Los Angeles Building Code Evaluation Report LCR-76782

Issue Date: 05-15-2024
Revision Date: 05-02-2025
Renewal Date: 05-31-2026

DIVISION: 07 – THERMAL AND MOISTURE PROTECTION
Section: 07 42 13 Metal Wall Panels
07 41 13 Metal Roof Panels

REPORT HOLDER:
KPS Global LLC
4201 North Beach St.
Fort Worth, TX 76137
www.kpsglobal.com

REPORT SUBJECT: KPS GLOBAL WOOD-FRAME, INSULFRAME® AND FUSIONFRAME® FABRICATED WALK-IN COOLER AND FREEZER WALL AND CEILING PANELS

1.0 SCOPE OF EVALUATION

This Building Code Evaluation Report addresses compliance with the 2020 and 2023 City of Los Angeles Building Code. See Table 1 for Properties Evaluated.

NOTE: This report references the most recent code editions noted. Section numbers in earlier editions may differ.

2.0 STATEMENT OF COMPLIANCE

The KPS Global wall and ceiling panels have been evaluated for compliance with the codes listed in Section 1.0, subject to the conditions of use stated in Section 6.0.

The wall and ceiling panels are under a follow-up services inspection program for verification of continued compliance in accordance with IBC Section 1703.1.

3.0 DESCRIPTION

The KPS Global wall and ceiling panels are used for coolers and freezers for indoor and outdoor use in accordance with the 2020 and 2023 Los Angeles Building Code.

The panels consist of wood or urethane frames with No. 26 gage steel facers and a core of urethane foam plastic having a nominal density of 2.2 pcf. The panels utilize cam-lock devices to connect them together.

Wood-frame panels are made of SPF lumber, No. 2 or better. INSULFRAME panels have a molded urethane frame having a density of 10.3 pcf. FUSIONFRAME panels have a molded urethane frame having a density of 5.25 pcf.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Structural: See Table 2 for panels spans and Table 3 for allowable axial compressive and shear loads for the Wood-frame and INSULFRAME panels. See Table 4 for panels spans and Table 5 for allowable vertical and shear loads for the FUSIONFRAME panels. Height-to-width ratios for the panels are shown in Tables 3 and 5.

4.2 Flame Spread Characteristics: The foam core has a flame spread index of 25 or less and a smoke-developed index of 450 or less, based on testing in accordance with ASTM E84.

5.0 INSTALLATION

5.1 The KPS Global wall and ceiling panels must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Evaluation Report.

A thermal barrier is not required when installed in compliance with IBC Sections 2603.4.1.2, 2603.4.1.3, 2603.4.1.4 or 2603.4.1.5, as applicable.

6.0 CONDITIONS OF USE

The panels are recognized as structural wall and ceiling panels for use in interior and exterior non-fire-rated walk-in cooler and freezers as loadbearing walls, roof panels, shear walls and diaphragms, subject to the following conditions:

1. No permanent loads, equipment or storage loads shall be carried by the ceiling panels with the exception of the evaporator. If the evaporator is supported from the top

panel, it must be accounted for in calculations for ceiling panel loads. For equipment loads, calculations demonstrating that the applied loads are less than the maximum allowable loads must be submitted to the City of Los Angeles Structural Plan Check Section for each project. Plans and calculations shall bear the stamp and signature of a California registered civil or structural engineer or architect.

2. The panels shall be used only in areas where combustible materials are permitted by the code.

3. An approved fire-retardant roof covering shall be placed over the panels when used as an exterior roof panel.

4. General approval of an equivalent alternate to the Code is only valid where an engineer or inspector of the City of Los Angeles has determined that all conditions of this Approval have been met in the project in which it is to be used.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests demonstrating compliance with ASTM E72, ASTM E330, and ASTM E84.

7.2 Engineering calculations and span charts, Tamarack Grove Engineering, Project 19-13636, dated Apr 15, 2020.

7.3 Intertek Listing Report for "KPS Global – Wood-frame, INSULFRAME® and FUSIONFRAME® Panels for Walk-in Coolers and Freezers" at www.bpdirectory.intertek.com (reference Spec ID 76782).

Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

The wall and ceiling panels are identified with the following:

- Name of the report holder
- Product name
- Serial number
- Production bar code
- Intertek Mark as shown below
- Intertek Control No.
- Building Code evaluation report number, LCR-76782

9.0 BUILDING CODE EVALUATION REPORT USE

9.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2 Building Code Evaluation Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

9.3 Reference to https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	2023 LABC SECTION
Structural	Chapter 16
Weather resistance	Chapter 14
Surface burning characteristics	2603.3
Thermal barrier requirements	2603.4

TABLE 2–

PANELS					TOPS/CEILINGS										WALLS									
					INDOOR	OUTDOOR									INDOOR	OUTDOOR								
					Defl L/180	Includes 2 PSF for Membrane or Standing Seam Roof Design based on deflection criteria: L/240									Defl L/180	ASCE 7-05/10 EXP. C, ≤15° OAH 3sec Gusts Design based on deflection criteria: L/180								
					LIVE LOADS – PSF										LIVE LOADS – PSF									
FINISH	SKIN THICKNESS	PANEL THICKNESS	DEAD LOAD PSF	R VALUE	10	20	30	40	50	60	70	80	90	100	5	85 MPH 110 MPH 13.9	90 MPH 115 MPH 15.5	95 MPH 120 MPH 17.4	100 MPH 130 MPH 19.5	110 MPH 140 MPH 23.2	115 MPH 150 MPH 25.9	125 MPH 160 MPH 29.9	140 MPH 180 MPH 37.6	155 MPH 200 MPH 46.3
WOOD FRAME															2.2-POUND DENSITY									Fc=18psi
ALUM	0.032"	2½"	2.0	20	12'-6"	Do not use 2 1/2" panels outdoors									15'-2"	Do not use 2 1/2" panels outdoors								
		3½"	3.0	28	15'-6"	10'-10"	9'-7"	8'-9"	8'-1"	7'-7"	7'-3"	6'-11"	6'-7"	6'-3"	20'-2"	13'-11"	13'-4"	12'-8"	12'-0"	11'-1"	10'-6"	9'-9"	8'-7"	7'-7"
		4"	3.5	32	17'-7"	14'-4"	11'-9"	10'-2"	9'-1"	8'-3"	7'-7"	7'-1"	6'-8"	6'-4"	22'-6"	15'-0"	14'-4"	13'-8"	13'-0"	12'-4"	11'-9"	11'-0"	9'-11"	8'-11"
		5"	4.0	40	20'-9"	14'-10"	13'-2"	12'-1"	11'-3"	10'-7"	10'-1"	9'-7"	9'-3"	8'-7"	26'-0"*	18'-9"	17'-11"	17'-0"	16'-1"	15'-5"	14'-8"	13'-8"	12'-2"	10'-9"
