ERRATA SHEET FOR ANSI/ASHRAE STANDARD 15-2022,
Safety Standard for Refrigeration Systems

June 19, 2024

The corrections listed in this errata sheet apply to ANSI/ASHRAE Standard 15-2022. The outside back cover marking identifying the first printing is "Product code: 86306 9/22". Shaded items have been added since the previously published errata sheet dated July 17, 2023 was distributed.

(Note: Additions are shown in underline and deletions are shown in ~~strikethrough~~.)

Page	Erratum
7	**3.1 Defined Terms.** In Section 3.1 change the definition of ***system refrigerant charge*** from "m_c" to "m_s" as shown below. ***system refrigerant charge (m_s~~m_c~~):*** the total mass of *refrigerant* in an *independent circuit* of a system, including both factory and field *refrigerant* charge.
9	**5.2.1 High-Probability System.** Revise Section 5.2.1 as shown below. **5.2.1 High-Probability System.** A *high-probability system* ~~high-probability system~~ is any system in which the basic design or the location of components is such that a leakage of *refrigerant* from a failed connection, seal, or component will enter the *occupied space*. Typical *high-probability systems* ~~high-probability systems~~ are (a) *direct systems* or (b) *indirect open spray systems* in which the *refrigerant* is capable of producing pressure greater than the *secondary coolant*.
9	**5.2.2 Low-Probability System.** Revise Section 5.2.2 as shown below. **5.2.2 Low-Probability System.** A *low-probability system* ~~low-probability system~~ is any system in which the basic design or the location of components is such that a leakage of *refrigerant* from a failed connection, seal, or component cannot enter the *occupied space*. Typical *low-probability systems* ~~low-probability systems~~ are (a) *indirect closed systems* or (b) double *indirect systems* and (c) *indirect open spray systems* if the following condition is met: In a *low-probability* ~~low-probability~~ *indirect open spray system*, the *secondary coolant* pressure *shall* remain greater than *refrigerant* pressure in all conditions of operation and standby. Operation conditions are defined in Section 9.2.1, and standby conditions are defined in Section 9.2.1.2.
12-15	**7.3.2* Institutional Occupancies Refrigerant Systems Charge Limits.** Remove the asterisk from Sections 7.3.2, 7.3.3 and 7.3.4 as shown below highlighted in yellow. **7.3.2* Institutional Occupancies Refrigerant Systems Charge Limits.** **[…]** **7.3.3* Industrial Occupancies and Refrigerated Rooms.** **[…]** **7.3.4* Releasable Refrigerant Charge (m_{rel}) Determination.** **[…]**
13	**Figure 7-1 Refrigerant system charge limit compliance path – Part 1**. Revise Figure 7-1 as shown in the attached.
18	**7.6.1.2* Other Refrigeration Systems.** Revise Section 7.6.1.2 as shown below.

7.6.1.2* Other Refrigeration Systems. For any refrigeration system not meeting the requirements of Section 7.6.1.1, the *refrigerant* charge of the largest *independent circuit* of the system (*ms*) *shall not* exceed the value from Equation 7-9:

$$EDVC = M_{def} \times F_{LFL} \times F_{occ} \quad (7\text{-}9)$$

where
EDVC = *effective dispersal volume charge*, lb (kg) ~~ft³ (m³)~~
[…]

20 **Table 7-2 Refrigerant Charge Limit (M_{def}), kg (SI).** Revise the middle column (Height = 1.80 m) of the first row (Floor Area = 5 m²) of Table 7-2 as follows:

~~18~~ 1.8

21 **7.6.4 Mechanical Ventilation.** Revise Section 7.6.4 as shown below, to remove use of italics font.

7.6.4* Mechanical Ventilation. Mechanical ventilation for *refrigerant* safety mitigation *shall* comply with this section. Where a *ventilated enclosure* is provided to control a *refrigerant* leak, the refrigeration system and *ventilated enclosure shall* be *listed* and installed in accordance with UL 60335-2-40[5]/CSA C22.2 No. 60335-2-40[6] and *shall not* be required to comply with this section.

a. Mechanical ventilation *shall* be provided that will remove leaked *refrigerant* from the space where *refrigerant* leaking from the refrigeration system is expected to accumulate. The space *shall* be provided with an exhaust or transfer fan. Fans used to exhaust air ~~*exhaust air*~~ from the space or transfer air to a separate indoor space *shall* comply with Equation 7-10:
[…]

27 **8.11.9.** In Section 8.11.9 change "Section 8.11.6" to "Section 8.11.8" as shown below.

8.11.9 *Refrigerant detectors* required by Section 8.11.8 ~~8.11.6~~ *shall* meet all of the following conditions:
[…]

29 **Table 8-3 Calculation Method Equations.** Revise the coefficient in one equation as shown below.

$$Q' = \text{~~0.400~~ } 6.67 \times P^{0.62} \qquad \text{(SI)}$$

31 **Figure 8-2 Level 2 ventilation rate for Class 2L refrigerants (SI) with (b) detail.** Revise Figure 8-2 detail (b) as follows for five instances of chart labels:

1.9 ~~L/s~~ m³/s, 8.5 kg
1.6 ~~L/s~~ m³/s, 10 kg
1.4 ~~L/s~~ m³/s, 12 kg
1.2 ~~L/s~~ m³/s, 15 kg
0.88 ~~L/s~~ m³/s, 19 kg

54 **9.12.1.5.1 Shaft Alternative.** Revise Section 9.12.1.5.1 as shown below.

9.12.1.5.1 Shaft Alternative. A shaft enclosure *shall not* be required for the *refrigerant piping* for any of the following *refrigerating systems*:

a. Systems using R-718 (water) *refrigerant*
b. *Piping* in a *high-probability system* ~~high probability system~~ where the *refrigerant* concentration does not exceed the amounts shown in ASHRAE Standard 34[3], Table 4-1 or 4-2, for the smallest *occupied space* through which the *piping* passes
c. *Piping* located on the exterior of the building where vented to the outdoors

63 **INFORMATIVE APPENDIX A EXPLANATORY MATERIAL.** Revise Informative Appendix A as shown below.

[…]

~~**Section 7.3.2**~~

~~When a refrigeration system does not have a *refrigerant detector*, there will not necessarily be circulation (or ventilation) airflow. Thus, systems in accordance with Section 7.3.2 (no *refrigerant* detection and/or no continuous airflow), must use the worst-case distribution of leaked *refrigerant*.~~

~~**Section 7.3.3**~~

~~For refrigeration systems that do have a *refrigerant detector* but do not have ventilation, the airflow will mix leaked *refrigerant* throughout the spaces connected to ductwork; therefore, the volume of all rooms connected by ductwork is used.~~

~~**Section 7.3.4**~~

~~For refrigeration systems with *refrigerant* detection and ventilation, circulation will distribute leaked *refrigerant* throughout the rooms connected to the ductwork as well as locations connected to the ventilation.~~

Figure 7-1 Refrigerant system charge limit compliance path – Part 1