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APPROVAL REPORT

SAND CAST FRAME, BULB TYPE, PENDENT AND UPRIGHT, STANDARD AND QUICK RESPONSE AUTOMATIC SPRINKLERS (VARIOUS MODELS) WITH NOMINAL DISCHARGE COEFFICIENTS OF 2.8 AND 5.6 GAL/MIN/(PSI)^{1/2} IN PLAIN BRASS, CHROME, AND POLYESTER COATED FINISHES (MODIFICATION)

Prepared for:

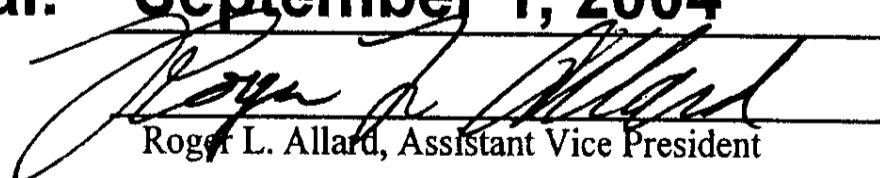
**The Viking Corporation
210 N. Industrial Park Rd.
Hastings, MI 49058**

Project ID: 3020603

Class: 2016

Date of Approval: September 1, 2004

Authorized by:


Roger L. Allard, Assistant Vice President

FM Approvals
1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062

NOT to be distributed outside of FMGlobal except by CUSTOMER.

APPROVAL REPORT

**MODEL VK200, VK204 AND VK350 CONTROL-MODE
(DENSITY/AREA) UPRIGHT AUTOMATIC SPRINKLERS
WITH A NOMINAL DISCHARGE COEFFICIENT OF 8.0
GAL/MIN/(PSI)^{1/2} IN A POLYESTER COATED FINISH**

Prepared for:

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

**Project ID. 3012769
Class 2001
Date: 7 January 2002**

Factory Mutual Research Corporation
1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062 USA
T: (781) 762-4300 F: (781) 762-9375

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation (herein called Factory Mutual Research) and **The Viking Corporation, Hastings, MI 49058**

(herein called the Client). The Client is making a product or providing a service known and described as:

**MODEL VK300, VK100 AND VK108
CONTROL-MODE (DENSITY/AREA)
UPRIGHT AUTOMATIC SPRINKLERS WITH A
NOMINAL DISCHARGE COEFFICIENT OF
5.6 GAL/MIN/(PSI)^{1/2} IN A POLYESTER COATED FINISH**

This product or service has been examined by Factory Mutual Research as described in a report bearing

Job Identification **3006951**

dated **March 28, 2001.**

In consideration of Factory Mutual Research Approval of the product or service, the Client is authorized to indicate such Approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by a separate Agreement with Factory Mutual Research.
2. The Client shall use the Factory Mutual Research Approval Mark on the product, but shall not use this mark on any other product unless such other product is covered by separate Agreement with Factory Mutual Research.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual Research except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual Research may distribute the referenced report and related information within FM Global.

The Viking Corporation
Client

Scott T. Franson
Signature

Scott T. Franson
Name

Director, Sprinkler Division
Title

210 N. Industrial Park Rd
Address

Hastings, MI 49058
Address

May 7, 2001
Date

FACTORY MUTUAL RESEARCH CORPORATION

R.L. Martell
Signature

R.L. Martell
Name

Asst. V.P. - Approvals Division
Title

4-16-01
Date

1151 Boston-Providence Turnpike
 P.O. Box 9102 Norwood, MA 02062 USA
 T: 781 762 4300 F: 781 762 9375 www.fmglobal.com

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation (herein called Factory Mutual Research) and **The Viking Corporation, Hastings, MI 49058**

(herein called the Client). The Client is making a product or providing a service known and described as:

**VIKING MODEL VK202, VK206 AND VK352
 CONTROL-MODE (DENSITY/AREA) PENDENT
 AUTOMATIC SPRINKLERS WITH A NOMINAL
 DISCHARGE COEFFICIENT OF 8.0 GAL/MIN/(PSI)^{1/2}
 (MODIFICATION)**

This product or service has been examined by Factory Mutual Research as described in a report bearing

Job Identification **3009236** dated **December 27, 2000.**

In consideration of Factory Mutual Research Approval of the product or service, the Client is authorized to indicate such Approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by a separate Agreement with Factory Mutual Research.
2. The Client shall use the Factory Mutual Research Approval Mark on the product, but shall not use this mark on any other product unless such other product is covered by separate Agreement with Factory Mutual Research.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual Research except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual Research may distribute the referenced report and related information within FM Global.