GALV	26 ga.	2½"	2.5	20	13'-8"	Do not use 2 1/2" panels outdoors									16'-7"	Do not use 2 1/2" panels outdoors								
		3½"	3.5	28	17'-6"	13'-3"	11'-1"	9'-9"	8'-10"	8'-2"	7'-7"	7'-2"	6'-9"	6'-5"	22'-10"	15'-5"	14'-9"	14'-1"	13'-6"	12'-8"	12'-1"	11'-5"	10'-6"	9'-8"
		4"	4.0	32	19'-3"	13'-8"	12'-1"	10'-11"	10'-0"	9'-3"	8'-7"	8'-0"	7'-6"	7'-1"	23'-6"	16'-3"	15'-8"	15'-0"	14'-5"	13'-6"	13'-0"	12'-4"	11'-4"	10'-7"
		5"	4.5	40	22'-9"	16'-5"	14'-6"	13'-2"	12'-0"	11'-2"	10'-4"	9'-8"	9'-1"	8'-7"	26'-0"*	18'-11"	18'-4"	17'-9"	17'-1"	16'-2"	15'-7"	14'-10"	13'-7"	12'-6"
	20 ga.	5"	5.5	40	25'-0"*	18'-6"	15'-8"	13'-11"	12'-8"	11'-9"	11'-0"	10'-5"	9'-11"	9'-5"	26'-0"*	26'-0"	24'-11"	22'-7"	20'-0"	15'-11"	15'-9"	15'-7"	15'-2"	14'-8"
INSULFRAME/HIGH DENSITY RAIL (HDR)															2.2-POUND DENSITY									Fc=18psi
ALUM	0.032"	3½"	3.0	28	14'-7"	10'-2"	8'-11"	8'-0"	7'-4"	6'-10"	6'-5"	5'-8"	5'-5"	5'-2"	19'-5"	13'-2"	12'-6"	11'-10"	11'-3"	10'-3"	10'-1"	9'-4"	8'-3"	7'-3"
		4"	3.5	32	16'-2"	13'-5"	10'-9"	9'-1"	8'-0"	7'-3"	6'-7"	6'-1"	5'-9"	5'-4"	19'-9"	13'-3"	12'-8"	12'-1"	11'-7"	10'-10"	10'-4"	9'-9"	8'-11"	8'-3"
		5"	4.0	40	19'-4"	13'-10"	12'-2"	11'-0"	10'-1"	9'-5"	8'-11"	7'-10"	7'-6"	7'-2"	25'-8"	17'-0"	16'-2"	15'-3"	14'-4"	14'-3"	13'-5"	12'-5"	10'-10"	9'-5"
GALV	26 ga.	3½"	3.5	28	15'-7"	12'-8"	10'-10"	9'-6"	8'-5"	7'-7"	6'-10"	6'-2"	5'-7"	5'-1"	22'-0"	14'-11"	14'-2"	13'-6"	12'-10"	11'-11"	11'-4"	10'-8"	9'-7"	8'-9"
		4"	4.0	32	18'-1"	12'-6"	10'-11"	9'-5"	8'-5"	8'-0"	7'-4"	6'-10"	6'-4"	5'-10"	22'-3"	16'-1"	15'-7"	14'-11"	14'-4"	13'-5"	12'-11"	12'-2"	10'-11"	9'-10"
		5"	4.5	40	21'-0"	15'-0"	13'-2"	11'-9"	10'-9"	9'-10"	9'-1"	8'-5"	7'-11"	7'-4"	26'-0"*	17'-6"	16'-11"	16'-2"	15'-6"	14'-6"	13'-10"	13'-0"	11'-8"	10'-6"
	20 ga.	5"	5.5	40	23'-6"	17'-11"	15'-6"	13'-5"	12'-3"	11'-1"	10'-2"	9'-4"	8'-7"	8'-0"	26'-0"*	21'-2"	20'-2"	19'-2"	18'-3"	16'-11"	16'-1"	15'-1"	13'-8"	12'-2"

