



ADDENDA

**ANSI/ASHRAE Addendum v to
ANSI/ASHRAE Standard 34-2016**

Designation and Safety Classification of Refrigerants

Approved by the ASHRAE Standards Committee on January 12, 2019; by the ASHRAE Technology Council on January 16, 2019; and by the American National Standards Institute on January 17, 2019.

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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

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FOREWORD

Addendum v revises Section B2.4.1, "Leaks Under Storage/Shipping Conditions," to address fluids whose critical temperature is lower than 130°F (54.4°C).

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum v to Standard 34-2016

Modify Section B2.4.1 as shown.

B2.4.1 Leaks Under Storage/Shipping Conditions. To simulate leaks under storage/shipping conditions, the container shall be filled with the WCF to 90%, by mass, of the maximum fill. The maximum fill for fluids having a critical temperature greater than 130°F (54.4°C) is the calculated mass that gives a 100% liquid fill at 130°F (54.4°C). The maximum fill for fluids whose critical temperature is lower

than 130°F (54.4°C) is the calculated mass that gives 100% liquid fill at temperature $T = T_b + 0.8(T_b - T_c)$, where T_b is the bubble-point temperature at atmospheric pressure (101.3 kPa) and T_c is the fluid critical temperature. The charged blend shall be vapor leaked, 2% by mass of the initial charge per hour, at the following temperatures:

- 130°F (54.4°C);
- −40.0°F (−40.0°C) or the bubble point at 14.7 psia (101.3 kPa) plus 18.0°F (10.0°C), whichever is warmer; and
- the temperature that results in the WCFF between (a) and (b) if the WCFF does not exist at either (a) or (b). If no temperature between (a) and (b) results in the WCFF, then the fractionation test shall instead be conducted at 73.4°F (23.0°C). The applicant shall justify and document what constitutes the temperature at which the WCFF formulation occurs.

In the fractionation experiment, the composition of the head space gas and remaining liquid shall be determined by analysis. Analyses shall be made initially after 2% of the total charge has leaked (vapor leak), next at 10% loss of the initial mass, then at 10% mass loss intervals of the initial mass until atmospheric pressure is reached in the cylinder or no liquid remains. If liquid remains after 90% of the initial mass is lost and atmospheric pressure has not been reached, then the next and last analysis of head space gas and remaining liquid shall be made at 95% mass loss.

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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