

Nucor CFR Roof Panels, 2026 FBC Compliance, FL46681 - ENG-2607-332
October 19, 2026

Mr. Mark Klos
Metl-Span, a Nucor Company
700 State Highway 121 Bypass
Suite 200
Lewisville, TX 75057

Re: CFR Roof Panels, 2026 Florida Building Code Compliance for Standard and High-Velocity Hurricane Zone (HVHZ) Applications^{1,2,3,4}

Dear Mr. Klos:

DrJ Engineering, LLC (DrJ) has been asked to provide a Florida professional engineering accepted engineering practice review with respect to the CFR Roof Panels. This work has been performed pursuant to our areas of expertise. The purpose of the DrJ review is to provide an engineering assessment of the conformance of the CFR Roof Panel with the 2026 Florida Building Code (FBC) including for High Velocity Hurricane Zones (HVHZ).

Standard (Non-HVHZ) Applications

For standard (non-HVHZ) applications, the CFR Roof Panels conform to Section 1501 through Section 1507 and Section 2603 of the 2026 FBC. CFR panels have a polyisocyanurate (polyiso) plastic core with a minimum density of 2.0 pcf and two steel facers. These facers are made from galvanized coated steel or Galvalume® AZ50 coated steel (minimum 33 ksi) and have a thickness of 22 ga, 24 ga or 26 ga (the 26 ga option is not available for the exterior facer). These facers meet the weather protection requirements in Section 1503 and the metal roof covering material standards in Section 1507.4.3, specifically Table 1507.4.3(1) of the FBC. The available thicknesses of the CFR panels are 2", 2.5", 3", 4", 5" and 6". The panels have a coverage width of 36" or 42". Panels shall be installed on roofs down to a minimum slope of ½":12" using butyl tape sealant per Section 1507.4.2 of the FBC.

Panels must be attached to supports that are a minimum of 16 ga steel (minimum $F_y = 50$ ksi). Panels shall be fastened through the supports to the framing members using ¼"-14 Type 3 hex head self-drilling screws. Fasteners must be long enough to penetrate through the support at least 3 threads. For 12 ga or thicker supports a ¼"-20 or ¼"-28 Type 5 self-drilling screws may be used instead. Self-tapping screws may be used as well. All fasteners must be corrosion resistant. When installed within 3000 ft of a saltwater coastline all fasteners and connectors used during installation shall meet the requirements of FBC Section 1711 for corrosion resistance based on the specific location of the project. Panel attachment must include fastening a corrosion resistant steel panel clip using 3 fasteners per indicated position to the structural support below (See Figure 1). The exterior standing seam shall be mechanically hand crimped after the installation of the clip and is mechanically seamed after the adjacent panel is installed.



