AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report(s). This authorization also applies to the Multiple Listee model(s) identified on the correlation page of the Listing Report. This document is the property of Intertek Testing Services and is not transferable. The Certification Mark(s) may be applied only at the location of the Party Authorized to Apply Mark.

Applicant:	DKS Steel Door and Frame Systems, Inc. 2142 Tubeway Avenue Commerce CA 90040
Country:	
Contact:	Dave Kesler
Phone:	323-888-7763
Fax:	323-888-0552
Email:	dkesler@neo.rr.com
Party Authorized to Apply Mark:	See following page(s)
Evaluation Center:	Intertek (Middleton)

Control/Client Number: 214173

Authorized By:

Thomas J. Patterson, Director of Certification

Intertek Testing Services NA, Inc
545 E Algonquin Road, Ste H, Arlington Heights, IL 60005 USA
Phone 847-439-5667 Fax 847-439-7320

RECOGNIZED COMPONENT

Intertek

This document supersedes all previous Authorizations to Mark for the noted Report Number.

Testing Standard{s}:	:NFPA 252 (2008):UL 10(c) (2009):CAN / ULC S104 (2010):NFPA 252 (2012)
Product:	DKS 90 Minute Fire Rated Steel Louver

ATM for Report 100838066MID-012 **ATM Issue Date:** 07/16/2014

Listing Section(s): DOOR & FRAME HARDWARE

CSI Code: 08 90 00 Louvers and Vents

Description:

Product Covered:

DKS 90 Minute Fire Rated Steel Louver

Product Description:

DKS Fire Rated Steel Louver for use in listed and labeled fire rated hollow metal door applications, positive and neutral pressure.

Rating	Maximum Area	Maximum Height	Maximum Width	Door Type
Up to 90 Minutes	288 sq. in.	12"	24"	Steel

Tested and qualified per UL 10C (2009), NFPA 252 (2008), and CAN/ULC S104 (2010).

See manufacturer's installation instructions for additional information, restrictions and limitations.

See code requirements for additional general restrictions and/or limitations in regard to louvers.

DKS 90 Minute Fire Rated Steel Louver

Series: YLV and VLV Steel Louvers

Product description:
DKS Fire Rated Steel Louver for use in listed and labeled fire rated hollow metal door applications, positive and neutral pressure.

Rating	Maximum Area	Maximum Height	Maximum Width	Door type
Up to 90 Minutes	288 sq.in.	12"	24"	Steel

AVAILABLE INVENTORIES WITH 90 MINUTE FIRE RATING

YLV Series

Item No	Sizes		Area
	Width	Height	
YLV1212	12"	12"	144 sq.in.
YLV1812	18"	12"	216 sq.in.
YLV2412	24"	12"	288 sq.in.

VLV Series

Item No	Sizes		Area
	Width	Height	
VLV1212	12"	12"	144 sq.in.
VLV1812	18"	12"	216 sq.in.
VLV2010	20"	10"	200 sq.in.
VLV2412	24"	12"	288 sq.in.

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Phone:	323-888-7763
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RECOGNIZED COMPONENT

Intertek

This document supersedes all previous Authorizations to Mark for the noted Report Number.

Testing Standard{s}:	:NFPA 252 (2008):UL 10(c) (2009):CAN / ULC S104 (2010):NFPA 252 (2012)
Product:	DKS 45 - 180 Minute Fire Rated Steel Vision Kit

ATM for Report 100838066MID-012, 100838066MID-014, 101427844MID-002, 101538028MID-001

ATM Issue Date: 07/16/2014

Listing Section(s): DOOR & FRAME HARDWARE

CSI Code: 08 70 00 Hardware

Description:

Product Covered:

DKS 45 to 180 Minute Fire Rated Steel Vision Kit

Product Description:

DKS Fire Rated Steel Vision Kit for use in listed and labeled fire rated hollow metal door applications, positive and neutral pressure.

