

Roof-Lok / Roof-Lok Plus Panel Specifications

PRODUCT NAME

Roof-Lok panel for roof applications.

MANUFACTURER

Kirby Building Systems
P. O. Box 390, 124 Kirby Drive
Portland, TN 37148(615) 325-4165

PRODUCT DESCRIPTION

These standing seam roof panels offer a flat profile with minor striations and optional pencil ribs for an attractive appearance on higher pitched roofs. Roof-Lok panels are seamed electrically and Roof-Lok Plus panels have full 360 degree rolled seams formed with an electrical seaming machine.

Basic Use: A roof covering system for new or retrofit construction.

Materials: Roof-Lok panels are 24 and 22 gauge 50,000 psi either G90 zinc-coated (galvanized) or AZ50 aluminum-zinc alloy-coated steel. Pre-painted panels have Kirby Building Systems' premium DiamondKote (Kynar 500®) Finish.

Panel clips for the Roof-Lok panels are two part assemblies. The tab portions are a nominal 2-3/8" or 3-1/8" (for thermal blocks) in height and 3" in width, die formed 24 gauge aluminum coated steel. The bases are die formed 18 gauge zinc-coated (galvanized) steel. Expansion capability is 1-1/4". Roof-Lok panel side laps have factory applied mastic, SikaLastomer-511 or equal. Its composition is 85% solids by weight. Service temperature range is -60° F to + 220° F.

End laps, roof flashing laps, ridges, and eave closures are sealed with tape mastic, Sika Sika-Tape TC-95 or equal. The material is non-staining, non-corrosive, non-toxic and non-volatile. Composition is 100% solid ethylene propylene copolymer tape. Service temperature is -60° F to + 212° F.

Caulk: Eaves, end laps, ridge and eave closures are sealed with non-skinning butyl caulk, SikaLastomer-511 or equal. Its composition is 85% solids by weight. Service temperature range is -60° F to + 220°F. All gutter and downspout joints and roof accessories are sealed with polyurethane caulk, Sika SikaFlex 219LM or equal. It meets or exceeds Federal specification TT-S- 00230C, Type II, Class A.

All fasteners for panel to secondary framing and panel to panel will be No. 14 x 1" self-drilling carbon steel screws with a molded zinc alloy or capped stainless steel cupped hex washer head. Roof fasteners shall be assembled with an EPDM washer.

All panel clips are attached to the purlins with self-drilling carbon steel screws No. 12 x 1-1/4" hex head, cadmium or zinc plated.

TECHNICAL DATA

The Roof-Lok Plus panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The Roof-Lok Plus roof panel has been Factory Mutual approved and tested in accordance with Wind Uplift ASTM E1592 and CEGS 07416. This panel has also been tested in accordance with Air Infiltration, ASTM E1680 and Water Penetration, ASTM E1646. This panel has been approved for SREF (SSTD-97) Impact Testing. This panel has received a Class A fire rating when tested in accordance with test procedure ASTM E108.

The Roof-Lok panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The Roof-Lok roof panel has been tested in accordance with CEGS 07416. This panel has also been tested in accordance with Air Infiltration, ASTM E1680, ASTM E283 and Water Penetration, ASTM E1646, ASTM E331. This panel has received a Class A fire rating when tested in accordance with test procedure ASTM E108.

INSTALLATION

Panels are joined at the side lap with an interlocking seam. Panel side laps are seamed by a special electrical seaming machine. Side lap sealer is factory applied. Roof systems are installed by Kirby Building Systems' Authorized Builders in accordance with Kirby manuals and building erection drawings.. Installation may be incorporated with a light gauge structural system.

AVAILABILITY AND TECHNICAL SERVICES

For availability, contact:
Kirby Building Systems
P.O. Box 390, 124 Kirby Drive, Portland, TN 37148
(615) 325-4165

WARRANTY

35-year paint finish and 20-year weathertightness warranties are available.

