



UL 1978

# Underwriters Laboratories Inc. Standard for Safety

## Grease Ducts



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UL Standard for Safety for Grease Ducts, UL 1978

Fourth Edition, Dated December 13, 2010

### **Summary of Topics**

***This New Edition of ANSI/UL 1978 includes editorial revisions such as reference updates, re-organization of sections, renumbering, and pagination. These revisions are considered to be non-substantive and not subject to UL's STP process.***

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DECEMBER 13, 2010



ANSI/UL 1978-2005 (R2009)

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## UL 1978

### Standard for Grease Ducts

First Edition – March, 1995

Second Edition – June, 2002

Third Edition – January, 2005

### Fourth Edition

December 13, 2010

This ANSI/UL Standard for Safety consists of the Fourth Edition.

The most recent designation of ANSI/UL 1978 as a Reaffirmed American National Standard (ANS) occurred on May 29, 2009. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, or effective date information.

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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## CONTENTS

### INTRODUCTION

|                              |   |
|------------------------------|---|
| 1 Scope .....                | 5 |
| 2 Components .....           | 5 |
| 3 Units of Measurement ..... | 6 |
| 4 Undated References .....   | 6 |
| 5 Terminology .....          | 6 |
| 6 Glossary .....             | 6 |

### CONSTRUCTION

|                           |   |
|---------------------------|---|
| 7 Materials .....         | 7 |
| 8 Assembly .....          | 8 |
| 9 Joints .....            | 9 |
| 10 Support Assembly ..... | 9 |

### PERFORMANCE

|                                                                                        |    |
|----------------------------------------------------------------------------------------|----|
| 11 General .....                                                                       | 10 |
| 12 Test Installations .....                                                            | 11 |
| 13 Temperature Measurement .....                                                       | 16 |
| 14 Temperature Test – 500°F (260°C) Flue Gases .....                                   | 19 |
| 15 Abnormal Temperature Test .....                                                     | 20 |
| 16 Leakage Test .....                                                                  | 20 |
| 17 Vertical Support Test .....                                                         | 22 |
| 18 Strength Tests .....                                                                | 22 |
| 18.1 General .....                                                                     | 22 |
| 18.2 Impact test .....                                                                 | 22 |
| 18.3 Longitudinal force test .....                                                     | 24 |
| 18.4 Load test for grease duct elbows .....                                            | 24 |
| 18.5 Grease duct joint load test .....                                                 | 25 |
| 18.6 Grease duct joint torsion test .....                                              | 26 |
| 19 Fire And Leakage Test Of Grease Duct Access Doors and Fittings .....                | 26 |
| 20 Pressure Tests For Fittings Exposed To Fire Extinguishing System Pressure .....     | 27 |
| 21 Tensile Strength, Elongation, And Change In Volume Tests Of Gaskets And Seals ..... | 28 |
| 21.1 General .....                                                                     | 28 |
| 21.2 Tensile strength and ultimate elongation tests .....                              | 28 |
| 21.3 Volume change test .....                                                          | 29 |

### MARKINGS

|                  |    |
|------------------|----|
| 22 General ..... | 29 |
|------------------|----|

### INSTRUCTIONS

|                                    |    |
|------------------------------------|----|
| 23 Installation Instructions ..... | 30 |
|------------------------------------|----|

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**APPENDIX A**

|                               |    |
|-------------------------------|----|
| Standards for Components..... | A1 |
|-------------------------------|----|



## INTRODUCTION

### 1 Scope

1.1 These requirements cover factory-built grease ducts, and grease duct assemblies that are intended to be installed at reduced clearances where 18 inch (457 mm) clearance is specified in the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96, and the International Mechanical Code.

1.2 These requirements also cover modular grease duct assemblies, unwelded connections between adjoining duct parts, fittings, access doors, and the like intended for use with grease ducts installed in accordance with NFPA 96 and the International Mechanical Code.