Rating	Maximum Area (Clear View)	Maximum Height (Clear View)	Maximum Width (Clear View)	Glazing	Door Type
Up to 45 Minutes	660 sq. in.	30"	22"	Listed Fire Rated 1/4" Thick to 1" Thick Wired or Ceramic Glazing	Steel
Up to 90 Minutes	100 sq. in.	33"	10"	Listed Fire Rated 1/4" Thick to 1" Thick Wired or Ceramic Glazing	Steel
Up to 180 Minutes	100 sq. in.	33"	10"	Listed Fire Rated 3/16" Thick to 1" Thick Ceramic Glazing	Steel

Listed Fire Rated Pemko FG3000 Glazing Tape is required to be applied to both sides of the glazing.

Tested and qualified per UL 10C (2009), NFPA 252 (2008), and CAN/ULC S104 (2010).

AUTHORIZATION TO MARK

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Evaluation Center:	Intertek (Middleton)

Control/Client Number: 214173

Authorized By: _____
Thomas J. Patterson, Director of Certification

Intertek Testing Services NA, Inc.
545 E. Algonquin Road, Ste H, Arlington Heights, IL 60005 USA
Phone 847-439-5667 Fax 847-439-7320

RECOGNIZED COMPONENT

Intertek

This document supersedes all previous Authorizations to Mark for the noted Report Number.

Testing Standard(s):	:UL 10(c) (2009):NFPA 252 (2012)
Product:	DKS 20 Minute Fire Rated Steel Vision Kit

ATM for Report 101844703MID-002

ATM Issue Date: 10/22/2014

Listing Section(s): DOOR & FRAME HARDWARE

CSI Code: 08 70 00 Hardware

Description:

Product Covered:

DKS 20 Minute without Hose Stream Fire Rated Steel Vision Kit

Product Description:

DKS Fire Rated Steel Vision Kit for use in listed and labeled fire rated hollow metal door applications, positive and neutral pressure.

Rating	Maximum Area (Clear View)	Maximum Height (Clear View)	Maximum Width (Clear View)	Glazing	Door Type
Up to 20 Minutes without Hose	1,276 sq. in.	58"	22"	Listed Fire Rated 1/4" Thick Wired or Ceramic Glazing	Steel

Listed Fire Rated Pemko FG3000 5/64" Glazing Tape is required to be applied to both sides of the glazing, around the entire perimeter.

Tested and qualified per UL 10C (2009) and NFPA 252 (2012).

See manufacturer's installation instructions for additional information, restrictions and limitations.

See code requirements for additional general restrictions and/or limitations in regard to vision kits.

DKS Fire Rated Steel Vision Lite Kits

Series: SVL & VL Vision Lites

Product Description:

DKS Fire Rated Steel Vision Lite Kits for use in listed and labeled fire rated hollow metal door applications, positive and neutral pressure.

Rating	Maximum Area (Clear View)	Maximum Height	Maximum Width	Glazing	Door type
Up to 20 Minutes without hose stream	1,276 sq.in.	58"	22"	Listed Fire rated 1/4" thick, Wired or Ceramic Glazing	Steel
Up to 45 Minutes	660 sq.in.	30"	22"	Listed Fire rated 1/4" to 1" thick, Wired or Ceramic Glazing	Steel
Up to 90 Minutes	100 sq.in.	33"	10"	Listed Fire rated 1/4" to 1" thick, Wired or Ceramic Glazing	Steel
Up to 180 Minutes	100 sq.in.	33"	10"	Listed Fire rated 3/16" to 1" thick, Ceramic Glazing	Steel

