

**EVALUATION REPORT OF
KINGSPAN K-ROC WALL PANELS**

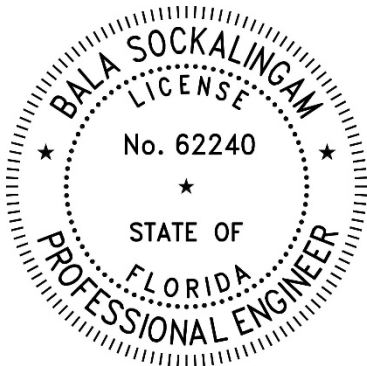
**FLORIDA BUILDING CODE 8TH EDITION (2023)
FLORIDA PRODUCT APPROVAL
FL 25618.1-R1
STRUCTURAL COMPONENTS
STRUCTURAL WALL**

**Prepared For:
Kingspan Insulated Panels, Inc.
726 Summerhill Drive
Deland, FL 32724
Telephone: (386) 626-6789**

**Prepared By:
Bala Sockalingam, Ph.D., P.E.
Florida Professional Engineer #62240
1216 N Lansing Ave., Suite C
Tulsa, OK 74106
Telephone: (918) 492-5992**

**This report consists of
Evaluation Report (3 Pages including cover)
Installation Details (2 Pages)
Load Span Table (1 Page)**

**Report No. C2807-1
Date: 8.2.2024**



This item has been digitally signed and sealed by Bala Sockalingam, PE, on the date indicated.

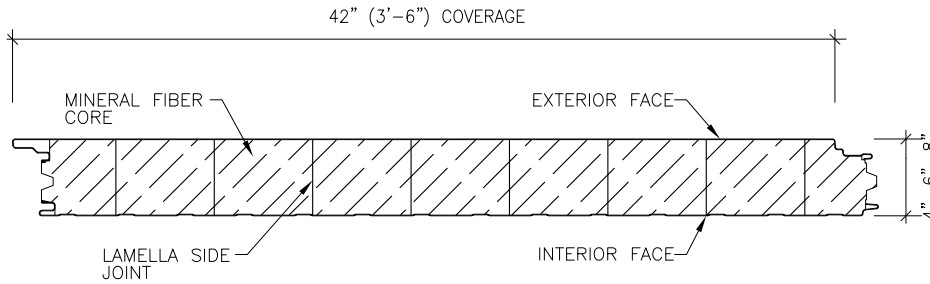
Printed copies of this document are not considered signed and sealed and this signature must be verified on any electronic copies.

**2024.08.02
15:37:17 -05'00'**

Manufacturer:	Kingspan Insulated Panels, Inc.
Product Name:	K-Roc Wall Panel
Panel Description:	K-Roc panels are factory-assembled, metal faced, sandwich panels adhered with rigid mineral wool lamellas core. 42" coverage. Nominal Panel thickness: 4" (3.875"), 6" (5.875") & 8"(7.875"). Double tongue and groove interlocking joint with a concealed clip joint.
Panel Core:	The mineral fiber core is non-combustible, rigid mineral wool lamellas. Mineral wool fibers were oriented perpendicular to the panel skins for maximum structural strength and adhered to the panel skins with two-part adhesive. Nominal core density is 8.5 pcf.
Exterior skin:	Min. 26 ga., 33 ksi galvanized coated steel (ASTM A653) or galvalume coated steel (ASTM A792) or galvalume coated steel (ASTM A792) or min. 24 ga., 316 stainless steel (ASTM A240) with 'Shadowline', 'Flat', 'Micro-Rib', 'Mini Micro-Rib' or 'Aztec' profiles with embossed, smooth or coated finish. Corrosion resistant as per FBC 2023 Section 1405.2.
Interior skin:	Min. 26 ga., 33 ksi galvanized coated steel (ASTM A653) or galvalume coated steel (ASTM A792) or min. 24 ga., 316 stainless steel (ASTM A240) with 'Shadowline' profiles with embossed, smooth or coated finish. Corrosion resistant as per FBC 2023 Section 1405.2.
Support Description:	Min. 16 ga., 50 ksi steel section. (Must be designed by others)
Design Pressure:	Inward and outward transverse loads are shown in the load span table. The allowable loads for panel strength, connection and deflection limit of L/180 were developed from test data.
Through Fastening:	Panels fastened to steel supports with ¼"-14 DP3 or ¼"-20 DP5 hex head self-drilling screws with nominal 9/16" diameter integral washers spaced at 6"-15"-15"-6" at all supports. Panel fasteners must be designed by others for pullout load from support. Fastener shall be of sufficient length to penetrate through the support a minimum of ¾". Corrosion resistant as per FBC 2023 Section 1405.17.
Concealed Fastening	Panels fastened to interior steel supports with stainless steel clip (2.25" long, 0.75" wide, 12 ga.) and ¼"-14 DP3 or ¼"-20 DP5 hex head self-drilling screws. Two screws per clip at all supports. Clip fasteners must be designed by others for pullout load from support. Corrosion