1.3 These requirements do not address NFPA 96 and the International Mechanical Code requirements for grease duct enclosures. Grease ducts covered only by these requirements are intended to be installed in a fire resistive enclosure when required by NFPA 96 or the IMC.

1.4 Requirements used to evaluate the effectiveness of the combination of a grease duct and an enclosure as a fire rated enclosure system and through penetration firestop system, as well as the enclosure's effect on the grease duct are contained in Standard for Tests of Fire Resistive Grease Duct Enclosure Assemblies, UL 2221, and ASTM E 2336, Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems.

### 2 Components

2.1 Except as indicated in 2.2, 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.

2.2 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.

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

2.4 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.

### 3 Units of Measurement

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

### 4 Undated References

4.1 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.

### 5 Terminology

5.1 The term "grease duct" as used in these requirements refers to all grease ducts and grease duct assemblies and any part thereof covered by these requirements unless specifically noted otherwise.

### 6 Glossary

6.1 For the purpose of these requirements, the following definitions apply.

6.2 ACCESS DOOR – A door or cover plate that when opened provides a means for cleaning the grease duct.

6.3 CAPPED TEES – A part of a grease duct shaped like a "T" that supports, connects, or both, the duct to the hood or vertical section. An access door or cap is provided to facilitate cleaning.

6.4 COMBUSTIBLE MATERIAL – Material made of or surfaced with wood, compressed paper, plain fibers, or other material that will ignite and burn, as applied to materials adjacent to or in contact with heat-producing appliances, grease duct and vent connectors, steam and hot water pipes, and warm air ducts. Such material shall be considered as combustible even though flameproofed, fire-retardant treated, or plastered.

6.5 FITTINGS – Components of the grease duct system such as tees, elbows, and wyes.

6.6 GREASE TRAP – A cup-like or U-shaped part provided on a grease duct that is intended to accumulate grease for removal by personnel.

6.7 NONCOMBUSTIBLE MATERIAL – A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. Materials that are reported as passing ASTM E136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C are considered noncombustible materials.

6.8 THIMBLE – The part of a grease duct that is intended to provide a means for routing the grease duct assembly through a combustible wall.

## CONSTRUCTION

### 7 Materials

7.1 A grease duct part shall be made of noncombustible corrosion-resistant materials. Metals shall not be used in combinations at any location within the assembly that are capable of causing galvanic action.

7.2 The minimum thickness of sheet metal, including any coatings, and of other materials shall comply with Table 7.1.

**Table 7.1**  
**Minimum thickness of sheet metal**

|                                                                              | Minimum thickness of sheet metal |        |
|------------------------------------------------------------------------------|----------------------------------|--------|
|                                                                              | inches                           | (mm)   |
| Aluminum alloys (1100, 3003)                                                 | 0.018                            | (0.46) |
| Steel                                                                        | 0.0598                           | (1.52) |
| Galvanized steel (G90 coating class)                                         | 0.018                            | (0.46) |
| Aluminum-coated steel [0.40 ounce per square foot (0.12 kg/m <sup>2</sup> )] | 0.018                            | (0.46) |
| Stainless steel                                                              | 0.012                            | (0.30) |
| Porcelain-coated steel-base metal                                            | 0.026                            | (1.35) |

7.3 Parts of a grease duct or conduit subject to contact by grease-laden vapors shall be of stainless steel or porcelain-coated steel of the minimum thickness specified in Table 7.1.

7.4 An outer casing or other structural part shall be of stainless steel, galvanized steel, or aluminum-coated steel when:

- a) Deterioration or corrosion would cause the grease duct system to collapse or otherwise increase the risk of injury to persons; or
- b) It is subject to condensation.

7.5 Components of a grease duct, or subassemblies, shall be of materials and thicknesses as specified in Table 7.1.

7.6 A painted part made of steel not less than 0.053 inch (1.35 mm) thick, or of cast iron not less than 0.125 inch (3.18 mm) thick, and for use only in the interior of buildings, is corrosion resistant provided that coatings remain intact at the maximum temperatures obtained on the part during the tests specified in these requirements.