UL 710A

STANDARD FOR SAFETY

Rooftop Grease and Oil Collection and Containment Systems

UL Standard for Safety for Rooftop Grease and Oil Collection and Containment Systems, UL 710A

First Edition, Dated July 10, 2015

Summary of Topics

This First Edition of UL 710A covers Rooftop Grease and Oil Collection and Containment Systems.

The new requirements are substantially in accordance with Proposal(s) on this subject dated July 11, 2014.

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that have been revised and that have a future effective date are located after the Standard, and are preceded by a ″SUPERSEDED REQUIREMENTS″ notice.

No Text on This Page

UL 710A

Standard for Rooftop Grease and Oil Collection and Containment Systems

First Edition

July 10, 2015

This UL Standard for Safety consists of the First Edition.

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.

No Text on This Page

CONTENTS

INTRODUCTION

1 Scope 4
2 Components 4
3 Units of Measurement 4
4 Undated References 5

CONSTRUCTION

5 General 5

PERFORMANCE

6 Fire Exposure Tests 5
6.1 Preparation of samples 5
6.2 Flaming brand test 6
6.3 Flaming grease test 6
6.4 Fire exposure test 6
7 Grease Containment Tests 7
7.1 Rain test (Dry) 7
7.2 Rain test (Oil soaked) 7
8 Mechanical Abuse Tests – Impact Tests 7

MARKINGS

9 General 7

INSTRUCTIONS

10 General 8

APPENDIX A

Standards for Components A1

INTRODUCTION

1 Scope

1.1 These requirements cover rooftop grease and oil collection and containment systems for use on roof coverings or roof systems achieving Class A, B, and C when tested in accordance with Standard for Standard Test Methods for Fire Tests of Roof Covering Materials, UL 790.

1.2 The rooftop grease and oil collection and containment systems covered by these requirements are intended solely for use outdoors as collection and containment systems. The collection and containment systems are not intended for indoor household use, nor are they intended for permanent attachment to the mounting surface of the roofing system.

1.3 These systems are intended to be installed in accordance with the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96, the International Mechanical Code (IMC) and/or the Uniform Mechanical Code (UMC).

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 generally 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.

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.

CONSTRUCTION

5 General

5.1 The enclosure of a collection and containment system shall be formed and assembled such that it has the strength and rigidity necessary to resist the abuses likely to be encountered during its intended service. The degree of resistance inherent in the system shall preclude total or partial loosening or displacement of parts, and other serious defects, which alone or in combination constitute a risk of fire, explosion, or injury to persons.

5.2 Among the factors taken into consideration if an enclosure is being judged for acceptability are its:

a) Mechanical strength;

b) Resistance to impact;

c) Moisture-absorption properties;

d) Flammability;

e) Resistance to corrosion; and

f) Resistance to distortion at temperatures to which the enclosure may be subjected under conditions of intended or abnormal use.

PERFORMANCE

6 Fire Exposure Tests

6.1 Preparation of samples

6.1.1 The wooden deck for the fire exposure tests is to be constructed with nominal one by eight inch pine boards and conditioned as described for Class A and B burning-brand decks in the Standard for Standard Test Methods for Fire Tests of Roof Covering Materials, UL 790. The deck is to be mounted at the maximum incline recommended by the manufacturer but not greater than an incline of 5 inches per horizontal foot (127 mm per 0.3 m).

6.2 Flaming brand test

6.2.1 This test shall demonstrate the effect of having the system exposed to flaming solid particles falling onto the system from a grease duct ventilator. The system shall not sustain combustion and the system shall confine the burning to the immediate area of the brand. Also, there shall be no evidence of burning or ignition of the supporting surface. For the purpose of this Standard, sustained flaming is considered any flaming which continues uninterrupted for 5 seconds or more.

6.2.2 Flaming wood Class C test brands as described in the Standard for Standard Test Methods for Fire Tests of Roof Covering Materials, UL 790 shall be dropped onto the surface of the rooftop grease and oil collection and containment system. Brands are to be placed at one or two minute intervals. No brand is to be placed closer than 4 inches (102 mm) to the point where the previous brand was located. The lesser of 20 brands or a quantity to cover the surface of the containment system are to be used.

