

Subject 2166

July 20, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Halocarbon Clean Agent Extinguishing System Units, UL/ULC 2166, are being proposed for preliminary review and comment only:

- 1. For Preliminary Review Only: Automatic and manual systems**
- 2. For Preliminary Review Only: Exception for the one-year time leakage test addition**
- 3. For Preliminary Review Only: Extinguishing System Units for Protection of Volumes less than 100 cubic meters**
- 4. For Preliminary Review Only: Clarification to UL/ULC 2166 for consistency with UL/ULC 2127**
- 5. For Preliminary Review Only: Aging Tests - Plastic Materials**
- 6. For Preliminary Review Only: Air oven aging test of plastic materials**

COMMENTS DUE: AUGUST 3, 2018

This proposal is for review and comment only (no ballot at this time). Please note that comments on a preliminary review document will not receive a response from the proposal author through CSDS. Instead, the proposal author will be asked to review the comments and adjust the proposals and/or supporting rationale as the author determines to be appropriate. The preliminary review process is an informal mechanism that provides authors with the opportunity to refine their proposals before they advance to the next stage in UL's standards development process.

In some cases, the author of the proposals may choose to discontinue them. In this case, the author need not do anything after preliminary review has ended. Normally, the next step in the process is the more formal STP ballot and stakeholder review process. Only comments posted during the STP ballot and stakeholder review process will be provided with a response in CSDS.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

1. For Preliminary Review Only: Automatic and manual systems

RATIONALE

Proposal submitted by: Jairo González, RG Green Systems

In the way that UL 2166 is written (clauses 1.2 and 3.3), a manual release is forbidden to be used in automatic systems. According to NFPA 2001, a way of manual release shall not be required for automatic systems when the risk being protected is unoccupiable and the risk is in a location where employees are not normally present. Similar language is also in the Approval Standard for Clean Agent Extinguishing Systems, FM 5600.

This proposal is to make the current requirements in UL 2166 less restrictive.

PROPOSAL

1.2 These requirements also cover halocarbon clean agent automatic extinguisher units that may ~~do not~~ have a manual means of operation, and are intended to be used in accordance with the manufacturer's installation instructions. Automatic extinguisher units are not intended:

- a) For use as a general substitute for pre-engineered or engineered clean agent extinguishing system units; or
- b) For protection of fire risks larger than those specified in the manufacturer's instructions for a single unit by using multiple units.

3.3 AUTOMATIC EXTINGUISHER UNIT – A unit that ~~has no manual means of actuation and discharges extinguishing agent upon thermal actuation~~ and could have mechanical manual operation, is intended for use in normally unoccupied space, and is limited to a single protected area per 1.2.

2. For Preliminary Review Only: Exception for the one-year time leakage test addition

RATIONALE

Proposal submitted by: Blake Shugarman, UL LLC

This proposal allows the same exception for the one-year time leakage test regarding test sample orientation in the same manner as the 30-day elevated temperature and temperature cycling tests.

PROPOSAL

33.2 Representative sample extinguishing system units are to be placed in the vertical positions and their pressures checked after 1, 3, 6, and 12 months. Any loss in pressure or weight at constant ambient temperature is an indication of leakage.

Exception: System units intended for transportation and storage in the vertical position are not required to be tested in the horizontal.

3. For Preliminary Review Only: Extinguishing System Units for Protection of Volumes less than 100 cubic meters

RATIONALE

Proposal submitted by: Blake Shugarman, UL LLC

The standard does not currently provide requirements to address extinguishing system units intended to protect volumes less than 100 m³.

These proposals allow for the design quantity of extinguishing agent to be the same for Class A and Class B hazards, when the volume limitation referenced in the manual is less than 100 m³ and provides requirements for evaluation of these limitations without changing the requirements for evaluation of volumes greater than or equal to 100 m³.

PROPOSAL

35 Class A and B Fire Clean Agent Extinguishment Tests

35.1 General test parameters

35.1.1 General

35.1.1.0 For extinguishing system units that do not have a maximum protected volume limitation specified in the instruction manual, the minimum extinguishing concentrations shall be determined from the Class A and B Fire Extinguishment Tests and the Nozzle Distribution Verification Tests.

35.1.1.0.1 For extinguishing system units that have a maximum protected volume limitation less than 100 m³ specified in the instruction manual, the minimum extinguishing concentration shall be determined from the Nozzle Distribution Verification Tests and shall be the same for Class A and B fire hazards.

36 Nozzle Distribution Verification Tests

36.1 General

36.1.1.0 For extinguishing system units that do not have a maximum protected volume limitation specified in the instruction manual, the minimum extinguishing concentrations shall be determined from the Class A and B Fire Extinguishment Tests and the Nozzle Distribution Verification Tests.

36.1.1.0.1 For extinguishing system units that have a maximum protected volume limitation less than 100 m³ specified in the instruction manual, the minimum extinguishing concentration shall be determined from the Nozzle Distribution Verification Tests and shall be the same for Class A and B fire hazards.

36.2.2 An enclosure(s) is to be constructed having:

- a) The maximum area coverage and minimum height limitation ~~for the extinguishing system unit or nozzle being tested;~~ and
- b) The ~~minimum~~ and maximum protected height limitations and maximum volume limitation (as applicable).

Exception: Although the test enclosure(s) representing the maximum height limitation are not required to have the maximum coverage area, for extinguishing system units that do not have a maximum protected volume limitation specified in the instruction manual, they are to be at least 4 m (13.1 ft) ~~13.1 ft (4 m)~~ wide by 4 m (13.1 ft) ~~13.1 ft (4 m)~~ and 100 m³ (3531 ft³) in volume.