



a **NUCOR** company

VERTICAL RIB STANDING SEAM ROOF SYSTEM

NUCOR VR16 II™



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The Nucor Building Systems VR16 II-90 and VR16 II-360 Roof Systems are structural standing seam vertical rib roof panels that are perfect for architectural requirements in today's marketplace.

The seaming methods used in the VR16 II-90 and VR16 II-360 roof panels offer an attractive architectural system available both in Galvalume® and PVDF finishes as standard. Panels are installed with concealed fastener clips allowing for thermal movement, and mechanically seamed.

VR16 II-90 ROOF SYSTEM

Nucor VR16 II-90 Roof System panel uses a weathertight 90-degree seam for a battened architectural aesthetic ideal for buildings with various roof conditions including hips and valleys, and easily accommodates complex roof geometries.

VR16 II-360 ROOF SYSTEM

The VR16 II-360 Roof System features a full 360-degree rolled seam. With uninterrupted linear roof lines, VR16 II-360 offers an even greater level of architectural design to provide a sleek, modern appearance. Designed to withstand the most extreme weather conditions, it offers exceptional performance and weathertightness.

NUCOR VR16 II WARRANTIES

- 25 Year Galvalume Finish
- 35 Year PVDF Paint Finish
- 20 Year Weathertightness

For specific details, please refer to the Warranty Guide online at www.nucorbuildingsystems.com



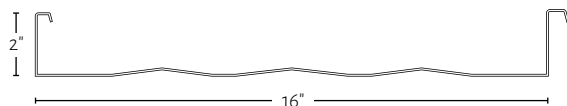
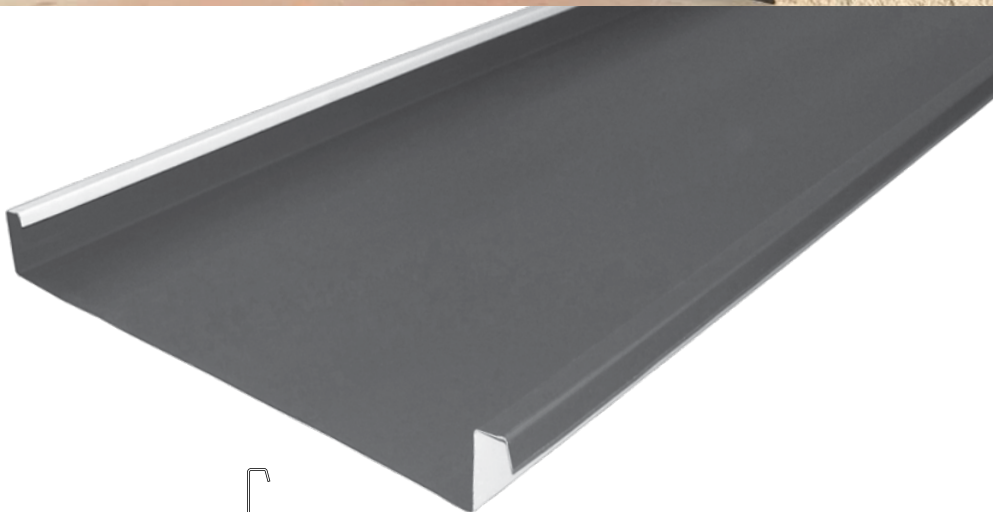
Galvalume® is a registered trademark of BIEC International, Inc.

PRODUCT SPECIFICATIONS & DETAILS

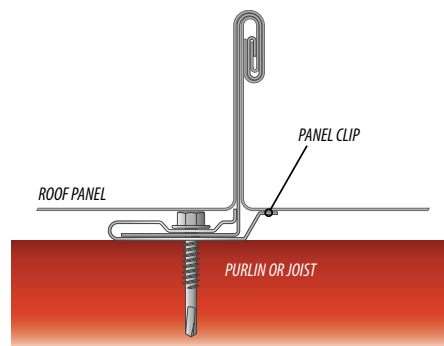
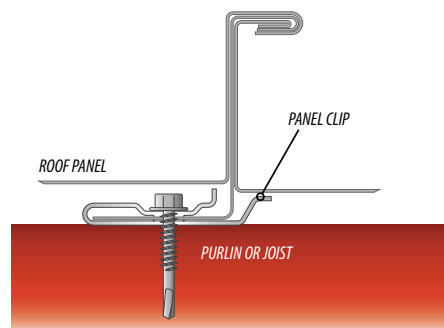
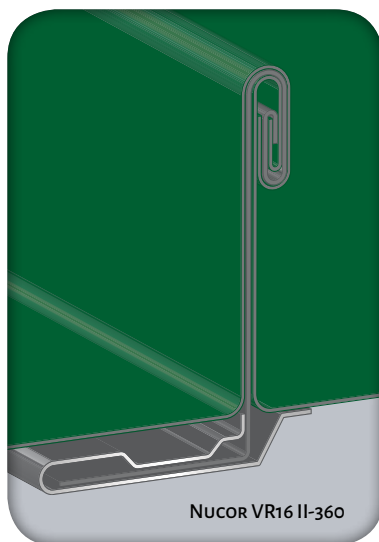