The Viking Corporation Client
Scott Franson Signature
Scott T. Franson Name
Director, Sprinkler Division Title
210 N. Industrial Park Rd
Hastings MI 49058 Address
January 23, 2001 Date

FACTORY MUTUAL RESEARCH CORPORATION
R.L. Martell Signature
R.L. Martell Name
Asst. V.P. – Approvals Division Title
January 10, 2001 Date

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062 USA
T: (781) 762-4300 F: (781) 762-9375

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation (herein called Factory Mutual Research) and **The Viking Corporation, Hastings, MI 49058**

(herein called the Client). The Client is making a product or providing a service known and described as:

**MODEL M
BULB TYPE AND FUSIBLE TYPE
CONTROL-MODE (DENSITY/AREA)
PENDENT AND RECESSED PENDENT
STANDARD AND QUICK RESPONSE
AUTOMATIC SPRINKLERS WITH
A NOMINAL DISCHARGE COEFFICIENT OF 5.6 GAL/MIN/(PSI) 1/2
WITH POLYESTER COATED FINISH**

This product or service has been examined by Factory Mutual Research as described in a report bearing

Job Identification **3005717**

dated **February 9, 2000.**

In consideration of Factory Mutual Research Approval of the product or service, the Client is authorized to indicate such Approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by a separate Agreement with Factory Mutual Research.
2. The Client shall use the Factory Mutual Research Approval Mark on the product, but shall not use this mark on any other product unless such other product is covered by separate Agreement with Factory Mutual Research.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual Research except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual Research may distribute the referenced report and related information within FM Global.

The Viking Corporation

FACTORY MUTUAL RESEARCH CORPORATION

Peter W. Thomas
Client
Signature

R.L. Martell
Signature

Peter W. Thomas
Name

R.L. Martell
Name

Vice President, Research & Development
210 N. Industrial Park Rd
Hastings, MI 49058
Title

Asst. V.P. - Approvals Division
Title

March 6, 2000
Address

February 25, 2000
Date

March 6, 2000
Date

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062 USA
T: (781) 762-4300 F: (781) 762-9375

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation (herein called Factory Mutual Research) and **The Viking Corporation, Hastings, MI 49058**

(herein called the Client). The Client is making a product or providing a service known and described as:

**MODELS VK100, VK102, VK108, VK110, VK300, VK302, VK550 AND VK556
BULB AND FUSIBLE TYPE
CONTROL-MODEL (DENSITY/AREA)
UPRIGHT, PENDENT, RECESSED PENDENT, AND RACK STORAGE
UPRIGHT
STANDARD AND QUICK RESPONSE
AUTOMATIC SPRINKLERS WITH
A NOMINAL DISCHARGE COEFFICIENT OF 5.6 GAL/MIN/(PSD)^{1/2}
(MODIFICATION)**

This product or service has been examined by Factory Mutual Research as described in a report bearing Job Identification **3008096** dated **October 13, 2000.**

In consideration of Factory Mutual Research Approval of the product or service, the Client is authorized to indicate such Approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by a separate Agreement with Factory Mutual Research.
2. The Client shall use the Factory Mutual Research Approval Mark on the product, but shall not use this mark on any other product unless such other product is covered by separate Agreement with Factory Mutual Research.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual Research except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual Research may distribute the referenced report and related information within FM Global.

 Client
Scott J. Franzen
 Signature

 Name

 Title

 Address
November 17, 2000
 Date

FACTORY MUTUAL RESEARCH CORPORATION

 Signature
R.L. Martell
 Name
Asst. V.P. – Approvals Division
 Title
November 10, 2000
 Date



Factory Mutual Research

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, Massachusetts 02062
Telephone (617) 762-4300
Telex 92-4415

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), and The Viking Corporation, Hastings, Michigan 49058 (herein called the Client). The Client is making a product or providing a service known and described as:

MODEL M

FUSIBLE AND BULB TYPE PENDENT AUTOMATIC SPRINKELRS

IN VARIOUS TEMPERATURE RATINGS

(MODIFICATION)

This product or service has been examined by FMRC as described in the report bearing Job Identification 1V1A0.AH, dated August 1, 1991

In consideration of FMRC Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by separate agreement with FMRC.
2. The Client shall use the FMRC Approval mark on the product, but shall not use this mark on any other product unless such other product is covered by separate agreement with FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

THE VIKING CORPORATION

Peter W. Thomas Client

Peter W. Thomas Signature

Director, Research & Development Name

210 N. Industrial Park Rd. Title

Hastings, MI 49058 Address

September 6, 1991 Date

FACTORY MUTUAL RESEARCH CORPORATION

John Rennie Signature

John Rennie Name

Vice President Title

August 29, 1991 Date



Factory Mutual Research

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, Massachusetts 02062
Telephone (617) 762-4300
Telex 92-4415

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), and The Viking Corporation, Hastings, Michigan 49058 (herein called the Client). The Client is making a product or providing a service known and described as:

MODEL M
FUSIBLE TYPE AUTOMATIC SPRINKLERS
SMALL ORIFICE UPRIGHT AND PENDENT
IN TEMPERATURE RATINGS OF 165 AND 220°F (74 AND 104°C)
HORIZONTAL AND VERTICAL SIDEWALL
IN TEMPERATURE RATINGS OF
165, 220 AND 286°F (74, 104 AND 141°C)
BRONZE FINISH

