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APPROVAL REPORT

**MODEL H-3
FUSIBLE TYPE, FLUSH, RESIDENTIAL AUTOMATIC SPRINKLER
WITH A NOMINAL DISCHARGE COEFFICIENT OF 3.8 gal/min/(psi)^{1/2}
WITH FINISHES OF BRIGHT BRASS, CHROME, AND WHITE PAINT,
AND A NOMINAL TEMPERATURE RATING OF 165°F (74°C)**

Prepared For:

**The Viking Corporation
210 North Industrial Park Road
Hastings, MI 49058**

**J. I. OZ3A0.AH
Class 2030
Date August 11, 1998**



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from

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I INTRODUCTION

1.1 The Viking Corporation requested an Approval examination of their Model H-3, fusible type, flush, residential automatic sprinkler having a nominal discharge coefficient of 3.8 gal/min/(psi)^{1/2} with finishes of bright brass, chrome, and white paint. This sprinkler has a nominal temperature rating of 165°F (74°C).

1.2 This Report is limited to the examination of the sprinkler as described in Section II of this Report.

1.3 The tests were conducted in accordance with the appropriate sections of Factory Mutual Research Corporation Approval Standard for Class 2030, "Approval Standard for Residential and Limited Water Supply Sprinklers", dated January 27, 1993.

FACTORY MUTUAL RESEARCH CORPORATION

JOB IDENTIFICATION 0Z3A0.AH

II DESCRIPTION

2.1 The Viking Corporation Model H-3, fusible type, flush, residential automatic sprinkler with a nominal discharge coefficient of 3.8 gal/min/(psi)^{1/2} is available with finishes of bright brass, chrome, and white paint. This sprinkler utilizes a new deflector and waterway from the currently Approved Model H flush sprinkler. All other parts of the sprinkler are identical to those used in the Model H. The currently Approved Model H sprinkler is described in detail in the following Reports:

- J. I. 0N5A8.AH dated October 18, 1988
- J. I. 2R3A3.AH dated October 18, 1990
- J. I. 1V0A9.AH dated July 23, 1991
- J. I. 1V4A6.AH dated April, 7, 1993

The attached Primary Materials List and manufacturer's drawing describe the Model H-3 sprinkler in detail.

2.2 The Model H-3 is classified as a residential automatic sprinkler with a nominal discharge coefficient of 3.8 gal/min/(psi)^{1/2} and is intended for use in automatic sprinkler fire protection systems designed for the protection of dwelling occupancies in accordance with Factory Mutual Property Loss Prevention Data Sheets. Strict adherence to the Factory Mutual Property Loss Prevention Data Sheets is required for Approval.

2.3 Factory Mutual Research Corporation Approved residential sprinklers have a minimum single sprinkler design density of 0.10 gal/min/ft² (4.08 mm/min) and a minimum multiple sprinkler design density of 0.07 gal/min/ft² (2.85 mm/min). For the Model H-3 sprinkler, the specific room sizes, flow rates, and pressures which are within the scope of this examination are shown in the table below:

Room Size	Single Sprinkler Flow Rate	Single Sprinkler Pressure	Multiple Sprinkler Flow Rate	Multiple Sprinkler Pressure
ft x ft (m x m)	gal/min (l/min)	psi (kPa)	gal / min (l/min)	psi (kPa)
12 x 12 (3.6 x 3.6)	14 (53)	13.6 (93)	10 (38)	7 (48)
14 x 14 (4.3 x 4.3)	20 (76)	27.7 (191)	14 (53)	13.6 (93)
16 x 16 (4.9 x 4.9)	26 (99)	46.8 (324)	18 (68)	22.5 (153)

III TESTS

3.1 One hundred samples were individually installed on a water supply line with water pressures of 25, 50, 75, 100, 125, 150, and 175 psi (170, 345, 515, 690, 860, 1035, and 1205 kPa). The samples were each activated with a suitable heat source and all operated properly, clearing the water way immediately after activation. No hang-up of operating parts was encountered.

3.2 Three samples were individually installed on a water filled test manifold pressurized to 225 psi (1553 kPa). The samples were operated with a suitable heat source and allowed to flow water at approximately 225 psi (1553 kPa) for 15 minutes each. The samples were then visually examined and showed no evidence of physical damage. The results were deemed satisfactory.

VII CONCLUSION

The Viking Corporation Model H-3, fusible type, flush, residential automatic sprinkler with a nominal discharge coefficient of $3.8 \text{ gal/min}/(\text{psi})^{1/2}$, as described in this Report, and as manufactured at the above location meets Factory Mutual Research Corporation Approval requirements. The Approval is effective when the Approval Agreement is signed by The Viking Corporation and received by Factory Mutual Research Corporation.

ATTACHMENTS:

Primary Materials List,
Manufacturer's Drawing Number 09458

EXAMINATION BY:

R. P. Ferron

TESTS BY:

Hydraulics Laboratory and
Research Division Personnel

REPORT BY:

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