6.3 Flaming grease test

6.3.1 This test shall demonstrate the effect of flaming oil dripping onto the system from a ventilator. The rooftop grease and oil collection and containment system shall not sustain combustion and the system shall confine the burning to the immediate area of the oil drops. Also, there shall be no evidence of burning or ignition of the supporting surface. For the purpose of this Standard, sustained flaming is considered any flaming which continues uninterrupted for 5 seconds or more.

6.3.2 The system shall be installed on the wooden deck surface. Eight ounces of vegetable oil shall be ignited and allowed to burn for 20 seconds prior to any drops being made. Drops of the flaming oil shall then be allowed to fall on the collection and containment system at intervals of 10 seconds between drops. Each drop is to be no less than 1/4 ounce, randomly dropped at different locations around the portion of the containment system intended to receive oil. At this rate – there should be no more than approximately 32 drops of oil, and test should last for a duration of no more than 5 minutes and 10 seconds.

6.4 Fire exposure test

6.4.1 This test shall demonstrate the effect the system should have when a flame is applied to the system from an external flame source. The flames shall be confined to the system and there shall be no evidence that the flame is spreading beyond the system and there shall be no evidence of the roof deck, under the system, burning. In addition, there shall be no evidence of burning particles blown outside the collection and containment systems enclosure.

6.4.2 The system shall be installed on a roof structure as described in the Standard for Standard Test Methods for Fire Tests of Roof Covering Materials, UL 790. An intermittently applied Luminous Gas Flame at a temperature of 1400°F (760°C) shall be applied for 15 cycles to the system. During this test, the airflow shall be maintained at 12 MPH (5.4 m/s).

7 Grease Containment Tests

7.1 Rain test (Dry)

7.1.1 A representative sample of a rooftop grease or oil collection and containment system shall be subjected to an application of simulated rain for one-hour. The test apparatus described for the water spray test in the Standard for Power Ventilators, UL 705 shall be used to apply the simulated rain. After the application of the rain, grease or oil shall be dripped onto the system. Water shall drain from the system and have no apparent effect on the ability of the system to absorb oil.

7.2 Rain test (Oil soaked)

7.2.1 A representative sample, soaked with oil, shall be subjected to an application of simulated rain for one-hour. The system shall not permit the oil to wash away. After the application of the rain, a cup of oil shall be dripped onto the system and the system's ability to absorb the oil shall be verified.

8 Mechanical Abuse Tests – Impact Tests

8.1 This test is conducted on three representative samples formed from thermoplastics that may affect the performance of the rooftop grease and oil collection and containment system.

8.2 The samples shall withstand the impact described in 8.3 without evidence of damage to the component and the component shall remain structurally sound.

8.3 Each of three samples of the system shall be subjected to a single impact. This impact is to be produced by dropping a steel sphere, 2 inches (50.8 mm) in diameter, and weighing 1.18 lb. (0.535 kg) mass from a height of 51 inches (1.29 m) to produce a 5 ft-lb. (6.78 joules) impact. The steel sphere shall strike the surface in a location different from those in the other two impacts. For surfaces other than the top of an enclosure, either the sample could be supported on the side and subjected to the ball impact mentioned above, or the steel sphere is to be suspended by a cord and swung as a pendulum, dropping through a vertical distance of 51 inches (1.29 m) to strike the surface with a 5 ft-lb. (6.78 joules) impact.

MARKINGS

9 General

9.1 Each collection and containment system shall be marked with the following:

a) Manufacturer's name or Trademark;

b) Model, type, or catalog designation; and

c) The date or other dating period of manufacture, which shall not exceed three consecutive months.

9.2 The following marking shall be visible after installation and provided in upper case letters at least 3/16 inches (4.8 mm) in height: "CAUTION – PRODUCT MUST BE CHANGED WHEN THE (collection and containment nomenclature) IS SATURATED WITH GREASE OR OIL".