resistant as per FBC 2023 Section 1405.17. At the end supports, the panels are through fastened with three fasteners per panel.

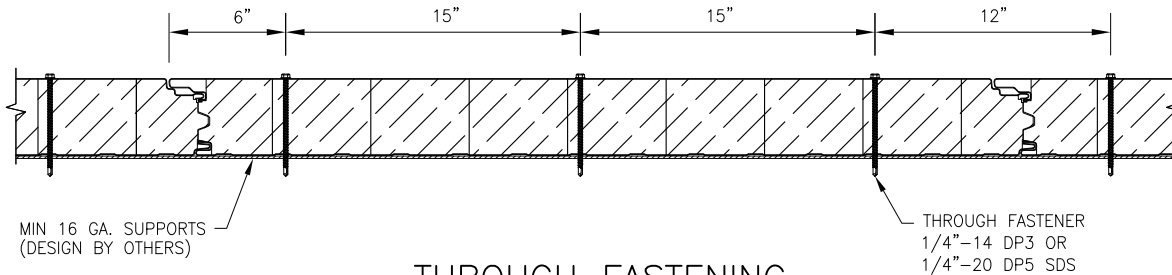
Test Standards:	Wall assembly tested in accordance with ASTM E72-15 “Standard Test Methods of Conducting Strength Tests of Panels for Building Construction” as outlined in Acceptance Criteria for Sandwich Panels AC04.
Test Equivalency:	The test procedure in ASTM E72-15 standard complies with the testing requirements of ASTM E330-14 “Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference”.
Weather Resistance:	K-Roc Panels, when installed in accordance with this report and Kingspan current installation procedure, provide a weather resistant exterior wall envelope based on testing in accordance with ASTM E331 and FBC Section 1403.2.
Code Compliance:	The product described herein has demonstrated compliance with FBC 2023 Section 1404.5.
Product Limitations:	Design wind loads shall be determined for each project in accordance with FBC 2023 Section 1609 or ASCE 7-22 using allowable stress design. The maximum support spacing listed herein shall not be exceeded. The design pressure for reduced support spacing may be computed using rational analysis prepared by a Florida Professional Engineer or Kingspan load span table. This evaluation report is not applicable in High Velocity Hurricane Zone.
Supporting Documents:	ASTM E72 Test Report Intertek Testing Services NA Ltd. M9168.01-119-16, Reporting Date 6/22/2022, Revised Date 10/19/2022 ASTM E331 Test Report Intertek Testing Services NA Ltd. N9720.01-109-36, Reporting Date 8/12/2022, Revised Date 9/6/2023 N9721.01-109-36, Reporting Date 8/12/2022



