



## DEVELOPMENT SERVICES

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**To:** DSD Associates

**From:** Michael Shannon, PE, CBO, Director and Building Official

**Date:** March 6, 2025

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### INTERPRETATION NUMBER: CI-2025-002

**TITLE:** Clarification of Refrigerant Pipe Shafts Requirements

**CODE EDITION:** 2024 International Mechanical Code (IMC) as adopted and amended by the City of San Antonio Chapter 10 Amendment

**SECTION:** IMC 1109.2.5

**PURPOSE:** Clarify requirements for A2L refrigerants and define an exception to the code requirements as it relates to refrigerant pipe shafts.

**QUESTION 1:** What is A2L refrigerant and how does it differ from previous refrigerants?

**ANSWER:** A2L is a family of refrigerants that will be replacing older A1 refrigerants. A2L refrigerants have low toxicity and have mild flammability. A2L refrigerants are more efficient and have a lower global warming potential (GWP) rating when compared to A1 refrigerants.

**QUESTION 2:** Does my existing system need to be replaced?

**ANSWER:** It depends, A1 refrigerants are still available for repairs of existing systems, however, equipment using A1 refrigerants will no longer be manufactured after January 1st, 2025. New systems produced and installed after January 1<sup>st</sup> will utilize equipment designed for use with A2L refrigerants such as R32 or R454B.

**QUESTION 3:** When is a building exempt from needing a shaft for refrigerant piping?

**ANSWER:** Refrigerant piping using Group A1 or A2L that penetrates two or more floor/ceiling assemblies shall be enclosed in a fire-resistance rated shaft enclosure unless the refrigerant quantity does not exceed the limits of Table 1103.1 for the smallest occupied space through which the piping passes.

**QUESTION 4:** What is considered the “smallest occupied space through which the piping passes”?

**ANSWER:** The IMC defines occupied space as an enclosed space intended for human activities, excluding those spaces intended primarily for other purposes, such as storage rooms and equipment rooms, that are only intended to be occupied occasionally and for short periods of time. The smallest occupied space through which the piping passes would not include storage areas, bathrooms, stairways, or ramps. Any other space intended for human activities would need to be considered when calculating the maximum refrigerant quantities.

**QUESTION 5:** For new commercial projects, what information do I need to include in my plan review submittals?

**ANSWER:** Plan Review documents will need to include copper pipe sizing and lengths of runs for each size of system. Mechanical schedules will also need to include calculations showing the effective dispersal volume charge to ensure refrigerant quantities for the smallest occupied space are below the limits in accordance with IMC Table 1103.1. Systems with calculated refrigerant quantities above the refrigerant concentration level (RCL), would require the refrigerant piping to be placed within a fire-resistant shaft enclosure.



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