

# 16" LOC SEAM / LOC SEAM 360 PANEL SPECIFICATIONS

A NUCOR COMPANY

## 1. PRODUCT NAME

American Loc Seam panel for roof applications.

# 2. MANUFACTURER

# **American Buildings Company**

1150 State Docks Road Eufaula, Alabama 36027 Phone: (334) 687-2032

# 3. 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. Loc Seam panels are seamed electrically and Loc Seam 360 panels have full 360 degree rolled seams formed with an electrical seaming machine. Minimum roof slope for the Loc Seam/Loc Seam 360 roof panels is ¼ to 12.

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

*Materials:* Loc Seam panels are available in 24 or 22 gage 50,000 psi in either G90 zinc-coated (galvanized) steel or aluminum-zinc alloy-coated (AZ50 or AZ55) steel. Prepainted panels have American Buildings Company SmartKote® (PVDF) Finish. Panel clips for the Loc Seam 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 gage aluminum coated steel. The bases are die formed 18 gage zinc-coated (galvanized) steel. Expansion capability is 1-1/4".

Loc Seam panel sidelaps have factory applied mastic, SikaLastomer-511 or equal. Its composition is 85% solids by weight. Service temperature range is -60°F to + 220° F.

Endlaps, 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 isobutylene tripolymer tape. Service temperature is -60°F to + 212° F.

*Caulk:* Eaves, endlaps, 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 one of the following EPDM washer head screws. *Fasteners:* Roof fasteners shall be No. 14 x 1" self-drilling carbon steel screws with a molded zinc alloy hex washer head.

Loc Seam 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.

Maximum "over the purlin" insulation thickness allowed with these panels is 4" without thermal blocks and 8" with thermal blocks and tall clips.

# 4. TECHNICAL DATA

The Loc Seam panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The Loc Seam roof panel has been tested in accordance with ASTM E1592 and 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.

The Loc Seam 360 panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The Loc Seam 360 roof panel has been Factory Mutual and Miami-Dade County approved and also tested in accordance with Wind Uplift ASTM E1592 and CEGS 07416. This panel has 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.

## 5. INSTALLATION

Panels are joined at the sidelap with an interlocking seam. Panel sidelaps are seamed by a special electrical seaming machine. Sidelap sealer is factory applied. Roof systems are installed by American Buildings Company Authorized Builders. Installation may be incorporated with a light gage structural system.

# 6. AVAILABILITY

For availability, contact:

# **American Buildings Company**

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## 7. WARRANTY

Thirty-five year material and twenty year weathertightness warranties are available.

## 8. MAINTENANCE

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

# 9. TECHNICAL SERVICES

For information, contact:

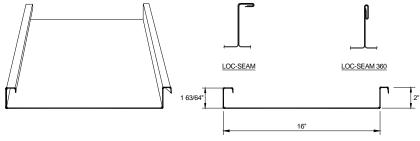
# **American Buildings Company**

## 10. 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.

Loc Seam Panels in general are known for their tendency to rumble 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.

American Buildings Company reserves the right to revise all standard specifications and information. American Buildings Company regularly updates its published "Standard Specifications" on the American Buildings web site, www.americanbuildings.com, which supercede and replace any previously published standard specifications of American **Buildings Company.** 



