



UL 680

Underwriters Laboratories Inc. Standard for Safety

Emergency Vault Ventilators and Vault-Ventilating Ports



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Underwriters Laboratories Inc. (UL)
333 Pfingsten Road
Northbrook, IL 60062-2096

UL Standard for Safety for Emergency Vault Ventilators and Vault-Ventilating Ports, UL 680

Eighth Edition, Dated November 26, 2002

Revisions: This Standard contains revisions through and including June 25, 2009.

Summary of Topics

This revision of ANSI/UL 680 is being issued to reflect the reaffirmation of the ANSI approval of the Standard.

UL Standards for Safety are developed and maintained in the Standard Generalized Markup Language (SGML). SGML -- an international standard (ISO 8879-1986) -- is a descriptive markup language that describes a document's structure and purpose, rather than its physical appearance on a page. Due to formatting differences resulting from the use of UL's new electronic publishing system, please note that additional pages (on which no requirements have been changed) may be included in revision pages due to relocation of existing text and reformatting of the Standard.

Text that has been changed in any manner is marked with a vertical line in the margin. Changes in requirements are marked with a vertical line in the margin and are followed by an effective date note indicating the date of publication or the date on which the changed requirement becomes effective.

The revised requirements are substantially in accordance with UL's Proposal(s) on this subject dated May 1, 2009.

The revisions dated June 25, 2009 include a reprinted title page (page1) for this Standard.

As indicated on the title page (page 1), this UL Standard for Safety is an American National Standard. Attention is directed to the note on the title page of this Standard outlining the procedures to be followed to retain the approved text of this ANSI/UL Standard.

The UL Foreword is no longer located within the UL Standard. For information concerning the use and application of the requirements contained in this Standard, the current version of the UL Foreword is located on ULStandardsInfoNet at: <http://ulstandardsinfo.net/ulforeword.html>

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The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, figures, and/or other elements of the Standard having future effective dates as indicated in the note following the affected item. The prior text for requirements that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.

New product submittals made prior to a specified future effective date will be judged under all of the requirements in this Standard including those requirements with a specified future effective date, unless the applicant specifically requests that the product be judged under the current requirements. However, if

the applicant elects this option, it should be noted that compliance with all the requirements in this Standard will be required as a condition of continued Listing and Follow-Up Services after the effective date, and understanding of this should be signified in writing.

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This Standard consists of pages dated as shown in the following checklist:

Page	Date
1	June 25, 2009
2-3	September 24, 2004
4-5	November 26, 2002
6	September 24, 2004
7-17	November 26, 2002
18	September 24, 2004
19-40	November 26, 2002
A1-A2	March 29, 2006

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UL 680

Standard for Emergency Vault Ventilators and Vault-Ventilating Ports

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Fifth Edition – October, 1985
Sixth Edition – September, 1991
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Eighth Edition

November 26, 2002

This ANSI/UL Standard for Safety consists of the Eighth Edition including revisions through June 25, 2009.

The most recent designation of ANSI/UL 680 as a Reaffirmed American National Standard (ANS) occurred on June 25, 2009. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, or effective date information. Any other portions of this ANSI/UL standard that were not processed in accordance with ANSI/UL requirements are noted at the beginning of the impacted sections.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <http://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 These requirements cover emergency vault ventilators and vault-ventilating ports for installation in a wall.

1.2 Emergency vault ventilators are intended to provide fresh air to persons locked in the vault by accident or during a robbery.

1.3 Vault-ventilating ports are intended for connection to an outside ventilating system that provides circulating air while the vault is open.

1.4 These requirements are intended to evaluate the integrity of electrical wiring and components and to establish burglary resistant ratings. The ratings, based on the net working time to effect entry, are as follows:

- a) Class M – 1/4 hour;
- b) Class 1 – 1/2 hour;
- c) Class 2 – 1 hour; and
- d) Class 3 – 2 hours.

1.5 When installed in either a vault door or modular panel that complies with the requirements in the Standard for Burglary Resistant Vault Doors and Modular Panels, UL 608; or a reinforced concrete wall according to the manufacturer's instructions and the Standard Classification for Bank and Mercantile Vault Construction, ASTM F 1090, the products covered by these requirements do not affect the burglary resistance of the vault wall.

1.6 These requirements do not cover protection against entry by attacks with a burning bar (thermal lance) or explosives.

1.7 These units are intended to be installed in accordance with the provision of the National Electrical Code, NFPA 70. However, it is intended that inspection authorities having jurisdiction be consulted before installation of electrical connections.

1.8 Products covered by these requirements are intended for installation in vaults that are used for the storage of valuables, and that are protected by special security measures that cannot be forced using normal rescue equipment, and require waiting for a time-lock or similar device to release entrapped individuals.

2 General

2.1 Components

2.1.1 Except as indicated in 2.1.2, a component of a product covered by this standard shall comply with the requirements for that component. See Appendix A for a list of standards covering components used in the products covered by this standard.

2.1.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or
- b) Is superseded by a requirement in this standard.

2.1.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.1.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

2.2 Units of measurement

2.2.1 When a value for measurement is followed by a value in other units in parentheses, the first stated value is the requirement.

2.3 Undated references

2.3.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

3 Instructions

3.1 A copy or draft of the operating and installation instructions intended to accompany each product as produced is to be used as a reference in the examination and test of the product.

3.2 The instructions shall include such directions and information as deemed by the manufacturer of the product to be required for proper and safe installation, maintenance, operation, and use of the product.

3.3 The instructions shall specify that conduit used for electrical connections shall not form a direct path through the wall, and shall be offset at least once and preferably twice.

CONSTRUCTION

4 General

4.1 A unit shall be constructed so that it is not capable of readily being rendered mechanically inoperative from outside the vault.

4.2 A vault-ventilating port shall be provided with a visual indicator that will indicate when the port is in the closed position. An emergency vault ventilator shall incorporate a visual indication that indicates the location of the unit to a person inside the vault.

4.3 Direct communication shall be provided through an emergency vault ventilator for voice communication and passage of small tools, food, and similar items, from outside the vault.

4.4 An emergency vault ventilator shall be capable of delivering not less than 10 cubic feet per minute (4.7 dm³/s) of air into the vault and expelling an equal amount of air simultaneously.

4.5 An emergency vault ventilator shall provide a minimum opening of 2 square inches (12.9 cm²) for natural ventilation, should the electric power fail.

5 Electric Shock

5.1 Any part that is exposed only during operator servicing shall not present the risk of electric shock. See Electric Shock Current Test, Section 30.

6 Frames and Enclosures

6.1 A unit shall be provided with one or more enclosures to afford protection against accidental contact with uninsulated live parts and reduction of spacings, loosening, or displacement of electrical parts.

6.2 Operating parts, such as gear mechanisms, light-duty relays, and similar devices, shall be protected against fouling by dust or other material which affects their intended operation.

6.3 The thickness of cast metal for an enclosure shall be as indicated in Table 6.1.