Wind speeds given in the table are for V_{ASD} and for V_{ULT} as required by the applicable building code edition (2009/2012+)

*MAX SPAN IS BASED ON MANUFACTURING LIMITATION.

REGISTERED PROFESSIONAL ENGINEER WILLIAM H. SCHEU II No. C32642 CIVIL STATE OF CALIFORNIA

8.3.17

kps GLOBAL

Engineering Bulletin No.: 900

Panel Span Chart | Date: August 2, 1992 | Rev: August 3, 2017

TABLE 3 –

KPS Global
Racking Shear - Based on PFS Load Test Report # 05-37A Maximum
Allowable Shear Load of Wood Framed Panels

Height to Width Ratio	Allowable Shear PLF
4 To 1	160
3 To 1	161
2 To 1	179
1 ½ To 1	246
1 To 1	333
½ To 1	646

KPS Global
Compressive Load - Based on PFS Test Report # 05-37B

Maximum Allowable Vertical Load of Wood Framed Panels

Panel Thickness (Inches)	Panel Height (Feet)	Allowable Vertical Load (PLF)
3 ½	12	2080
3 ½	17	1946
3 ½	22	1033
5	16	2779
5	21	1582
5	26	1037

KPS Global
Racking Shear - Based on PFS Load Test Report # 05-37A

Maximum Allowable Shear Load of Insul-Frame Panels

Height to Width Ratio	Allowable Shear PLF
4 To 1	56
3 To 1	65
2 To 1	88
1 ½ To 1	108
1 To 1	136
½ To 1	208

KPS Global
Compressive Load - Based on PFS Test Report # 05-37B

Maximum Allowable Vertical Load of Insul-Frame Panels

Panel Thickness (Inches)	Panel Height (Feet)	Allowable Vertical Load (PLF)
3 ½	12	920
3 ½	17	714
3 ½	22	603
5	16	1048
5	21	800
5	26	623

TABLE 4 –

PANELS					TOPS/CEILINGS										WALLS									
FINISH	SKIN THICKNESS	PANEL THICKNESS	DEAD LOAD PSF	R VALUE	INDOOR Defl L/180	OUTDOOR Includes 2 PSF for Membrane or Standing Seam Roof Design based on deflection criteria: L/240									INDOOR Defl L/180	OUTDOOR V_{ASD}/V_{ULT} EXP. C, ≤15' OAH 3sec Gusts Design based on deflection criteria: L/180								
					LIVE LOADS – PSF										LIVE LOADS – PSF									
					10	20	30	40	50	60	70	80	90	100	5	85 MPH 110 MPH 13.9	90 MPH 115 MPH 15.5	95 MPH 120 MPH 17.4	100 MPH 130 MPH 19.5	110 MPH 140 MPH 23.2	115 MPH 150 MPH 25.9	125 MPH 160 MPH 29.9	140 MPH 180 MPH 37.6	155 MPH 200 MPH 46.3
FUSIONFRAME®															2.2-POUND DENSITY									Fc=18psi
GALV	26 ga.	3½"	3.5	28	18'-1"	13'-1"	11'-2"	9'-11"	9'-0"	8'-4"	7'-9"	7'-4"	6'-11"	6'-8"	21'-0"	13'-1"	12'-5"	11'-9"	11'-2"	10'-4"	9'-10"	9'-2"	8'-3"	7'-6"
		4"	4.0	32	19'-5"	13'-7"	11'-5"	10'-1"	9'-1"	8'-5"	7'-10"	7'-5"	7'-0"	6'-9"	23'-0"	13'-7"	12'-10"	12'-2"	11'-6"	10'-7"	10'-0"	9'-4"	8'-4"	7'-7"
		5"	4.5	40	22'-0"	15'-5"	13'-0"	11'-7"	10'-6"	9'-9"	9'-1"	8'-8"	8'-2"	7'-10"	26'-0" *	15'-11"	15'-2"	14'-5"	13'-8"	12'-7"	12'-0"	11'-3"	10'-2"	9'-3"

Wind speeds given in the table are for V_{ASD} and for V_{ULT} as required by the applicable building code edition (2012/2015+)

* MAX. SPAN IS BASED ON MANUFACTURING LIMITATION.

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EXPIRES 12/31/2020
04/15/2020

KPS GLOBAL

Engineering Bulletin No.: 900

Panel Span Chart

Date: March 1, 2020
Rev:

TABLE 5 –

KPS Global
Racking Shear - Based on Intertek Test Report # K5341.08-301-44

Maximum Allowable Shear Load of FUSIONFRAME® Panels

Height to Width Ratio	Allowabale Shear (PLF)
4 To 1	80
3 To 1	102
2 To 1	205
1 1/2 To 1	293
1 To 1	496
1/2 To 1	630

KPS Global
Compressive Load - Based on Intertek Test Report # K5341.09-301-32 & K5341.06-301-44

Maximum Allowable Vertical Load of FUSIONFRAME® Panels

Panel Thickness (Inches)	Panel Height (Feet)	Allowable Vertical Load (PLF)
3 1/2	21	1191
4	23	1191
5	26	1191