AVAILABLE INVENTORIES WITH FIRE RATINGS

FRAME SIZE (width x height)	CLEAR VIEW AREA (VISIBLE VIEW) sq. in.	**20 MIN** 22" X 58" MAX (width x height)	**45 MIN** 22" X 30" MAX (width x height)	**90 MIN** 10" X 33" MAX (width x height)	**180 MIN** 10" X 33" MAX (width x height)
		1,276 sq.in. MAX VISIBLE VIEW	600 sq.in. MAX VISIBLE VIEW	100 sq.in. MAX VISIBLE VIEW	100 sq.in. MAX VISIBLE VIEW
5" x 20"	54	WS / PPF	WS / PPF	WS / PPF	PPF
5" x 35"	99	WS / PPF	WS / PPF	-	-
6" x 14"	48	WS / PPF	WS / PPF	WS / PPF	PPF
6" x 24"	88	WS / PPF	WS / PPF	WS / PPF	PPF
6" x 26"	96	WS / PPF	WS / PPF	WS / PPF	PPF
6" x 27"	100	WS / PPF	WS / PPF	WS / PPF	PPF
6" x 30"	112	WS / PPF	WS / PPF	-	-
6" x 36"	136	WS / PPF	WS / PPF	-	-
7" x 22"	100	WS / PPF	WS / PPF	WS / PPF	PPF
8" x 18"	96	WS / PPF	WS / PPF	WS / PPF	PPF
8" x 30"	168	WS / PPF	WS / PPF	-	-
8" x 32"	180	WS / PPF	WS / PPF	-	-
8" x 36"	204	WS / PPF	WS / PPF	-	-
8" x 38"	216	WS / PPF	WS / PPF	-	-
12" x 12"	100	WS / PPF	WS / PPF	-	-
18" x 18"	256	WS / PPF	WS / PPF	-	-
18" x 30"	448	WS / PPF	WS / PPF	-	-
18" x 32"	480	WS / PPF	-	-	-
22" x 36"	680	WS / PPF	-	-	-
24" x 24"	484	WS / PPF	-	-	-
24" x 30"	616	WS / PPF	-	-	-
24" x 32"	660	WS / PPF	-	-	-
24" x 34"	704	WS / PPF	-	-	-
24" x 36"	748	WS / PPF	-	-	-
24" x 54"	1,144	WS / PPF	-	-	-
24" x 56"	1,188	WS / PPF	-	-	-
24" x 60"	1,276	WS / PPF	-	-	-

WS - Wire Shield, 1/4" thick wired glass with film.
Fire rating: 20-90 minutes

PPF - Pyran, 3/16" thick ceramic glass with surface applied heavy duty safety film.
Fire rating: 20-180 minutes.

TEST REPORT

REPORT NUMBER: 101847435MID-005
ORIGINAL ISSUE DATE: March 27, 2015

EVALUATION CENTER
Intertek Testing Services NA Inc.
8431 Murphy Drive
Middleton, WI 53562

RENDERED TO

DKS STEEL DOOR & FRAME SYSTEMS
2142 TUBEWAY AVENUE
COMMERCE, CA 90040

CONTACT:
Mr. Dave Kessler
dkesler@neo.rr.com

PRODUCTS EVALUATED:
24” x 24” Louver Kit

EVALUATION PROPERTY:
90 Minute Positive Pressure Fire Endurance

Report of Testing DKS Steel Door & Frame Systems’ louver kit for compliance with the applicable requirements of the following criteria: UL 10C (2009) *“Fire Tests of Door Assemblies”*.

Table of Contents

1 Introduction

The Middleton, Wisconsin fire testing laboratory of Intertek Testing Services NA (Intertek)/Warnock Hersey conducted a Vertical Fire Test for DKS Steel Door & Frame Systems. The test sample(s) were received at the laboratory on March 18, 2015 in good condition. This report gives the results of the evaluation of the fire resistance properties of 24x24 louver kit. The test results described in this report are limited to the submitted items.

The test was conducted at positive pressure in accordance with UL 10C (2009) *"Positive Pressure Fire Tests of Door Assemblies"*.

2 Test Samples And Assembly Description

The test doors were sampled by an Intertek representative, and submitted by the client.
Sample ID# MID1503101214-001

Assembly 1

Door	Size/Configuration	Nominal door size: 3'0" x 6'8". 18 gauge skin, vertically stiffened. Opening framed with (2) piece channels. Rough opening for louver kit is 24.13" x 24.13"
Frame	Size/Configuration	Nominal frame size:3'0" x 6'8"
	Material	16 gauge steel, UL 63.
	Wall Type	8" CMU (Concrete Masonry Units)
	Anchors	Wire Masonry
Hardware	Latch Set	Simulated.
	Hinges	(3) Simulated hinges
Louver		DKS Steel Door & Frame Systems' 24" x 24" Louver kit. 160ºF fusible link.

3 Test Installation and Procedures

The test assembly was installed per the installation instructions of the door and frame manufacturer in a fire rated wall constructed in a furnace frame. The average door clearances to the frame were measured and recorded within the allowable limit as follows (unit: inches):

Assembly 1

Top	Hinge Stile	Latch Stile	Bottom
0.100	0.100	0.100	0.375

After positioning the assembly frame over the furnace opening, the burners were ignited and a timer started. Temperatures within the furnace were monitored using thermocouples and the data recorded. The burners were controlled to keep the furnace temperatures within the allowable limits specified in the test standards. These temperature data are included in this report.