PANEL PROFILE

**CROSS SECTION** 

			Engin-	eering	Prope	erties o	f Ame	rican E	Buildin	gs Coi	mpany	/ 16" L	ocSea	ım Pan	el (AS	D)			
Designated	Steel	Base			Panel	Panel Base Top In							Bottom In						
Gage	Yield	Metal	Thick.		Metal Weight		Compression						Compression						Fb
of	KSI Thick.		(ln.)		(lbs. / ft.2)		lx		Sx		Ma		lx		Sx		Ma		KSI
Steel	(ln.)						(ln.4 / ft.)		(In.3 / ft.)		K-IN. / ft.		(In.4 / ft.)		(In.3 / ft.)		K-IN. / ft.		
24 Ga.	50 0.0225		0.0241		1.26		0.166		0.099		2.96		0.073		0.061		1.83		30
22 Ga.	50 0.0300		0.0316		1.68		0.225		0.141		4.22		0.110		0.094		2.83		30
Gage			Load																
of	of		Type			Span Lengths, Ft.													
Panel	Spans			1.50		2.00		2.50		3.00		3.5							00
	1		POS	876	В	493	В	316	В	219	В	161	В	123	В	97	В	79	В
24 Ga.	2		POS	460	B+S	276	B+S	183	B+S	130	B+S	96	B+S	74	B+S	59	B+S	48	B+S
24 Ga.	3		POS	542	B+S	333	B+S	223	B+S	159	B+S	119	B+S	92	B+S	73	B+S	60	B+S
	4		POS	517	B+S	315	B+S	210	B+S	149	B+S	111	B+S	86	B+S	69	B+S	56	B+S
22 Ga.	1		POS	1250	В	703	В	450	В	312	В	230	В	176	В	139	В	112	В
	2		POS	735	B+S	436	B+S	287	B+S	202	B+S	150	B+S	116	B+S	92	B+S	75	B+S
	3		POS	875	B+S	529	B+S	351	B+S	249	B+S	185	B+S	143	B+S	114	B+S	93	B+S
	4		POS	831	B+S	499	B+S	330			B+S	174	B+S	134	B+S	107	B+S	87	B+S
									B+S	234							D+O	01	D+0
		Er	nginee	ring P	ropert	ies of A			ilding	Com		6" Loc			anel (A	ASD)	D+0	67	D+3
Designated	Steel	Er Base	nginee To	ring P	ropert Panel	ies of A			ilding: To	Comp					anel (A	ASD) om In	B+3	07	
Gage	Steel Yield	Base Metal	nginee To Thi	ering P tal ck.	Panel Metal	ies of A Base Weight	Americ	an Bu	ilding: To Comp	Compoin la	oany 1	6" Loc	Seam	360 P	Botto Compr	ASD) om In ression			Fb
	Steel	Er Base	nginee To	ering P tal ck.	Panel Metal	ies of A	Amerio	an Bu	Ilding: To Compi	o In ession	pany 1	6" Loc	:Seam	360 P	Botto Compr	ASD) om In ression	N	Ла	
Gage of Steel	Steel Yield KSI	Base Metal Thick. (In.)	nginee To Thi (Ir	ering P tal ck. n.)	Panel Metal (lbs.	Base Weight / ft. <sup>2</sup> )	Americ I (In.4	x / ft.)	To Composition (In. <sup>3</sup>	composition in the composition is composition in the composition in th	oany 1	6" Loc	Seam	360 Pa	Botto Compr S (In.3	ASD) om In ression ox / ft.)	N K-IN	Ma I. / ft.	Fb KSI
Gage of Steel 24 Ga.	Steel Yield KSI	Base Metal Thick. (In.) 0.0225	nginee To Thi (Ir	ering P tal ck. n.)	Panel Metal (lbs.	Base Weight / ft.2)	Americ (In. <sup>4</sup>	x / ft.)	To Compi	composition (ix) / ft.)	N K-IN 2.	6" Loc	Seam	x / ft.)	Botto Comprise (In.3	ASD) om In ression 6x / ft.)	K-IN	Ma I. / ft. 67	Fb KSI
Gage of Steel	Steel Yield KSI	Base Metal Thick. (In.)	nginee To Thi (Ir	ering P tal ck. n.)	Panel Metal (lbs.	Base Weight / ft. <sup>2</sup> )	Americ (In. <sup>4</sup>	x / ft.)	To Compi	composition in the composition is composition in the composition in th	oany 1	6" Loc	Seam	x / ft.)	Botto Compr S (In.3	ASD) om In ression 6x / ft.)	K-IN	Ma I. / ft.	Fb KSI
Gage of Steel 24 Ga.	Steel Yield KSI 50 50	Base Metal Thick. (In.) 0.0225	nginee To Thi (Ir	ering P tal ck. n.)	Panel Metal (lbs.	Base Weight / ft.2)	Americ (In. <sup>4</sup>	x / ft.)	Composition (In.3)	composition (control of the control	N K-IN 2. 3.	6" Loc	(In.4 0.0	x / ft.) 063 095	Botto Comprise (In.3	ASD) om In ression 6x / ft.)	K-IN	Ma I. / ft. 67	Fb KSI