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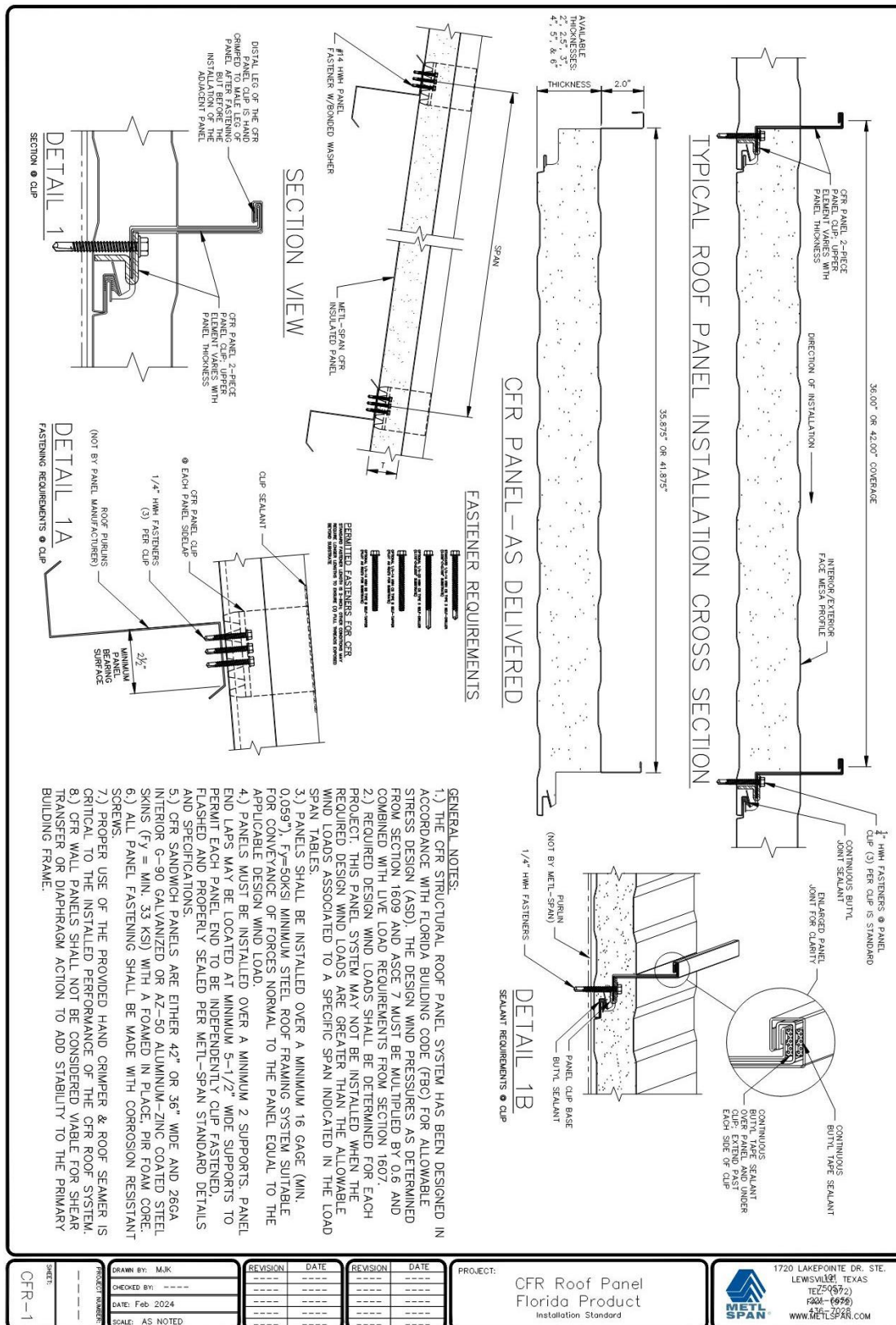


Figure 1. CFR Roof Panel (Standard) Florida Installation



The maximum allowable inward and outward transverse loads for the CFR Roof Panels, across the full range of panel thicknesses, span conditions, and support gauges, are established by Metl-Span structural analysis and testing and can be found in **Table 1** through **Table 8**. These tables conform to the requirements of the FBC.

Table 1. Allowable Inward Loads for 24Ga/26Ga Faced CFR 42 Roof Panel with L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	128	79	58	46	33	26	19	13
	2	89	67	54	45	33	27	22	19
	3+	91	68	55	45	34	27	23	19
2.5	1	161	99	72	56	40	32	25	17
	2	108	81	65	54	40	32	27	23
	3+	110	82	66	55	41	33	27	23
3	1	204	125	90	71	50	39	31	22
	2	131	99	79	66	49	39	32	27
	3+	133	99	79	66	49	39	33	28
4	1	311	191	137	107	75	58	42	31
	2	184	140	112	93	70	55	46	39
	3+	187	139	111	92	69	55	46	39
5	1	324	205	149	118	83	64	52	44
	2	197	149	120	100	74	59	48	41
	3+	198	147	117	98	73	58	48	42
6	1	341	221	163	129	92	71	58	49
	2	209	159	127	106	79	62	51	44
	3+	209	155	124	103	77	61	51	44
1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 2. Allowable inward loads shown in this table are based on the lowest value of panel wrinkling, shear and deflection ratio limits 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance									



