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Underwriters  
Laboratories

File Ex643  
Project 02NK46059  
Project 04NK7979  
**Project 06NK09804**

Issued: October 21, 2003  
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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.

PLAN:

The investigation of the automatic sprinklers consisted of conducting a product conformance evaluation and performance testing as described in UL 199, 11<sup>th</sup> Edition.

## DESCRIPTION

## PRODUCT COVERED:

Automatic Sprinklers of the fusible link type of the following types and temperature ratings.

	Model	Description	Remarks
USL, CNL	VK301	Upright style, 5.6 K-factor	Rated 165, 205 and 286°F
USL, CNL	VK303	Pendent style, 5.6 K-factor	Rated 165, 205 and 286°F
USL, CNL	VK307	Horizontal Sidewall Style, 5.6 K	Rated 165, 205 and 286°F
USL, CNL	VK308	Horizontal Sidewall Style, 5.6 K, Light and Ordinary Hazard	Rated 165, 205 and 286°F
USL, CNL	VK311	Conventional Style, 5.6 K	Rated 165, 205 and 286°F
USL, CNL	VK316	Upright Style, 5.6 K 250 psig Rated	Rated 165, 205 and 286°F
USL, CNL	VK318	Pendent Style, 5.6 K 250 psig Rated	Rated 165, 205 and 286°F
USL, CNL	VK320	Horizontal Sidewall Style, 5.6 K 250 psig Rated	Rated 165, 205 and 286°F
USL, CNL	VK326	Upright Style, 2.8 K	Rated 165, 205 and 286°F
USL, CNL	VK328	Upright Style, 4.2 K	Rated 165, 205 and 286°F
USL, CNL	VK330	Pendent Style, 2.8 K	Rated 165, 205 and 286°F
USL, CNL	VK332	Pendent Style, 4.2 K	Rated 165, 205 and 286°F
USL, CNL	VK334	Horizontal Sidewall Style, 2.8 K	Rated 165, 205 and 286°F
USL, CNL	VK341	Upright Style, 2.8 K 250 psig Rated	Rated 165, 205 and 286°F
USL, CNL	VK343	Pendent Style, 2.8 K 250 psig Rated	Rated 165, 205 and 286°F
USL, CNL	VK346	Horizontal Sidewall Style, 2.8 K 250 psig Rated	Rated 165, 205 and 286°F
USL, CNL	VK351	Upright Style, 8.0 K	Rated 165, 205 and 286°F
USL, CNL	VK353	Pendent Style, 8.0 K	Rated 165, 205 and 286°F
USL, CNL	VK355	Conventional Style, 8.0 K	Rated 165, 205 and 286°F
USL, CNL	VK533	Upright Style, 11.2 K Area Density	Rated 165, 205 and 286°F
USL, CNL	VK535	Upright Style, 11.2 K Extended Coverage Ordinary Hazard	Rated 165 and 205°F
USL, CNL	VK537	Pendent Style, 11.2 K Extended Coverage Ordinary Hazard	Rated 165 and 205°F
USL, CNL	VK551	Upright Intermediate Level Style, 5.6 K	Rated 165, 205 and 286°F
USL, CNL	VK601, VK603, VK607	Pendent Style, 5.6 K Extended Coverage light Hazard	Rated 165 and 205°F
USL, CNL	VK609	Horizontal Sidewall Style, 5.6 K Extended Coverage light Hazard	Rated 165 and 205°F
USL, CNL	VK609	Horizontal Sidewall Style, 5.6 K Extended Coverage light Hazard	Rated 165 and 205°F
USL, CNL	VK611	Pendent Style, 5.6 K Extended Coverage light Hazard, 250 psig Rated	Rated 165 and 205°F
USL, CNL	VK613	Horizontal Sidewall Style, 5.6 K Extended Coverage light Hazard, 250 psig Rated	Rated 165 and 205°F
USL, CNL	VK615	Horizontal Sidewall Style, 8.0 K Extended Coverage light Hazard	Rated 165 and 205°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.

