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REPORT

on

Automatic Sprinklers

The Viking Corporation
Hastings, MI

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GENERAL

INTRODUCTION:

This Report describes the investigation of automatic sprinklers intended to be installed in accordance with the National Fire Protection Association Standard For The Installation of Sprinkler Systems, NFPA 13.

OBJECT:

The object of this investigation was to determine compliance of the automatic sprinklers with the Standard For Automatic Sprinklers For Fire Protection Service, UL 199 and The Standard for Automatic Sprinklers for Fire Protection Service, ULC/ORD C199-03.

PLAN:

The investigation of the automatic sprinklers consisted of conducting a product conformance evaluation and performance testing as described in UL 199, 11th Edition and C199-03, 2nd edition.

DESCRIPTION

PRODUCT COVERED:

Automatic sprinklers incorporating frangible 3 mm glass bulbs manufactured by Norbulb Sprinkler Elemente, GmbH, of the following models, types and temperature ratings.

	<u>Model</u>	<u>Description</u>	<u>Remarks</u>
USL, CNL,	VK630	Horizontal Sidewall, Recessed Horizontal Sidewall, and Concealed Horizontal Sidewall Quick Response Extended Coverage Light Hazard 8.0 K-factor Sprinklers	Sprinklers Rated 135, 155, and 175°F with 135 and 165°F cover plates
USL, CNL,	VK360	Horizontal and Recessed Horizontal Sidewall, Quick Response 8.0 K- factor Sprinklers	Sprinklers Rated 135, 155, 175 and 200°F

CONSTRUCTION DETAILS:

The devices have been examined and found to comply with the Standard For Automatic Sprinklers in effect as of the date of this Report.

The devices forming the subject of this Procedure are automatic sprinklers of the quick response glass bulb type consisting of a brass frame, deflector, deflector button, pin arms, pip cap assembly, Teflon coated Belleville spring water seal, yoke, component recognized glass bulb, stainless steel compression screws, and a cover plate assembly.

The sprinklers, recessed escutcheon assembly and cover plates may have finishes of plain brass, white, or enloy.

The chart below illustrates the decorative type of paints/finishes to be utilized on the coverplates. The application process for these paint types is to be performed by the Viking Corp.

Paint Type	Maximum Thickness, Mils	Paint Color
Acrylic Latex	1.5	Any
Lacquer	2.0	Any
Enamel	2.0	Any
Alkyd Enamel	3.0	Any
Latex	4.0	Any
Urethane	4.0	Any
Catalyzed Epoxy	5.0	Any
Acrylic	5.0	Any

TEST RECORD NO. 4SAMPLES:

Representative samples of the Model VK360, 8.0 K Nominal Horizontal Sidewall Style Sprinklers were used in this investigation.

The products are constructed of brass alloy C84400 frame, brass alloy C51000 deflector (flow shaper) and yoke, brass C11000 pip cap with S30400 insert, stainless steel compression screw and ejector spring, a Nickel alloy Belleville spring and a Component Recognized Norbulb 3.0 mm glass bulb.

TEST METHOD REFERENCE:

The following tests were conducted in accordance with the requirements described in UL 199 and ULC C-199:

1. Examination Of Samples
2. Sensitivity - Room Heat Test
3. Operation - Lodgment
4. High Temperature - Uncoated Sprinklers
5. Flow Endurance
6. Water Impingement Test
7. Stress Corrosion Cracking of Brass Parts
8. Fire Tests
9. Sensitivity - Oven Heat
10. 100 Pan Distribution

Based upon the similarities between the Model VK360, 8.0 K horizontal sidewall style sprinklers submitted under this investigation with the UL Listed Model VK630, 8.0 K horizontal sidewall style sprinklers, only the tests described in Test Record No. 4 were judged necessary. The tests and results are located in Test record No. 1 of this report.

The manufacturer's installation instructions were used in the evaluation of the product to determine an appropriate investigation.

CONCLUSION

Samples of the product covered by this Report have been found to comply with the requirements covering the class and the products are judged to be eligible for Listing and Follow-Up Service. The manufacturer is authorized to use the Laboratories' Mark on such products which comply with the Follow-Up Service Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Laboratories' Mark are considered as Listed by Underwriters Laboratories Inc.

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