Table 2. Allowable Inward Loads for 24Ga/26Ga Faced CFR 36 Roof Panel with L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	136	83	60	47	34	27	19	13
	2	89	67	54	45	33	27	22	19
	3+	91	68	55	45	34	27	23	19
2.5	1	171	104	74	58	41	32	26	18
	2	108	81	65	54	40	32	27	23
	3+	110	82	66	55	41	33	27	23
3	1	216	131	93	73	51	40	32	22
	2	130	98	79	66	49	39	32	27
	3+	133	99	79	66	49	39	33	28
4	1	331	200	142	110	76	59	43	31
	2	183	139	112	93	69	55	46	39
	3+	187	139	111	92	69	55	46	39
5	1	341	213	154	120	84	65	53	44
	2	196	149	119	99	74	59	48	41
	3+	198	147	117	98	73	58	48	42
6	1	357	228	167	132	93	72	59	50
	2	208	158	127	106	79	62	51	44
	3+	209	155	124	103	77	61	51	44
1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 2. Allowable inward loads shown in this table are based on the lowest value of panel wrinkling, shear and deflection ratio limits 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance									

Table 3. Allowable Outward Loads for 24Ga/26Ga Faced CFR 42 Roof Panel with 12 Ga. Supports and L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	73	55	44	37	27	22	18	13
	2	86	64	52	43	32	25	21	18
	3+	90	68	55	45	34	27	23	19
2.5	1	75	56	45	37	28	22	19	16
	2	90	68	54	45	34	27	22	19
	3+	92	69	56	47	35	28	23	20
3	1	77	57	46	38	29	23	19	16
	2	94	71	57	47	35	28	23	20
	3+	94	71	57	48	36	29	24	20
4	1	80	60	48	40	30	24	20	17
	2	99	73	58	49	37	30	25	22
	3+	97	74	59	50	37	30	25	21
5	1	86	64	51	43	32	26	21	18
	2	101	77	61	51	38	30	25	21
	3+	103	78	63	53	40	32	27	23
6	1	91	68	55	45	34	37	23	19
	2	100	76	61	50	37	30	24	21
	3+	107	80	64	53	40	32	26	23

1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection.
2. Allowable outward loads shown in this table are based on the lowest value of panel wrinkling, shear, deflection ratio and fastener limits
3. Structural capacity of the panel supports is not considered in this table
4. Please contact Metl-Span Engineering for additional information and assistance

Table 4. Allowable Outward Loads for 24Ga/26Ga Faced CFR 42 Roof Panel with 14 Ga. Supports and L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	73	55	44	37	27	22	18	13
	2	81	61	49	41	30	24	20	17
	3+	90	67	54	45	34	27	22	19
2.5	1	75	56	45	37	28	22	19	16
	2	82	62	49	41	31	24	20	17
	3+	90	68	54	45	34	27	22	19
3	1	77	57	46	38	29	23	19	16
	2	82	62	50	41	31	24	20	17
	3+	90	68	54	45	34	27	22	19
4	1	80	60	48	40	30	24	20	17
	2	83	63	50	42	31	25	20	17
	3+	91	68	54	45	34	27	22	19
5	1	86	64	51	43	32	26	21	18
	2	84	63	51	42	32	25	21	18
	3+	91	68	54	45	34	27	22	19
6	1	91	68	55	45	34	27	23	19
	2	84	64	51	43	32	25	21	18
	3+	91	68	54	45	34	27	22	19
1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 2. Allowable outward loads shown in this table are based on the lowest value of panel wrinkling, shear, deflection ratio and fastener limits 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance									

Table 5. Allowable Outward Loads for 24Ga/26Ga Faced CFR 42 Roof Panel with 16 Ga. Supports and L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	73	55	44	37	27	22	18	13
	2	65	49	39	32	24	19	16	14
	3+	72	54	43	36	27	22	18	15
2.5	1	75	56	45	37	28	22	19	16
	2	65	49	39	33	24	19	16	14
	3+	72	54	43	36	27	22	18	15
3	1	77	57	46	38	29	23	19	16
	2	66	50	40	33	25	20	16	14
	3+	72	54	43	36	27	22	18	15
4	1	80	60	48	40	30	24	20	17
	2	66	50	40	34	25	20	16	14
	3+	73	54	43	36	27	22	18	15
5	1	86	64	51	43	32	26	21	18
	2	67	51	41	34	25	20	16	14
	3+	73	54	43	36	27	22	18	15
6	1	91	68	55	45	34	27	23	19
	2	68	51	41	34	25	20	17	14
	3+	73	54	43	36	27	22	18	15
1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 2. Allowable outward loads shown in this table are based on the lowest value of panel wrinkling, shear, deflection ratio and fastener limits 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance									