Gage of Steel 24 Ga. 22 Ga.	Steel Yield KSI 50 50	Base Metal Thick. (In.) 0.0225 0.0300	nginee To Thi (Ir 0.0	ering P tal ck. n.) 241 316	Panel Metal (lbs.	Base Weight / ft. <sup>2</sup> )	(In.4 0.1	x / ft.) 40	Composition (In. 3 o. 1 o	connection (c)	K-IN 2. 3. otal Ur	6" Loc la l. / ft. 35 42 hiform L	(In. 4 0.0 0.0 oad in	x / ft.) 063 095 PSF	Botto Compress (In. <sup>3</sup>	ASD) om In ression 6x / ft.) 056 085	N K-IN 1. 2.	Ma I. / ft. 67	Fb KSI
Gage of Steel 24 Ga. 22 Ga. Gage	Steel Yield KSI 50 50	Base Metal Thick. (In.) 0.0225 0.0300 lo. of	To Thi (Ir 0.00 0.00 Load Type	ering P tal ck. h.) 241 316	Panel Metal (lbs.	ies of / Base Weight / ft. <sup>2</sup> )	(In.4 0.1	x / ft.) 140 195	Composition (In. 3 o. 1 o	ession (ix / ft.) 078 114 mum To	K-IN 2. 3. otal Un	6" Loc la l. / ft. 35 42 hiform L highs, Ft 3.5	(In. 4 0.0 0.0 oad in	x / ft.) 163 1995 PSF	Botto Compress (In. <sup>3</sup>	ASD) om In ression 6x / ft.) 056 085	N K-IN 1. 2.	Ma I. / ft. 67 54	Fb KSI 30 30 30
Gage of Steel 24 Ga. 22 Ga. Gage of	Steel Yield KSI 50 50 Sp	Base Metal Thick. (In.) 0.0225 0.0300 lo. of ans	To Thi (Ir 0.00 0.00 Load Type POS	ering P ttal ck. h.) 241 316	Panel Metal (lbs. 1. 1. 1.	ies of / Base Weight / ft.²) 26 68	(In.4 0.1 0.1 0.1 0.1 B	x / ft.) 40 195	Ildings To Compress (In. 3 O.1 O.1 Maxi	s Compension (control of the control	K-IN 2. 3. otal Ur Span Let	6" Loc 1a 1. / ft. 35 42 uiform L 128	(In.4 0.6 0.0 0.0 0.6 0.6 0.6 0.6 0.6 0.6 0.6	x / ft.) 063 1995 PSF	Botto Compo S (In. <sup>3</sup> 0.0 0.0	ASD) om In ression 6x / ft.) 056 085	M K-IN 1. 2. 50 B	1. / ft. 67 54 5.0 63	30 30 30 00 8
Gage of Steel 24 Ga. 22 Ga. Gage of	Steel Yield KSI 50 50 Sp	Base Metal Thick. (In.) 0.0225 0.0300 lo. of ans	To Thi (Ir 0.00 0.00 Load Type POS POS	241 316 1.1 695 446	Panel Metal (lbs. 1. 1. 1. 1. B. B+S	ies of / Base Weight / ft.²) 26 68 2.0 391 262	(In.4 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	x / ft.) 40 95 2.0 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1	ilding: To Compi  (In. 3 0.1 0. Maxi  50  B B+S	s Composition (Composition Composition Com	K-IN 2. 3. Otal Ur Span Let 000 B B+S	6" Loc la . / ft. 35 42 uiform L ngths, Ft 3.8 128 89	(In.4 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	x / ft.) 063 1995 PSF 4.0 98 68	Botto Compress (In.3 0.0 0.0 0.0 0.0 B B+S	ASD) om In ression 6x / ft.) 056 085	N K-IN 1. 2.	Ma 1. / ft. 67 54  5.0 63 44	30 30 30 00 B B+S
Gage of Steel 24 Ga. 22 Ga. Gage of Panel	Steel Yield KSI 50 50 N	Base Metal Thick. (In.) 0.0225 0.0300 lo. of ans 1	To Thi (Ir 0.00 0.00 Load Type POS POS POS	241 316 1 695 446 537	Panel Metal (lbs. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	ies of / Base Weight / ft.²) 26 68 2.0 391 262 319	(In.4 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	x //ft.) 40 95 2.0 2.1 210	Ilding:	s Compension (c)	K-IN 2. 3. Otal Ur Span Let 000 B B+S B+S	6" Loc la . / ft. 35 42 uiform L ngths, Ft 3.8 128 89 110	(In.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	x / ft.) 063 1995 PSF 4.0 98 68 85	Botto Comprise (In.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	ASD) om In ression 6x / ft.) 056 085  4.5 77 54 67	MK-IN 1. 2. 550  B B+S B+S	Ma 1. / ft. 67 54  5.0 63 44 55	30 30 30 00 B B+S B+S
Gage of Steel 24 Ga. 22 Ga. Gage of Panel	Steel Yield KSI 50 50 N	Base Metal Thick. (In.) 0.0225 0.0300 lo. of ans 1 2 3 4	To Thi (Ir 0.00 0.00 Load Type POS POS POS POS	241 316 1 695 446 537 508	Panel Metal (lbs. 1. 1. 1. 500 B B+S B+S B+S	ies of / Base Weight / ft.²) 26 68 2.0 391 262 319 301	(In.4 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	x / /ft.) 40 95 250 171 210 197	Ilding: To Composite States of the states of	s Compession (ix / ft.) (ix / ft.	K-IN 2. 3. otal Ur Epan Ler 00 B B+S B+S B+S	6" Loc  ta . / ft. 335 42 iiform L ngths, Ft 3.5, 128 89 110 103	(In.4 0.0 0.0 0ad in 60 B B+S B+S B+S	x / ft.) 063 095 PSF 4.0 98 68 85 79	Botto Compri S (In.3 0.0 0.0  B B+S B+S B+S	ASD) om In ression 6x / ft.) 056 085  4.5 77 54 67 63	MK-INN 1. 2. 500 B B+S B+S B+S	1. / ft. 67 54 5.0 63 44 55 51	30 30 30 30 B B+S B+S B+S