PRODUCT SPECIFICATIONS

- Rib height: 2"
- Cover width: 16"
- Factory sealant applied along female rib
- Minor striations to help reduce "oil canning"
- Galvalume or painted PVDF finishes
- Standard 24 ga. material (22 ga. available)
- Mechanically seamed for weathertight installation
- Panel installed with concealed fastener clips that allow for thermal movement
- 1/4:12 Minimum roof slope required



SEAMING OPTIONS



PERFORMANCE & TESTING



When it comes to performance, few roof systems compare to the Nucor's standing seam roof panels. Both VR16 II-90 and VR16 II-360 achieved a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The VR16 II-360 is also Factory Mutual approved and both systems have Class A fire ratings when tested in accordance with test procedures ASTM E108.

- AISI Gravity & Uplift Base Testing
- ASTM E108 Test Methods for Fire Tests of Roof Coverings
- ASTM E283 Test Method for Determining Air Leakage through 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
- FM Simulated Hail Damage Testing – Class SH Hail Resistance
- US Army Corps of Engineers – Approved per CECS 07416 test specification

RATINGS	GA.	SECONDARY	MAX SPACING	SEAM OPTION
Factory Mutual 1-60	24	Purlins/Joists	5'-0"	VR16 II-360
Factory Mutual 1-75	22	Purlins/Joists	5'-0"	VR16 II-360
Factory Mutual 1-90	24	Purlins/Joists	3'-4"	VR16 II-360
Factory Mutual 1-120	22	Purlins/Joists	5'-0"	VR16 II-360
Factory Mutual 1-120	24	Purlins/Joists	2'-6"	VR16 II-360
Factory Mutual 1-165	22	Purlins/Joists	2'-6"	VR16 II-360
Factory Mutual 1-180	22	Purlins/Joists	2'-6"	VR16 II-360
UL90®	24	Purlins/Joists	5'-0"	VR16 II-90/ VR16 II-360
FL Approval*	24	Purlins/Joists	5'-0"	VR16 II-90/ VR16 II-360
Miami Dade*	22	Purlins/Joists	5'-0"	VR16 II-360

*Special conditions apply. Contact your local plant for more information.

PANEL PROPERTIES

ENGINEERING PROPERTIES OF THE 16" NUCOR VR16 II-90 SEAM PANEL											
Steel Gage	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	2.96	0.073	0.061	1.83	30
22 Ga.	50	0.0300	0.0316	1.77	0.225	0.141	4.22	0.110	0.094	2.83	30
Panel Gage	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	876	493	316	219	161	123	97	79
	2		POS	460	276	183	130	96	74	59	48
	3		POS	542	333	223	159	119	92	73	60
	4		POS	517	315	210	149	111	86	69	56
22 Ga.	1		POS	1250	703	450	312	230	176	139	112
	2		POS	735	436	287	202	150	116	92	75
	3		POS	875	529	351	249	185	143	114	93
	4		POS	831	499	330	234	174	134	107	87

1. 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 was limited to span/60.
2. Section Properties have been calculated in accordance with the 2007 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.

PANEL PROPERTIES



ENGINEERING PROPERTIES OF THE 16" NUCOR VR16 II-360 SEAM PANEL

Steel Gage	Steel Yield KSI	Base Metal Thick.(in)	Total Thick.(in)	Panel Weight (lbs/ft²)	Top In Compression			Bottom In Compression			Fb KSI
					Ix (In⁴/ft)	Sx (In³/ft)	Ma K-IN	Ix (In⁴/ft)	Sx In³/ft)	Ma K-IN	
24 Ga.	50	0.0225	0.0241	1.35	0.140	0.078	2.35	0.063	0.056	1.67	30
22 Ga.	50	0.0300	0.0316	1.77	0.195	0.114	3.42	0.095	0.085	2.54	30
Panel Gage	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	695	391	250	174	128	98	77	63	
	2	POS	446	262	171	120	89	68	54	44	
	3	POS	537	319	210	148	110	85	67	55	
	4	POS	508	301	197	139	103	79	63	51	
22 Ga.	1	POS	1013	570	365	253	186	143	113	91	
	2	POS	697	405	263	184	136	105	83	67	
	3	POS	846	497	325	228	169	130	103	84	
	4	POS	798	467	305	214	158	122	96	78	

1. 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 was limited to span/60.
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Nucor Building Systems has been a leader in the design and manufacture of custom-engineered metal building systems for over three decades. With four locations and a network of over 1,200 Authorized Builders serving all of North America, our focus is on customer service, price, and quality. We are also dedicated to providing sophisticated building solutions for our customers that are energy efficient and environmentally friendly.

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