Table 6. Allowable Outward Loads for 24Ga/26Ga Faced CFR 36 Roof Panel with 12 Ga. Supports and L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	85	64	51	43	32	26	19	13
	2	89	67	54	45	33	27	22	19
	3+	91	68	55	45	34	27	23	19
2.5	1	87	66	52	44	33	26	22	18
	2	105	79	63	53	39	31	26	22
	3+	108	81	65	54	41	33	27	23
3	1	89	67	54	45	34	27	22	19
	2	109	83	66	55	41	33	27	23
	3+	110	83	66	56	42	33	28	24
4	1	94	70	56	47	35	28	23	20
	2	117	86	68	57	43	35	29	25
	3+	114	86	69	58	44	35	29	25
5	1	100	75	60	50	37	30	25	21
	2	117	89	72	60	44	35	29	25
	3+	121	91	74	62	46	37	31	28
6	1	106	80	64	53	40	32	27	23
	2	116	88	70	59	44	34	28	24
	3+	125	93	74	62	46	37	31	26
1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 2. Allowable outward loads shown in this table are based on the lowest value of panel wrinkling, shear, deflection ratio and fastener limits 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance									

Table 7. Allowable Outward Loads for 24Ga/26Ga Faced CFR 36 Roof Panel with 14 Ga. Supports and L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	85	64	51	43	32	26	19	13
	2	89	67	54	45	33	27	22	19
	3+	49	37	30	25	18	15	12	11
2.5	1	87	66	52	44	33	26	22	18
	2	95	72	57	48	36	28	23	20
	3+	68	51	41	34	25	20	17	15
3	1	89	67	54	45	34	27	22	19
	2	95	72	58	48	36	28	24	20
	3+	91	68	54	45	34	27	23	19
4	1	94	70	56	47	35	28	23	20
	2	96	73	59	49	36	29	24	20
	3+	106	79	63	53	39	31	26	22
5	1	100	75	60	50	37	30	25	21
	2	97	74	59	49	37	29	24	20
	3+	106	79	63	53	39	31	26	22
6	1	106	80	64	53	40	32	27	23
	2	98	74	60	50	37	29	24	21
	3+	106	79	63	53	39	31	26	22
1. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 2. Allowable outward loads shown in this table are based on the lowest value of panel wrinkling, shear, deflection ratio and fastener limits 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance									

Table 8. Allowable Outward Loads for 24Ga/26Ga Faced CFR 36 Roof Panel with 16 Ga. Supports and L/240 Deflection Ratio^{1,2,3,4}

Thickness	# of Spans	Support Spacing (ft)							
		3	4	5	6	8	10	12	14
2	1	85	64	51	43	32	26	19	13
	2	76	57	46	38	28	22	19	16
	3+	84	63	50	42	31	25	21	18
2.5	1	87	66	52	44	33	26	22	18
	2	76	57	46	38	28	23	19	16
	3+	84	63	50	42	31	25	21	18
3	1	89	67	54	45	34	27	22	19
	2	76	58	46	38	29	23	19	16
	3+	84	63	50	42	31	25	21	18
4	1	94	70	56	47	25	28	23	20
	2	77	58	47	39	29	23	19	16
	3+	85	63	51	42	31	25	21	18
5	1	100	75	60	50	27	30	25	21
	2	78	59	47	39	29	23	19	16
	3+	85	63	51	42	31	25	21	18
6	1	106	80	64	53	40	32	27	23
	2	78	60	48	40	60	23	19	16
	3+	85	63	51	42	62	25	21	18
5. Based on Allowable Stress Design (ASD). No factor has been applied for loads limited by deflection. 6. Allowable outward loads shown in this table are based on the lowest value of panel wrinkling, shear, deflection ratio and fastener limits 7. Structural capacity of the panel supports is not considered in this table 8. Please contact Metl-Span Engineering for additional information and assistance									

