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REPORT

on

RESIDENTIAL SPRINKLERS

Viking Corporation
Hastings, MI

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GENERAL

INTRODUCTION:

This Report describes the investigation of residential sprinklers intended to be installed in accordance with the National Fire Protection Association Standard For Installation Of Sprinkler Systems For One- And Two-Family Dwellings And Mobile Homes, NFPA 13D, Installation Of Sprinkler Systems In Residential Occupancies Up To Four Stories In Height, NFPA 13R and Installation Of Sprinkler Systems, NFPA 13.

OBJECT:

The object of this investigation was to determine compliance of the residential sprinklers with the **Standard For Residential Sprinklers For Fire Protection Service, UL 1626; the Outline Of Investigation For Fire Testing of Residential Sprinklers For Use With Smooth, Flat, Sloped Ceilings Having Pitches Not Exceeding 8/12, Subject 1626A; and the Standard For Residential Sprinklers For Fire Protection Service ULC/ORD-C1626-03.**

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PLAN:

* The investigation of the residential sprinklers consisted of conducting a design parameter and installation instruction review, construction evaluation and performance testing as described in UL 1626, **4th Edition; Subject 1626A, Issue No.1; and ULC/ORD-C1626-03, 1st Edition.** See Fig. 2, Pg.1-2 and Fig. 4, Pg. 1-2.

DESCRIPTION

PRODUCT COVERED:

VK458, pendent, recessed pendent, and concealed pendent sprinklers, ¾ in. N.P.T., discharge coefficient "K" = 7.4, (3mm glass bulb type) heat responsive element, ½ in. recess, 155 and 175°F temperature rated residential type sprinklers.

These sprinklers have a maximum pressure of 175 psig for wet systems only for spacings and flow rates as indicated below:

*

FOR INSTALLATIONS BELOW SMOOTH FLAT CEILING								
	SIN	Style	Cover Temp. Rating, °F	Sprinkler Temperature Rating, °F	Nom. K-Factor	Maximum Sprinkler Spacing, ft.	Minimum Flow, gpm/Sprinkler	Flowing Pressure, psig
USL, CNL	VK458	Pendent, Rec. Pendent	-	155, 175	7.4	16 by 16	20	7.3
USL, CNL	VK458	Concealed	135	155	7.4	16 by 16	20	7.3
USL, CNL	VK458	Pendent, Rec. Pendent	-	155, 175	7.4	18 by 18	22	8.8
USL, CNL	VK458	Concealed	135	155	7.4	18 by 18	23	9.7
USL, CNL	VK458	Pendent, Rec. Pendent	-	155, 175	7.4	20 by 20	24	10.5
USL, CNL	VK458	Concealed	135	155	7.4	20 by 20	28	14.3

*

FOR INSTALLATION UNDER SLOPED CEILINGS 2/12 TO 8/12 (IN.IN.) PITCH								
	SIN	Style	Cover Temp. Rating, °F	Temperature Rating, °F	K-Factor	Maximum Sprinkler Spacing, ft.	Minimum Flow, gpm/sprinkler	Flowing Pressure, psig
USL	VK458	Pendent, Rec. Pendent	-	155	7.4	16 by 16	20	7.3
USL	VK458	Pendent, Rec. Pendent	-	175	7.4	16 by 16	24	10.5
USL	VK458	Concealed	135	155	7.4	16 by 16	22	8.8
USL	VK458	Pendent, Rec. Pendent	-	155	7.4	18 by 18	23	9.7
USL	VK458	Pendent, Rec. Pendent	-	175	7.4	18 by 18	25	11.4
*USL	VK458	Concealed	135	155	7.4	18 by 18	28	14.3
USL	VK458	Pendent, Rec. Pendent	-	155	7.4	20 by 20	24	10.5
USL	VK458	Pendent, Rec. Pendent	-	175	7.4	20 by 20	25	11.4
*USL	VK458	Concealed	135	155	7.4	20 by 20	28	14.3

FOR INSTALLATION UNDER SLOPED CEILING 2/12 TO 8/12 (IN.IN.) PITCH TESTED PER SUBJECT 1626A, ISSUE NO. 1								
	SIN	Style	Cover Temp. Rating, °F	Temperature Rating, °F	K-Factor	Maximum Sprinkler Spacing, ft.	Minimum Flow, gpm/sprinkler	Flowing Pressure, psig
USL	VK458	Pendent, Rec. Pendent	-	155	7.4	20 by 20	26	12.3
USL	VK458	Pendent, Rec. Pendent	-	175	7.4	20 by 20	30	16.4

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

USL indicates Listing to UL1626.

CNL indicates Listing to Canadian Standard ULC/ORD-C1626-03.

GENERAL CHARACTER:

The SIN VK458 residential sprinklers are automatic sprinklers of the glass bulb type consisting of a frame, deflector, component recognized glass bulb, pip cap with insert, Teflon coated Belleville spring washer, and compression screw.

These sprinklers may be chrome plated or have a decorative white alkyd type Paint.

The VK458 concealed sprinklers utilize a 135°F cover plate.

USE:

The SIN VK458, 3/4 in. NPT sprinklers are intended for use in the pendent and recessed pendent positions only in accordance with the National Fire Protection Association Standard for Installation of Sprinkler Systems in One- and Two-Family Dwellings and Mobile Homes.

MARKING:

Location	Marking
Wrench Head	"VK" (+) and year of manufacturing on opposite side of head.
Deflector	SIN Number, Temperature Rating °F and °C, "K-Factor", UL Listing Mark.

(+) - Frame may be used three months prior to and six months after marked year of manufacture.

TEST RECORD INDEX

DESCRIPTION	TEST RECORD NO.
SIN VK458,7.4 K-Factor,3/4 in. N.P.T. Pendent and Recessed Pendent Sprinkler	1
SIN VK458, 7.4 K-Factor, 3/4 N.P.T. Concealed Pendent Sprinklers	2
SIN VK458, 7.4 K-Factor, 3/4 in. N.P.T. Residential and Recessed Pendent w/Modified Pip Cap	3
SIN VK458 utitlized in 8/12 in./in. Pitch Slope Ceiling	4
SIN VK458,7.4 K-Factor, 3/4 in. N.P.T. Pendent, Recessed Pendent and Concealed Pendent Sprinkler Utilizing Alternate Deflector Material	5
Model VKxxx concealed pendent sprinklers utilizing various decorative coverplate paints	6
SIN VK458, 7.4 K pendent and recessed pendent sprinklers installed in 8/12 pitch sloped ceiling; Subject 1626A, Issue No.1 effective May 22, 2009	7

CONCLUSION

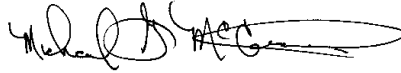
Samples of the product covered by this Report have been found to comply with the requirements and the products are judged to be eligible for Listing and Follow-Up Service. The manufacturer is authorized to use the UL Mark on such products which comply with the Follow-Up Service Procedure and any other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

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