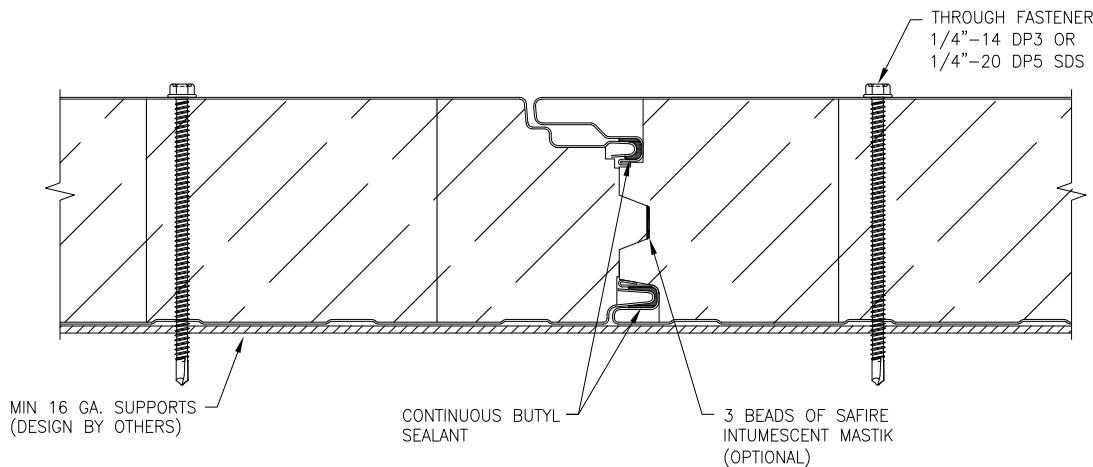
4", 6" OR 8" THICK PANELS

GENERAL NOTES:

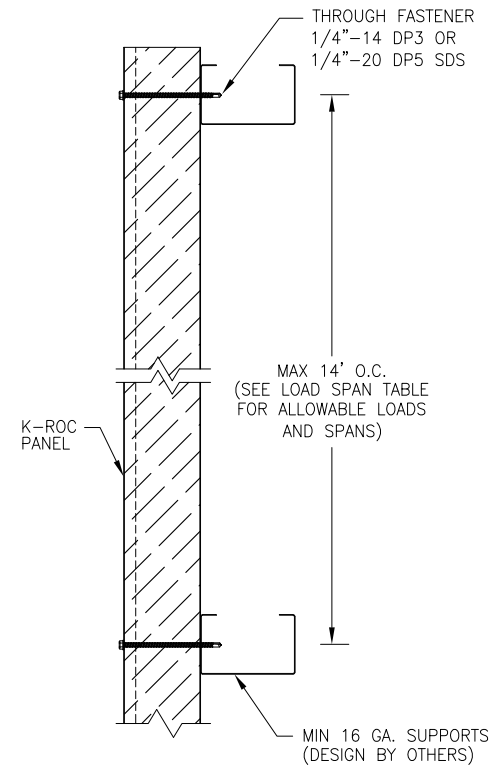
1. THIS STRUCTURAL WALL PANEL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE (FBC). THE DESIGN PRESSURES AS DETERMINED FROM SECTION 1609 AND ASCE 7-22 MUST BE MULTIPLIED BY 0.6.
2. PANELS ARE 42" WIDE, CONSIST OF MIN. 26 GA. ($t = 0.018"$ MIN.) EXTERIOR OR INTERIOR STEEL SKINS ($F_y = \text{MIN. } 33 \text{ KSI}$) AND ARE SANDWICHED WITH RIGID MINERAL WOOL LAMELLAS CORES. NOM. DENSITY: 8.5 LB/CU.FT.
3. PANELS SHALL BE INSTALLED OVER WALL STRUCTURE AS SPECIFIED ON THESE DRAWINGS.
4. PANELS MUST BE INSTALLED OVER MIN. 2 SUPPORTS. HORIZONTAL OR VERTICAL SEAMS MAY BE PRESENT AT CENTERLINE OF SUPPORTS PROVIDING THE SEAMS ARE FLASHED & PROPERLY SEALED PER KINGSPAN SPECIFICATIONS AND EACH PANEL END IS SECURED PER THESE DRAWINGS.
5. REQUIRED DESIGN WIND LOADS SHALL BE DETERMINED FOR EACH PROJECT. THIS PANEL SYSTEM MAY NOT BE INSTALLED WHEN THE REQUIRED DESIGN WIND LOADS ARE GREATER THAN THE ALLOWABLE WIND LOADS SPECIFIED ON LOAD SPAN TABLES.
6. ALL SCREWS SHALL BE CORROSION RESISTANT SCREWS.
7. THE SUPPORTING STRUCTURE, OVER WHICH THE PANELS ARE TO BE INSTALLED, MUST BE MINIMUM 16 GA. STEEL WITH MIN. $F_y = 50 \text{ KSI}$.
8. THESE WALL PANELS SHALL NOT BE CONSIDERED TO OR BE USED FOR TRANSFER OF DIAPHRAGM ACTION OF WALL TO SUPPORTING STRUCTURE.



