



A **NUCOR** Company

Kirby KLM 2100 Panel

Panel Specifications

PRODUCT NAME

KLM Roof System for new roofing or retrofit roofing.

MANUFACTURER

Kirby Building Systems
P.O. Box 390, 124 Kirby Drive
Portland, TN 37148
615.325.4165
www.kirbybuildingsystems.com

PRODUCT DESCRIPTION

Basic Use: For roofing new buildings or reroofing existing buildings of any construction type. Specially designed roof panels are secured to the structural system with concealed clips. An electric seaming machine rolls a 360 degree seam to ensure against leaks. Sliding clips provide for thermal expansion along the slope. KLM panels have ribs 3" high on 24" centers. Net width coverage of each panel is 2', and panels are available in standard lengths up to 45'. Longer lengths are available upon request.

Materials: KLM roof panels are 24 or 22 gage 50,000 psi steel. Galvalume coated ASTM A792-08 GR 50 Class I. Available in our entire standard colors with a Fluoropolymer color finish. Also available in four Silicone-Polyester colors. KLM has a two piece floating clip providing thermal expansion or contraction (UL 90 Rated - Underwriters Laboratories).

KLM sidelaps have factory applied Hot Melt mastic. Endlaps, roof flashing laps, ridges and eave closures are sealed with tape mastic. The material is non-staining, non-corrosive, non-toxic and non-volatile.

Caulk: All gutter endlaps, endcaps, outside closure-to-panel rib, outside closure tabs to outside closure tabs and and roof accessories are sealed with polyurethane caulk.

All fasteners for panel to secondary framing and panel to panel will be one of the following EPDM washer head screws.

Standard roof fasteners shall be No. 1/4"-14 x 1 1/4" ZAC.

KLM panel clips are attached to the purlins with the following fasteners:

Self-drilling screws are 1/4'-14x1 1/4" TEK 2 with washer.

TECHNICAL DATA

The KLM panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The KTM roof panel has been Factory Mutual approved. This panel has also been tested in accordance with Wind Lift ASTM E1592 and CEGS 07416, Air Infiltration, ASTM E1680-95 and Water Penetration, ASTM E1646-95. This panel has been approved for SREF (SSTD-97) Impact Testing.

INSTALLATION

Installation should be performed in accordance with Kirby Building Systems' manuals and building erection drawings, and should be by a qualified installer using proper tools and equipment.

AVAILABILITY

For availability, contact:
Kirby Building Systems
P. O. Box 390, 124 Kirby Drive
Portland, TN 37148
615.325.4165

WARRANTY

Twenty-year material and weathertightness warranties can be ordered. Thirty-five paint finish warranties can be ordered.

MAINTENANCE

Only normal routine maintenance is required over the life of the panels.

TECHNICAL SERVICES

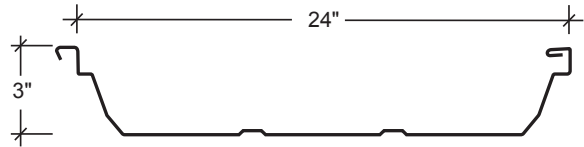
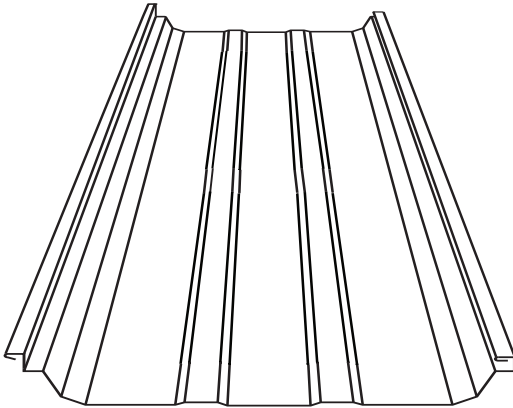
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PRODUCT NOTES

A certain amount of waviness called "oilcanning" may exist in this panel. Minor waviness of the panel is not sufficient cause for rejection, because oilcanning does not affect the structural integrity of the panel. Standing seam panels in general are known for tendency to rumble in high winds if insulation is not used. KLS and KLM are no different. Under no circumstances should KLS or KLM be used without blanket insulation between the panel and the purlin/bar joist.



Engineering Properties of Kirby's KLM Panel								
Designated Gage of Steel	Base Metal Thickness (In)	Total Thickness (In)	Panel Weight (Square/Ft)	Negative Bending		Positive Bending		Fy (Ksi)
				I _{xe} (In ⁴ /Ft)	S _{xe} (In ³ /Ft)	I _{xe} (In ⁴ /Ft)	S _{xe} (In ³ /Ft)	
24 Gage	0.0224	0.0242	1.23	0.1507	0.0989	0.3224	0.1307	50
22 Gage	0.0300	0.0318	1.56	0.2059	0.01394	0.4202	0.1708	50
Gage of Steel	Number of Spans	Maximum Total Uniform Load in PSF						
		L= 3'-0"	L= 3'-6"	L= 4'-0"	L= 4'-6"	L= 5'-0"		
24 Gage	2	170.0	145.7	123.4	97.5	79.0		
	3	170.0	145.7	127.5	113.3			
	4	170.0	145.7	127.5	113.3	92.2		
22 Gage	2	247.5	212.1	173.9	137.4	111.3		
	3	247.5	212.1	185.6	165.0	139.1		
	4	247.5	212.1	185.6	160.4	129.9		

1. Allowable loads are based on uniform span lengths and Fy = 50 ksi.
2. LIVE LOAD is limited by bending, shear, combined shear & bending.
3. Above loads consider a maximum deflection ratio of L/180
4. The weight of the panel has not been deducted from the allowable loads.
5. THE ABOVE LOADS ARE NOT FOR USE WHEN DESIGNING PANELS TO RESIST WIND UPLIFT.
6. Please contact manufacturer or manufacturer's website for most current allowable wind uplift loads.

Kirby Building Systems reserves the right to revise all standard specifications and information.