USE:

The products covered by this Report are for use in accordance with the National Fire Protection Association Standard For The Installation of Sprinkler Systems, NFPA 13, and the manufacturer's installation instructions See Fig. 1.

## CONCLUSION

Samples of the products 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.

Report by:

Reviewed by:

JOHN R. SERPE  
Engineering Associate

MICHAEL G. MCCORMICK  
Engineering Team Leader

File MS21  
Project 96NK24279  
Project 99NB240972  
\*Project 01NK33/Ex643

Issued: March 12, 1998  
Revised: October 8, 2001

REPORT

on

GUARDS FOR SPRINKLERS

Viking Corporation  
Hastings, MI

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DESCRIPTION

PRODUCT COVERED:

\*USL, CNL Model D-1 sprinkler guards are used with Listed Model M, 1/2 and 3/4 in. size upright/pendent style sprinkler. Model D-1 guards are also used with Model M intermediate level 1/2 and 3/4 in. size pendent style with Model F-1 water shield and upright style with Model E-1 water shield.

\*CNL indicates Listing to Canadian National Standard ULC C199.

CONSTRUCTION DETAILS:

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

USE:

The product(s) covered by this Report are for use in accordance with the National Fire Protection Association Standard For The Installation of Sprinkler Systems, NFPA 13.

## CONCLUSION

Samples of the products 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.

Report by:

Reviewed by:

IQBAL S. CHOPRA  
Staff Engineer

GEORGE E. LAVERICK  
Engineering Group Leader



File Ex643  
Project 97NK34177

February 5, 1998

REPORT

on

AUTOMATIC SPRINKLERS

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.

PLAN:

The investigation of the automatic sprinklers consisted of conducting a product conformance evaluation and performance testing as described in UL 199.

D E S C R I P T I O NPRODUCT COVERED:

Model M, 1/2 and 17/32 in. orifice, by 1/2 and 3/4 NPT, pendent and upright, glass bulb and fusible link type, intermediate level sprinklers.

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.

USE:

The product covered by this Report are for use in accordance with the National Fire Protection Association Standard For The Installation of Sprinkler Systems, NFPA 13.

## C O N C L U S I O N

Samples of the products covered by this Report have been found to comply with the requirements covering the class and the product 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.

Report by:  
SCOTT DANKERT  
Engineering Assistant

Reviewed by:  
  
GEORGE LAVERICK  
Engineering Group Leader

File Ex643  
Project 02NK46059  
**Project 04NK7979**  
October 21, 2003

REPORT

on

Automatic Sprinklers

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Hastings, MI

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PLAN:

The investigation of the automatic sprinklers consisted of conducting a product conformance evaluation and performance testing as described in UL 199, 10<sup>th</sup> Edition.

## DESCRIPTION

## PRODUCT COVERED:

Automatic Sprinklers of the fusible link type of the following types and temperature ratings.

	<u>Model</u>	<u>Description</u>	<u>Remarks</u>
USL, CNL,	VK301, <b>VK303</b>	Upright and Pendent 5.6 K-factor, quick response.	Rated 165, 205 and 286°F, installation upright and pendent only.
All Models		Chrome plated, Bright Brass and Nickel plated quick response.	Ratings - 135, 155, 175, 200 and 286°F, installation indicated by deflector.
<b>USL, CNL,</b>	<b>VK301, VK303</b>	<b>Upright and Pendent 5.6 K-factor, intermediate level, quick response.</b>	<b>Rated 165, 205 and 286°F, installation upright and pendent only.</b>

## 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 fusible link type. These sprinklers are also available with white and navajo paint. **The pendent intermediate level sprinkler utilizes the F-1 water shield with or without the optional D-1 sprinkler guard. The upright intermediate level sprinkler utilizes the E-1 water shield with guard or has a water shield attached to the deflector.**

## USE:

The products covered by this Report are for use in accordance with the National Fire Protection Association Standard For The Installation of Sprinkler Systems, NFPA 13, and the manufacturer's installation instructions See Fig. 1.

## CONCLUSION

Samples of the products 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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JOHN R. SERPE  
Engineering Associate

MICHAEL G. MCCORMICK  
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