Gage of Steel 24 Ga. 22 Ga. Gage of Panel	Steel Yield KSI 50 50 N	Base Metal Thick. (In.) 0.0225 0.0300 lo. of aans 1 2 3 4 1 1	Toologinee	241 316 	Panel Metal (lbs. 1. 1. 1. 500 B B+S B+S B+S B	ies of / Base Weight / ft.²) 26 68 2.0 391 262 319 301 570	(In.4 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	x //ft.) 440 95  2.1 250 171 210 197 365	Ilding: To Composite State Sta	s Composition (Composition Composition Com	K-IN 2. 3. otal Ur Span Lei 00 B B+S B+S B+S B+S B	6" Loc  ta . / ft. 35 42 aiform L ngths, Ft 128 89 110 103 186	(In.4 0.6 0.6 0ad in 60 B B+S B+S B+S	x //ft.) 163 1995 PSF 4.0 98 68 85 79 143	Botto Compri S (In.3 0.0 0.0  B B+S B+S B+S B	ASD) om In ression 6x / ft.) 056 085  4.8 67 63 113	MK-INN 1. 2. 50 B B+S B+S B+S B	1. / ft. 67 54  5.0 63 44 55 51 91	30 30 30 B B+S B+S B+S B
Gage of Steel 24 Ga. 22 Ga. Gage of Panel	Steel Yield KSI 50 50 N	Base Metal Thick. (In.) 0.0225 0.0300 o. of ans 1 2 2 3 3 4 4 1 2 2	To Thi (Ir O.0) O.0	241 316 	Panel Metal (lbs. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	es of / Base Weight / ft.²) 26 68 2.0 391 262 319 301 570 405		x //ft.) 440 95  2.0 250 171 210 197 365 263	Ilding:     To     Compi     (In.3	s Composition (Composition Composition Com	K-IN 2. 3. otal Ur Span Lei 00  B B+S B+S B+S B B+S	6" Loc 1a . / ft. 35 42 iiform L ngths, Ft 3.5 128 89 110 103 186 136	(In.4   0.0	x //ft.) 063 1995 PSF 4.0 98 68 85 79 143 105	Botto Compr S (In.3 0.0 0.0 0.0 B B+S B+S B+S B+S B+S B+S	ASD) om In ression  (x) / ft.) 056 085  4.5  77  54 67 63 113 83	MK-IN 1. 2. 50 B B+S B+S B+S B+S B+S	5.0 5.4 5.4 5.5 5.5 5.5 5.5 5.7 9.1	30 30 30 B B+S B+S B+S B
Gage of Steel 24 Ga. 22 Ga. Gage of Panel 24 Ga.	Steel Yield KSI 50 50 Sp	Base Metal Thick. (In.) 0.0225 0.0300 lo. of aans 1 2 3 4 1 1	Toologinee	241 316 	Panel Metal (lbs. 1. 1. 1. 500 B B+S B+S B+S B	ies of / Base Weight / ft.²) 26 68 2.0 391 262 319 301 570	(In.4 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	x //ft.) 440 95  2.1 250 171 210 197 365	Ilding: To Composite State Sta	s Composition (Composition Composition Com	K-IN 2. 3. otal Ur Span Lei 00 B B+S B+S B+S B+S B	6" Loc  ta . / ft. 35 42 aiform L ngths, Ft 128 89 110 103 186	(In.4 0.6 0.6 0ad in 60 B B+S B+S B+S	x //ft.) 163 1995 PSF 4.0 98 68 85 79 143	Botto Compri S (In.3 0.0 0.0  B B+S B+S B+S B	ASD) om In ression 6x / ft.) 056 085  4.8 67 63 113	MK-INN 1. 2. 50 B B+S B+S B+S B	1. / ft. 67 54  5.0 63 44 55 51 91	30 30 30 B B+S B+S B+S B

<sup>1.</sup> The panels are checked for bending (B), shear (S), combined bending and shear (B+S) and deflection (D). The controlling check is noted in the table

Deflection is limited to span/60.

2. Section Properties are calculated in accordance with the 2012 North American Specification for the Design of Cold-Formed Steel Structural Members

Minimum yield strength of 24 and 22 gage steel is 50,000 psi.
 Steel panels are either aluminum-zinc alloy or G-90 coated. The base metal thickness is used in determining section properties. 5. Positive load (POS) is applied inward toward the panel supports and is applied to the outer surface of the full panel cross-section