Periodic observations were made of the exposed and unexposed surfaces of the test assembly during the fire endurance test. These observations are included in this report.

A pressure tap was installed through the furnace wall adjacent to the test assembly at the top of the door to measure furnace pressure. The neutral pressure plane within the furnace was maintained at a theoretical height of 40 inches above the sill as specified in the test standard. These pressure data are included in this report.

Immediately after the Fire Endurance Test, the assembly frame was moved into position for a Hose-Stream Test. The exposed surface of the test assembly was subjected to the impact, erosion, and cooling effects of a hose stream described in the test standard.

The following test equipment was used to collect and monitor test conditions.

Mid-scale Test Equipment	Inventory Number	Measurement Uncertainty	Calibration Date
Omega Data Acquisition System	1163	±2°F at 95% C. L.	5/9/14
Pressure Transducer	1314	±0.005” w.c. at 95% C.L.	9/17/14
Pressure Transducer	1315	±0.005” w.c. at 95% C.L.	9/17/14
Magnehelic differential pressure gauge	1121	±0.005” w.c. at 95% C.L.	12/3/14
Magnehelic differential pressure gauge	1122	±0.005” w.c. at 95% C.L.	12/3/14
Water pressure gauge	1186	Grade C	4/16/14
Infrared gun	875	±2°F	NA
Accusplit Timer	611	±0.001% (over 3hr. period)	7/30/14

4 Testing and Evaluation of Results

4.1. Observations, March 19, 2015

TIME	EXPOSED FACE
00:00	Burners ignited.
90:00	Test stop.

TIME	UNEXPOSED FACE
00:00	Assembly tight to frame.
03:29	Light smoke form perimeter of louver.
15:00	No significant change.
30:00	No significant change.
45:00	No significant change.
60:00	No significant change.
75:00	No significant change.
90:00	Test stop.

4.2. Door Deflection

Door deflection relative to the frame, where applicable, was monitored throughout the test. The door deflection did not exceed the allowable limit of 1 times the door thickness and thus met the requirements of the test standard.

4.3. Flaming and Penetration

During the fire exposure period there was no flaming at the louver of the assembly in excess of that allowed by the standard. The assembly met the criteria of the test standard for flaming and penetration.

4.4. Hose-Stream Test Observations and Results

A Hose-Stream Test was conducted for 20 seconds based on a total assembly area of 13.3 square feet and a required duration of 1.5 seconds per square foot of assembly area at 30 psi.

At the conclusion of the Hose-Stream test, there were no through openings, louver remained in the opening. The assembly met the criteria of the test standards for Hose-Stream.

5 Conclusion

Assembly 1: The 3'0" x 3'8" vertically stiffened door with 24" x 24" louver kit, as described herein, complied with UL 10C (2009) "Positive Pressure Fire Tests of Door Assemblies" for a 90 minute rating with Hose-Stream.

This report does not automatically imply product certification. Products must bear the Warnock Hersey registered certification mark to demonstrate compliance.

