

UL 555

ISBN 0-7629-1165-4

Fire Dampers

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UL Standard for Safety for Fire Dampers, UL 555

Seventh Edition, Dated July 12, 2006

Summary of Topics

The Seventh Edition of the Standard for Fire Dampers, UL 555 has been issued to reflect the latest ANSI approval date and to incorporate the proposals dated February 17, 2006 and June 2, 2006. These proposals included the following:

- ***The revision of allowable clearance between parts during and after a fire test.***
- ***The revision to delete the "Ambient" rating from 14.1.3.***
- ***The deletion of paragraph 1.13 which addresses issues specific to the certification of a product.***
- ***Revisions to update references throughout the standard.***
- ***Editorial revisions throughout standard.***

The revised requirements are substantially in accordance with UL's Proposal(s) on this subject dated February 17, 2006 and June 2, 2006.

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.

As indicated on the title page (page1), this UL Standard for Safety has been adopted by the Department of Defense.

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>

The master for this Standard at UL's Northbrook Office is the official document insofar as it relates to a UL service and the compliance of a product with respect to the requirements for that product and service, or if there are questions regarding the accuracy of this Standard.

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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that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.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 Classification 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
1-30	July 12, 2006
A1-A2	July 12, 2006
B1-B2	July 12, 2006



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JULY 12, 2006

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UL 555

Standard for Fire Dampers



ANSI/UL 555-2006

The third edition was titled Fire Dampers and Ceiling Dampers.

First Edition – October, 1968
Second Edition – July, 1973
Third Edition – May, 1979
Fourth Edition – January, 1990
Fifth Edition – May, 1995
Sixth Edition – June, 1999

Seventh Edition

July 12, 2006

The most recent designation of ANSI/UL 555 as an American National Standard (ANSI) occurred on July 7, 2006. The ANSI approval does not include the Cover Page, Transmittal Pages, or the Title Page.

This ANSI/UL Standard for Safety, which consists of the seventh edition, is under continuous maintenance, whereby each revision is ANSI approved upon publication. 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>.

An effective date included as a note immediately following certain requirements is one established by Underwriters Laboratories Inc.

The Department of Defense (DoD) has adopted UL 555 on July 29, 1994. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

Revisions of this Standard will be made by issuing revised or additional pages bearing their date of issue. A UL Standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements.

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INTRODUCTION

1 Scope

1.1 These requirements cover fire dampers that are intended for use where air ducts penetrate or terminate at openings in walls or partitions; in air transfer openings in partitions; and where air ducts extend through floors as specified in the Standard for Installation of Air-Conditioning and Ventilating Systems, NFPA 90A. Fire dampers are intended for installation in accordance with codes such as the BOCA National Mechanical Code, SBCCI Standard Mechanical Code, ICBO Uniform Mechanical Code, and the International Mechanical Code.

1.2 Fire dampers are evaluated for use as either:

- a) Fire Dampers for Static Systems – For HVAC systems that are automatically shut down in the event of a fire or for air transfer openings in walls or partitions,
- b) Fire Dampers for Dynamic Systems – For HVAC systems that are operational in the event of a fire, or
- c) Combination Fire and Smoke Dampers – For locations in HVAC systems where a fire damper and a smoke damper are required at a single location.

1.3 Under these requirements a fire damper is subjected to a standard fire exposure, controlled to achieve specified temperatures throughout a specified time period, followed by the application of a specified standard hose stream. This exposure by itself is not representative of all fire conditions; conditions vary with changes in the amount, nature, and distribution of fire loading, ventilation, compartment size and configuration, and heat sink characteristics of the compartment. These requirements provide a relative measure of fire performance of fire damper assemblies under these specified fire exposure conditions. Any variation from the construction or conditions that are tested such as method of installation and materials has the potential to substantially change the performance characteristics of the fire damper assembly.

1.4 Fire dampers for static systems (no air flow through the damper) are intended to close automatically upon the detection of heat by a heat responsive device.

1.5 Under these requirements combination fire and smoke dampers and fire dampers for dynamic systems are exposed to standardized heat and airflow conditions and are evaluated for dynamic closure under these conditions.

1.6 Combination fire and smoke dampers shall also comply with the applicable requirements in the Standard for Smoke Dampers, UL 555S.

1.7 Fire dampers for dynamic systems are intended for use where the airflow is operational at the time of fire, such as in a smoke control system, or from other situations in which the fan system is operational at the time of a fire.

1.8 Where fire dampers are required in ducts that penetrate fire barriers and where the duct is also used as part of a smoke control system, the system designer shall ascertain which type of fire damper is appropriate for the application. Fire dampers for dynamic systems are evaluated only for dynamic closure under heated airflow conditions. Combination fire and smoke dampers that have an elevated temperature rating are evaluated for dynamic closure under heated airflow conditions and they are also evaluated to operate under heated air conditions.

1.9 Tests conducted in accordance with these requirements are intended to demonstrate the performance of fire dampers during the period of fire test exposure and are not intended to determine acceptability of fire dampers for use after exposure to fire.

1.10 It is the intent that tests conducted in accordance with the test methods described herein develop data to enable regulatory authorities to determine the acceptability of fire damper assemblies for use in locations where fire resistance of a specified duration is required.

1.11 Fire dampers are intended to close automatically upon the detection of heat by the use of a fusible link or other heat responsive device.

1.12 These requirements do not cover:

- a) Performance of the fire damper assembly in walls, partitions, or floors constructed of materials other than those tested.
- b) The performance of the fire damper assembly when installed using methods other than those fire tested.
- c) Measurement of heat transmission through a fire damper assembly.
- d) Measurement of the degree of control or limitation of the passage of smoke or products of combustion through the fire damper assembly.

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 generally 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 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

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 Glossary

3.1 For the purpose of this Standard the following definitions apply.

3.2 DYNAMIC CLOSURE – The closure of a fire damper under conditions of airflow and heat upon activation of the heat responsive device.

3.3 HEAT RESPONSIVE DEVICE – A safety device responsive to changes in temperature in order to activate the closing mechanism of fire dampers.

3.4 HEATED AIR OPERATION – The operation of a smoke damper by means of the actuator when the damper is subjected to conditions of airflow and heat.

3.5 PRIMARY HEAT RESPONSIVE DEVICE – The heat responsive device with the lower temperature rating for fire dampers equipped with two heat responsive devices.

3.6 REOPENABLE FIRE DAMPER – A fire damper equipped with a primary and a secondary heat responsive device. The fire damper is operable after the primary heat responsive device activates, and not after the secondary device activates.

3.7 SECONDARY HEAT RESPONSIVE DEVICE – The heat responsive device with the higher temperature rating for reopenable fire dampers.

3.8 VOLUME CONTROL DAMPER – A fire damper employing position devices that enable the fire damper to remain in positions other than fully open or fully closed.