This product or service has been examined by FMRC as described in the report bearing Job Identification OQ5A5.AH, dated January 8, 1991

In consideration of FMRC Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by separate agreement with FMRC.
2. The Client shall use the FMRC Approval mark on the product, but shall not use this mark on any other product unless such other product is covered by separate agreement with FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

THE VIKING CORPORATION

Peter W. Thomas Client

Peter W. Thomas Signature

Director, Research & Development Name

210 N. Industrial Park Rd Title

February 25, 1991 Address

Date

FACTORY MUTUAL RESEARCH CORPORATION

R. L. Martell Signature

R. L. Martell Name

Asst. V.P. - Approvals Division Title

February 19, 1991 Date



Factory Mutual Research

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, Massachusetts 02062
Telephone (617) 762-4300
Telex 92-4415

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), and The Viking Corporation, Hastings, Michigan 49058 (herein called the Client). The Client is making a product or providing a service known and described as:

MODEL M
UPRIGHT AND PENDENT
FUSIBLE TYPE AUTOMATIC SPRINKLERS
BRONZE FINISH
IN TEMPERATURE RATINGS OF
165, 220 AND 286°F (74, 104 AND 141°C)

This product or service has been examined by FMRC as described in the report bearing Job Identification OQ5A4.AH, dated January 8, 1991

In consideration of FMRC Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by separate agreement with FMRC.
2. The Client shall use the FMRC Approval mark on the product, but shall not use this mark on any other product unless such other product is covered by separate agreement with FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

The Viking Corporation
 _____ Client
Peter W. Thomas
 _____ Signature
 Peter W. Thomas
 _____ Name
 Director, Research & Development
 _____ Title
 210 N. Industrail Park R.D.
 _____ Address
 February 21, 1991
 _____ Date

FACTORY MUTUAL RESEARCH CORPORATION

R. L. Martell
 _____ Signature
 R. L. Martell
 _____ Name
 Asst. V.P. - Approvals Division
 _____ Title
 February 19, 1991
 _____ Date



Factory Mutual Research

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, Massachusetts 02062
Telephone (617) 762-4300
Telex 92-4415

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), and The Viking Corporation, Hastings, Michigan 49058 (herein called the Client). The Client is making a product or providing a service known and described as:

MODEL M
LARGE ORIFICE WITH 3/4 IN. NPT
UPRIGHT AND PENDENT
FUSIBLE TYPE AUTOMATIC SPRINKLERS
BRONZE FINISH
IN TEMPERATURE RATINGS OF
165, 220, AND 286°F
(74, 104, AND 141°C)

This product or service has been examined by FMRC as described in the report bearing Job Identification OQ4A4.AH, dated January 8, 1991

In consideration of FMRC Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by separate agreement with FMRC.
2. The Client shall use the FMRC Approval mark on the product, but shall not use this mark on any other product unless such other product is covered by separate agreement with FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

The Viking Corporation
 _____ Client
Peter W. Thomas _____ Signature
 Peter W. Thomas
 _____ Name
 Director, Research & Development
 _____ Title
 210 N. Industrial Park Road
 _____ Address
 February 14, 1991
 _____ Date

FACTORY MUTUAL RESEARCH CORPORATION

R. L. Martell _____ Signature
 R. L. Martell
 _____ Name
 Asst. V.P. - Approvals Division
 _____ Title
 February 6, 1991
 _____ Date



Certificate of Compliance

Automatic Control Mode Sprinklers for Fire Protection

This certificate is issued for the following equipment:

Model	K	Type	Resp.	Element	NPT (in.)	Finishes	Temperature Ratings °F (°C)
VK108	5.6	Upright	SR	Fusible	1/2	Brass, Polyester	165°, 220°, 286°F (74°, 104°, 141°C)
VK110	5.6	Pendent	SR	Fusible	1/2	Brass, Polyester	165°, 220°, 286°F (74°, 104°, 141°C)
VK112	5.6	Horizontal Sidewall	SR	Fusible	1/2	Brass	165°, 220°, 286°F (74°, 104°, 141°C)
VK112	5.6	Recessed Horizontal Sidewall	SR	Fusible	1/2	Brass	165°, 220°F (74°, 104°C)

Manufactured by: The Viking Corp, 210 N Industrial Park Rd, Hastings, Michigan 49058

Manufacturing Location: The Viking Corp, 210 N Industrial Park Rd, Hastings, Michigan 49058

FM Approvals confirms that the items have been found to comply with the following standard:


FM Approvals Standard 2000 (March 2006)

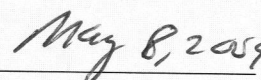
Project Identifier: 3026351

Date of Approval: May 5, 2009



Member of the FM Global Group


Richard B. Dunne
Group Manager - Hydraulics


Date