Performance and Testing Summary

ASTM E108 Test Methods for Fire Tests of Roof Coverings

ASTM E283 Test Method for Determining Air Leakage through Wall Systems

ASTM E331 Test Method for Water Penetration of Exterior Wall Systems

ASTM E1592 Test Method for Wind Uplift Performance of Sheet Metal Roofing Systems

ASTM E1646 Test Method for Water Penetration of Exterior Roof Systems

ASTM E1680 Test Method for Rate of Air Leakage Through Exterior Roof Systems

AISI Gravity & Uplift Base Testing

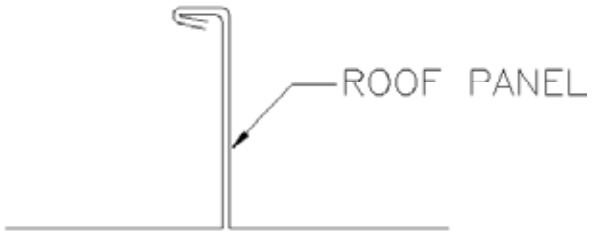
AISI Purlin Stability Testing

US Army Corps of Engineers – Approved per CEGS 07416 test specification

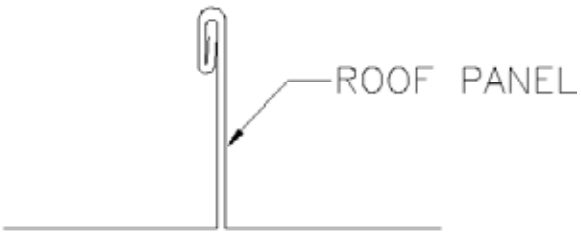
FM Simulated Hail Damage Testing – Class SH Hail Resistance

Factory Mutual/UL90	Gauge	Secondary	Spacing	Seam Option
Factory Mutual 1-60	24	Purlins or Joists	5'-0"	Nucor "Vise Lock 360"
Factory Mutual 1-90	24	Purlins or Joists	3'-4"	Nucor "Vise Lock 360"
Factory Mutual 1-120	24	Purlins or Joists	2'-6"	Nucor "Vise Lock 360"
Up to Factory Mutual 1-180	22	Purlins or Joists	Varies	Nucor "Vise Lock 360"
UL90®	24	Purlins or Joists	5'-0"	Nucor "Vise Lock" Nucor "Vise Lock 360"

Seaming Options Available



Nucor "Vise Lock"™ Seam



Nucor "Vise Lock 360"™ Seam

PANEL PROPERTIES

Engineering Properties of Nucor Building Systems 16" Nucor "Vise Lock" Seam Panel											
Designated Gage of Steel	Steel Yield KSI	Base Metal Thick. (In.)	Total Thick. (In.)	Panel Weight (lbs. / ft. ^{2})	Top In Compression			Bottom In Compression			Fb KSI
					Ix (In.^{4}/ ft.)	Sx (In.^{3}/ ft.)	Ma K-IN.	Ix (In.^{4}/ ft.)	Sx In.^{3}/ ft.)	Ma K-IN.	
24 Ga.	50	0.0225	0.0241	1.35	0.166	0.099	2.97	0.073	0.061	1.83	30
22 Ga.	50	0.0300	0.0316	1.77	0.225	0.140	4.20	0.110	0.094	2.82	30

Gage of Panel	No. of Spans	Load Type	Maximum Total Uniform Load in PSF							
			Span Lengths, Ft.							
			1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
24 Ga.	1	POS	683	423	285	204	153	118	94	77
	2	POS	460	276	183	129	96	74	59	48
	3	POS	542	332	222	159	118	92	73	60
	4	POS	516	314	210	149	111	86	68	56
22 Ga.	1	POS	1042	629	417	296	220	170	135	110
	2	POS	733	435	286	201	149	115	91	74
	3	POS	873	527	350	248	185	143	113	92
	4	POS	828	497	329	233	173	134	106	86

Engineering Properties of Nucor Building Systems 16" Nucor "Vise Lock 360" Seam Panel											
Designated Gage of Steel	Steel Yield KSI	Base Metal Thick. (In.)	Total Thick. (In.)	Panel Weight (lbs. / ft. ^{2})	Top In Compression			Bottom In Compression			Fb KSI
					Ix (In.^{4}/ ft.)	Sx (In.^{3}/ ft.)	Ma K-IN.	Ix (In.^{4}/ ft.)	Sx In.^{3}/ ft.)	Ma K-IN.	
24 Ga.	50	0.0225	0.0241	1.35	0.140	0.078	2.34	0.063	0.056	1.68	30
22 Ga.	50	0.0300	0.0316	1.77	0.195	0.114	3.42	0.095	0.085	2.55	30

Gage of Panel	No. of Spans	Load Type	Maximum Total Uniform Load in PSF							
			Span Lengths, Ft.							
			1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
24 Ga.	1	POS	613	363	238	168	124	96	76	62
	2	POS	450	264	172	121	90	69	55	44
	3	POS	541	322	212	150	111	86	68	55
	4	POS	512	303	199	140	104	80	64	52
22 Ga.	1	POS	929	542	353	248	183	141	111	90
	2	POS	700	407	264	185	137	105	83	68
	3	POS	849	499	326	229	170	131	104	84
	4	POS	801	469	306	215	159	122	97	79

1. Panels were checked for bending, shear, combined bending and shear and deflection. Deflection was limited to span/150.
2. Section Properties have been calculated in accordance with the 2001 *North American Specification for the Design of Cold-Formed Steel Structural Members*.
3. Minimum yield strength of 24 and 22 gage steel is 50,000 psi.
4. Steel panels are either aluminum-zinc alloy or G-90 coated. The base metal thickness was 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.