THROUGH FASTENING
@ ALL SUPPORTS



PANEL SIDELAP



SECTION VIEW

DRAWN BY: B.S.	CHECKED BY: O.L.
PLOT:	DATE: 7/24/2024
DATE	
BY	
REVISION DESCRIPTION	
NO.	
DRAWING TITLE K-ROC WALL PANEL	MANUFACTURER KINGSPAN INSULATED PANELS, INC. 726 SUMMERHILL DRIVE DELAND, FL 32724 PHONE: 386-626-6789
CONSULTANTS BALA SOKALINGAM, PH.D., P.E. 1216 N LANSING AVE, SUITE C TULSA, OK 74106 PHONE: 918-492-3592 FAX: 866-366-1543	
DRAWING NO. 2807-1	REV.
PAGE NO. 1	OF 2



DRAWING NO.	REV.
2807-1	
PAGE NO.	
2 OF 2	

Kingspan Insulated Panels

K-Roc Mineral Wool Panel												
Mineral Wool Panel (42" wide) Thickness	Span Condition	Allowable Positive and Connection Load (psf)										
		Panel Span (ft)										
		4	5	6	7	8	9	10	11	12	13	14
		Through Fastening										
Nom 4"	Single	68.8	55.1	45.9	39.3	34.4	30.6	27.5	23.3	19.6	16.7	14.4
	Double	54.1	42.5	34.8	29.3	25.2	22.1	19.7	17.7	16.1	14.8	13.6
	Three or more	54.7	43.3	35.7	30.4	26.5	23.4	21.0	19.0	17.4	16.0	14.9
Nom 6"	Single	71.7	57.4	47.8	41.0	35.8	31.8	28.7	26.0	23.9	22.0	20.5
	Double	54.7	43.1	35.3	29.8	25.7	22.6	20.1	18.0	16.4	15.0	13.8
	Three or more	55.1	43.6	36.0	30.6	26.6	23.6	21.1	19.1	17.5	16.1	14.9
Nom 8"	Single	71.7	57.4	47.8	41.0	35.8	31.8	28.7	26.0	23.9	22.0	20.5
	Double	55.0	43.4	35.7	30.1	26.0	22.8	20.3	18.2	16.6	15.2	14.0
	Three or more	55.3	43.8	36.2	30.8	26.8	23.7	21.2	19.2	17.5	16.1	15.0
		Concealed Fastening										
Nom 4"	Double		21.9	19.5	17.8	16.5	15.5	14.7				
	Three or more		22.3	20.0	18.4	17.3	16.3	15.6				
Nom 6"	Double		22.0	19.7	17.9	16.6	15.6	14.8				
	Three or more		22.4	20.1	18.5	17.3	16.4	15.7				
Nom 8"	Double		22.4	20.0	18.3	17.0	15.9	15.1				
	Three or more		22.6	20.3	18.7	17.5	16.5	15.8				

Notes:

1. Allowable load is the lowest value of panel strength, connection strength & deflection limit of L/180.
2. Allowable load is applicable to one, two or three or more span conditions.
3. Loads based on panel stress, deflection and connection design criteria are derived from ASTM E72 testing.
4. Allowable loads are calculated with a factor of safety of 2.5 for bending, 3.0 for shear and 2.0 for connection
5. For K-ROC Panels with concealed fastening, panels will be fastened with 12 ga. clip and (2) 1/4"-20 SDS in minimum 3/16" steel. For supports thinner than 3/16" steel, the clip fasteners (1/4"-14 or 1/4"-20 SDS) must be designed by others for pullout load from support.
6. For K-ROC Panels with through fastening, panels will be through fastened with 1/4"-20 SDS in minimum 3/16" steel. Three fasteners per panel with fasteners spaced at 6"-15"-15"-6" o.c. For supports thinner than 3/16" steel, the through fasteners (1/4"-14 or 1/4"-20 SDS) must be designed by others for pullout load from support.
7. The structural capacity of the girts are not considered and must be examined independently.
8. Panels must be installed as per Evaluation Report FL 25618.1 and Kingspan current installation procedure.

Bala Sockalingam, Ph.D., P.E.
 FL 62240
 1216 N Lansing Ave., Suite C
 Tulsa OK 74106
 918 492 5992