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.)

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<table>
<thead>
<tr>
<th>Page</th>
<th>Erratum</th>
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<tbody>
<tr>
<td>7</td>
<td><strong>3.1 Defined Terms.</strong> In Section 3.1 change the definition of <em>system refrigerant charge</em> from “m_c” to “m_s” as shown below.</td>
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<tr>
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<td><strong>system refrigerant charge (m_s):</strong> the total mass of refrigerant in an independent circuit of a system, including both factory and field refrigerant charge.</td>
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<td>9</td>
<td><strong>5.2.1 High-Probability System.</strong> Revise Section 5.2.1 as shown below.</td>
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<td><strong>5.2.1 High-Probability System.</strong> A <em>high-probability system</em> 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 <em>high-probability systems</em> are (a) direct systems or (b) indirect open spray systems in which the refrigerant is capable of producing pressure greater than the secondary coolant.</td>
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<td>9</td>
<td><strong>5.2.2 Low-Probability System.</strong> Revise Section 5.2.2 as shown below.</td>
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<td><strong>5.2.2 Low-Probability System.</strong> A <em>low-probability system</em> 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 <em>low-probability systems</em> are (a) indirect closed systems or (b) double indirect systems and (c) indirect open spray systems if the following condition is met: In a <em>low-probability indirect open spray system</em>, 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.</td>
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<tr>
<td>12-15</td>
<td><em><em>7.3.2</em> Institutional Occupancies Refrigerant Systems Charge Limits.</em>* Remove the asterisk from Sections 7.3.2, 7.3.3 and 7.3.4 as shown below highlighted in yellow.</td>
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<tr>
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<td><em><em>7.3.2</em> Institutional Occupancies Refrigerant Systems Charge Limits.</em>*</td>
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<td><em><em>7.3.3</em> Industrial Occupancies and Refrigerated Rooms.</em>*</td>
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<td><em><em>7.3.4</em> Releasable Refrigerant Charge (m_r) Determination.</em>*</td>
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<td>13</td>
<td><strong>Figure 7-1 Refrigerant system charge limit compliance path – Part 1.</strong> Revise Figure 7-1 as shown in the attached.</td>
</tr>
<tr>
<td>18</td>
<td><em><em>7.6.1.2</em> Other Refrigeration Systems.</em>* Revise Section 7.6.1.2 as shown below.</td>
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</tbody>
</table>
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 \((m_0)\) shall not exceed the value from Equation 7-9:

\[
EDVC = M_{def} \times F_{dV} \times F_{sec}
\]  

(7-9)

where

\(EDVC = \text{effective dispersal volume charge, lb (kg) ft}^3 (m^3)\)

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

<table>
<thead>
<tr>
<th>Height</th>
<th>Charge Limit (M_{d_{el}})</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.80 m</td>
<td>18</td>
<td>21</td>
</tr>
</tbody>
</table>

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*/CSA C22.2 No. 60335-2-40* 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 or transfer air from the space or transfer air to a separate indoor space shall comply with Equation 7-10:

\[ Q' = 0.400 \times 6.67 \times P^{0.62} \] (SI)

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 shall meet all of the following conditions:

[...]

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

\[ Q' = 0.400 \times 6.67 \times P^{0.62} \] (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 343, 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
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