INTERTEK TESTING SERVICES NA

Reported by: _____

Chad Naggs
Technician II, Fire Resistance
Building Products Group
Intertek

Reviewed by: _____

Gregory Allen
Engineering Team leader, Openings
Building Products Group
Intertek

APPENDIX A

Test Data and Photographs

FIGURE 1 · TIME-TEMPERATURE CURVE

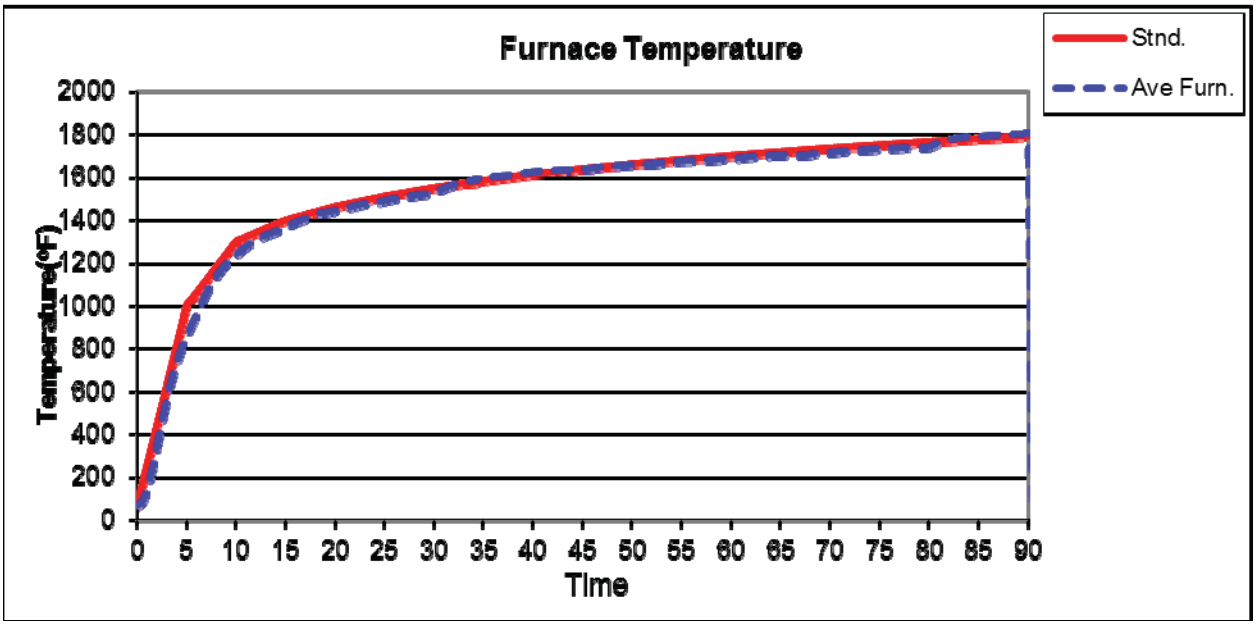
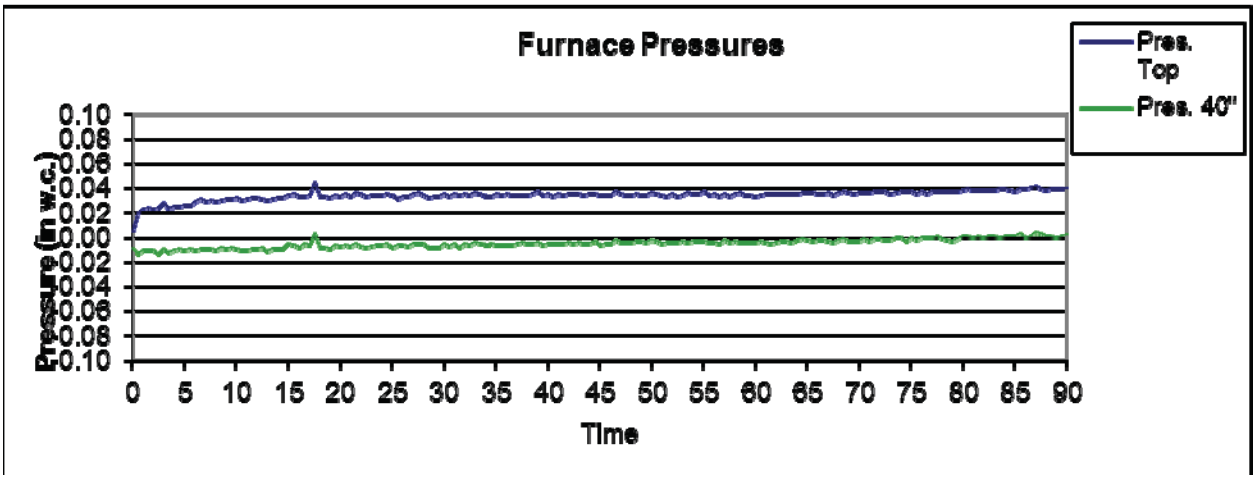


FIGURE 2 · FURNACE PRESSURES



PHOTOGRAPHS
BEFORE TEST

FIRE ENDURANCE TEST

HOSE-STREAM TEST

REVISION SUMMARY

DATE	SUMMARY
March 27, 2015	Original Issue Date