UL 199H

Outline of Investigation for Fire Testing Of Specific Application Sprinklers For Use In Horizontal Concealed Spaces

Issue No. 2

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Summary of Topics

This new Issue of the Outline of Investigation for Fire Testing of Specific Application Sprinklers for Use in Horizontal Concealed Spaces, UL 199H, is being issued address testing of sprinklers with larger draft curtain areas or without draft curtains.

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INTRODUCTION

1 Scope

1.1 These requirements cover the fire testing of specific application sprinklers for use in Light Hazard horizontal concealed spaces formed by open wood trusses and wood joists when the sprinklers are installed in accordance with the manufacturer's installation instructions and the Standard for the Installation of Sprinkler Systems, NFPA 13.

1.2 Sprinklers investigated in accordance with this Outline shall also comply with the applicable requirements in the Standard for Automatic Sprinklers for Fire-Protection Service, UL 199, not including the fire and water distribution tests.

2 Components

2.1 Except as indicated in 2.2, a component of a product covered by this Outline shall comply with the requirements for that component.

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 Outline, or

b) Is superseded by a requirement in this Outline.

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 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.

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4 Undated References

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

PERFORMANCE

5 Open Wood Truss Fire Tests

5.1 General

5.1.1 When subjected to the fire tests described in 5.2.1 – 5.3.6, water discharged from the sprinklers shall be capable of controlling test fires originated in an open truss concealed space such that compliance with the following requirements are demonstrated:

a) The sprinklers located beyond the draft curtains shall not operate. If testing is conducted without draft curtains, the sprinklers installed nearest the ends of the long side of the test structure shall not operate.

b) The sprinklers shall discharge water into the space in such a manner to prevent the loaded wood trusses from collapsing.

5.1.2 The temperature rating of the sprinklers subjected to the tests specified in 5.2.1 – 5.3.6 shall be representative of the sprinkler temperature ratings referenced in the manufacturer's installation instructions.

5.1.3 Where sprinklers are intended to be installed within an area enclosed by draft currents not exceeding 1000 ft^2 (92.9 m^2) as referenced in the manufacturer's installation instructions, all of the sprinklers within the draft curtain area are to be included in the hydraulic calculation for a sprinkler system design.

5.1.4 Where sprinklers are intended to be installed without draft curtains or in a draft curtain area greater than 1000 ft^2 (92.9 m^2), the number of sprinklers required to be included in the hydraulic calculation for a sprinkler system design, as referenced in the manufacturer's installation instructions, shall be in accordance with one of the following:

a) Not be less than 150 percent of the maximum number of sprinklers that operate during the fire test series, but no less than 6 sprinklers. In addition, in no case shall the hydraulic design area referenced in the manufacturer's installation instructions be less than 1000 ft^2 (92.9 m^2); or

b) All the sprinklers within the draft curtain area.

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