



A **NUCOR** Company

# Kirby KLS 2100 Panel

## Panel Specifications

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### PRODUCT NAME

KLS 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. Sliding clips provide for thermal expansion along the slope. KLS 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: KLS 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. KLS has a two piece floating clip providing thermal expansion or contraction (UL 90 Rated - Underwriters Laboratories).

KLS 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.

KLS 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 KLS panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The KLS roof panel has been Factory Mutual approved. This panel has also been tested in accordance with, Air Infiltration, ASTM E1680-95 and Water Penetration, ASTM E1646-95.

### 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

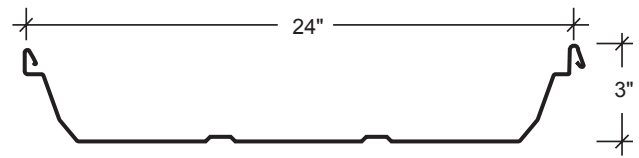
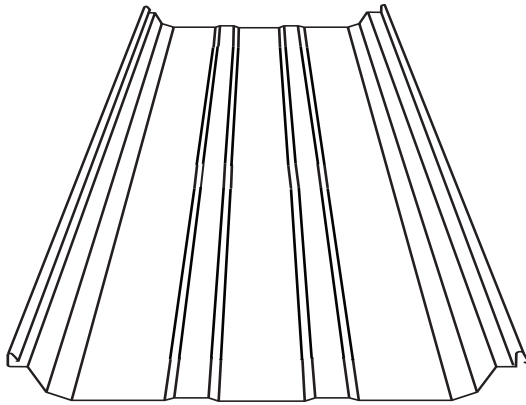
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### PRODUCT NOTES

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 KLS Panel

Designated Gage of Steel	Base Metal Thickness (In)	Total Thickness (In)	Panel Weight (Square/Ft)	Top In Compression		Bottom In Compression		Fy (Ksi)
				Ixe (In <sup>4</sup> /Ft)	Sxe (In <sup>3</sup> /Ft)	Ixe (In <sup>4</sup> /Ft)	Sxe (In <sup>3</sup> /Ft)	
				24 Gage	0.0224	0.0242	1.23	
22 Gage	0.0300	0.0318	1.56	0.1837	0.1332	0.364	0.1504	50
Maximum Total Uniform Load in PSF								
Gage of Steel	Number of Spans	L= 3'-0"	L= 3'-6"	L= 4'-0"	L= 4'-6"	L= 5'-0"		
24 Gage	1	170.0	145.7	127.5	113.3	92.1		
	2	170.0	145.7	118.7	93.8	75.9		
	3	170.0	145.7	127.5	113.3	94.9		
	4	170.0	145.7	127.5	109.4	88.6		
22 Gage	1	247.5	212.1	185.6	148.2	99.2		
	2	247.5	212.1	155.2	131.3	87.9		
	3	247.5	212.1	185.6	164.1	109.9		
	4	247.5	212.1	185.6	152.3	102.6		

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.**