MAINTENANCE

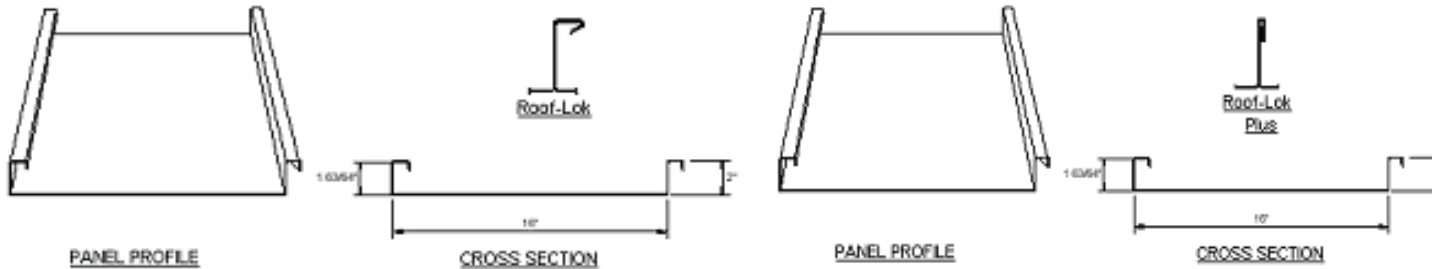
Only normal routine maintenance is required over the life of the panels.

PRODUCT NOTES

A certain amount of waviness called "oil canning" may exist in this panel. Minor waviness of the panel is not sufficient cause for rejection, because oil canning does not affect the structural integrity of the panel. Descriptions and specifications contained herein were in effect at the time this publication was approved for printing. In a continuing effort to refine and improve products, Kirby Building Systems reserves the right to discontinue products at any time or change specifications and/or designs without incurring obligation.

Roof-Lok Panels in general are known for their tendency to rattle in high winds if insulation is not used. An insulation spacer strip (FS-1) should be used along the roof purlins whenever insulation is not required in the roof system.

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



Engineering Properties of Kirby's Roof-Lok & Roof-Lok Plus Panel								
Designated Gage of Steel	Base Metal Thickness (In)	Total Thickness (In)	Panel Weight (Lbs/Ft ²)	Top In Compression		Bottom In Compression		Fy/1.67 (Ksi)
				Ix (In ⁴ /Ft)	Sx (In ³ /Ft)	Ix (In ⁴ /Ft)	Sx (In ³ /Ft)	
24 Gage	0.0225	0.0230	1.29	0.152	0.079	0.071	0.060	30
22 Gage	0.0300	0.0301	1.69	0.213	0.127	0.106	0.092	30
Designated Gage of Steel	Number of Spans	Maximum Total Uniform Load in PSF						
		L= 2'-6"	L= 3'-0"	L= 3'-6"	L= 4'-0"	L= 4'-6"	L= 5'-0"	
24 Gage	1	115/-106	84/-78	65/-60	47/-41	36/-30	21/-17	
	2	106/-115	78/-84	60/-65	55/-47	45/-38	31/-26	
	3	133/-143	98/-105	75/-81	69/-58	56/-47	39/-33	
	4	124/-134	91/-98	70/-75	65/-54	52/-44	36/-31	
22 Gage	1	150/-142	110/-105	84/-80	65/-55	50/-40	29/-23	
	2	142/-150	105/-110	80/-84	71/-65	58/-52	40/-36	
	3	178/-187	131/-137	100/-105	89/-81	72/-65	50/-44	
	4	166/-174	122/-128	93/-98	83/-75	67/-61	47/-42	

1. Section properties have been calculated in accordance with the *AISI Specification for the Design of Cold-Formed Steel Structural Members, 1996 Edition, including Supplement No. 1 (1999)*
2. Minimum yield strength of steel is 80,000 psi.
3. Steel panels are either aluminum-zinc alloy or G-90 coated. The base metal thickness shown in the minimum design thickness and was used in determining section properties.
4. Positive load is downward load applied to the top of the panel cross section as shown above. Negative load is opposite.
5. The loads shown are limited by the more critical of Span/120 deflection or the allowable bending moment with