latest refrigerant charge limit calculations for EDVC and LFL as well as latest values for RCL and LFL by refrigerant. Specifically, refer to ASHRAE 15-2022 for Addenda I for A2L refrigerants in certain system types only require compliance with ASHRAE 15-2022 Section 7.6 and not Section 7.3.1.

See [2027 IMC Code Change Proposal M75-24](#) (page 143) that deletes reference to Group A1 refrigerants to match ASHRAE 15-2022 requirements for further details

SUPERSEDES: None

REQUESTED BY: City of Bellevue