High-Velocity Hurricane Zone (HVHZ) Applications

For High-Velocity Hurricane Zone (HVHZ) applications, the CFR Roof Panels conform to Section 1512 through Section 1525 and Section 2603 and Section 2615 of the 2026 FBC. In HVHZ applications the CFR panels have a polyisocyanurate (polyiso/PIR) plastic core with a minimum density of 2.0 pcf and two steel facers. These facers are made from Galvalume® AZ50 coated steel (interior facer only) or galvanized coated G90 steel (minimum 33 ksi) and have a thickness of 24 ga (exterior facer) or 26 ga (interior facer). These thicknesses meet the weather protection requirements in Section 1518.9 of the FBC. The available thicknesses of the CFR panels for HVHZ are 3", 4", 5" and 6". The panels have a coverage width of 36" or 42". Panels shall be installed on roofs down to a minimum slope of 1":12" per Section 1523.6.5.2.4.1.1 of the FBC.



Panels must be attached to a minimum of three supports that are a minimum of 14 ga steel (minimum $F_y = 50$ ksi). Panels shall be fastened through the supports to the framing members using $\frac{1}{4}$ "-14 Type 3 hex head self-drilling screws. Fasteners must be long enough to penetrate through the support at least 3 threads. For 12 ga or thicker supports a $\frac{1}{4}$ "-20 or $\frac{1}{4}$ "-28 Type 5 self-drilling screws may be used instead. Self-tapping screws may be used as well. All fasteners must be corrosion resistant. Panel attachment must include fastening a corrosion resistant steel panel clip using 3 fasteners per indicated position to the structural support below (See Figure 2). The exterior standing seam shall be mechanically hand crimped after the installation of the clip and is mechanically seamed after the adjacent panel is installed. Each end clip shall be installed using 3 fasteners per indicated position to the structural support below (See Figure 2). Additionally a $\frac{1}{4}$ "-20 x $\frac{3}{4}$ " long stainless steel machine screw shall be installed through the center of the upper part of the clip using a stainless steel locking nut with a 1-1/8" diameter neoprene and stainless steel washer on each side (See Detail 2 of Figure 2).

The maximum allowable inward and outward transverse loads for HVHZ applications are established by uplift and panel field testing conducted in accordance with ASTM E1592 and TAS 125, and are tabulated in Table 9 and Table 10. These tables conform to the requirements of the FBC.

Table 9. Allowable Outward Loads for 24Ga/26Ga Faced CFR 42 Roof Panel with L/180 Deflection Ratio^{1,2,3,4}

Thickness (in)	# of Spans	Support Spacing (ft)			
		2	3	4	5
3+	2+	90	75	65	50
1. Based on Allowable Stress Design (ASD). Linear interpolation was used to establish 3-foot and 4-foot span loads based on tested conducted on 2-foot and 5-foot spans. No factor has been applied for loads limited by deflection. 2. Allowable outward loads shown in this table are based on the lowest value of uplift, and panel field tests conducted in accordance with ASTM E1592 and TAS 125 respectively. 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance					

Table 10. Allowable Inward Loads for 24Ga/26Ga Faced CFR 42 Roof Panel with L/180 Deflection Ratio^{1,2,3,4}

Thickness (in)	# of Spans	Support Spacing (ft)			
		2	3	4	5
3+	2+	35			
1. Based on Allowable Stress Design (ASD). Linear interpolation was used to establish 3-foot and 4-foot span loads based on tested conducted on 2-foot and 5-foot spans. No factor has been applied for loads limited by deflection. 2. Allowable outward loads shown in this table are based on the lowest value of uplift, and panel field tests conducted in accordance with ASTM E1592 and TAS 125 respectively. 3. Structural capacity of the panel supports is not considered in this table 4. Please contact Metl-Span Engineering for additional information and assistance					

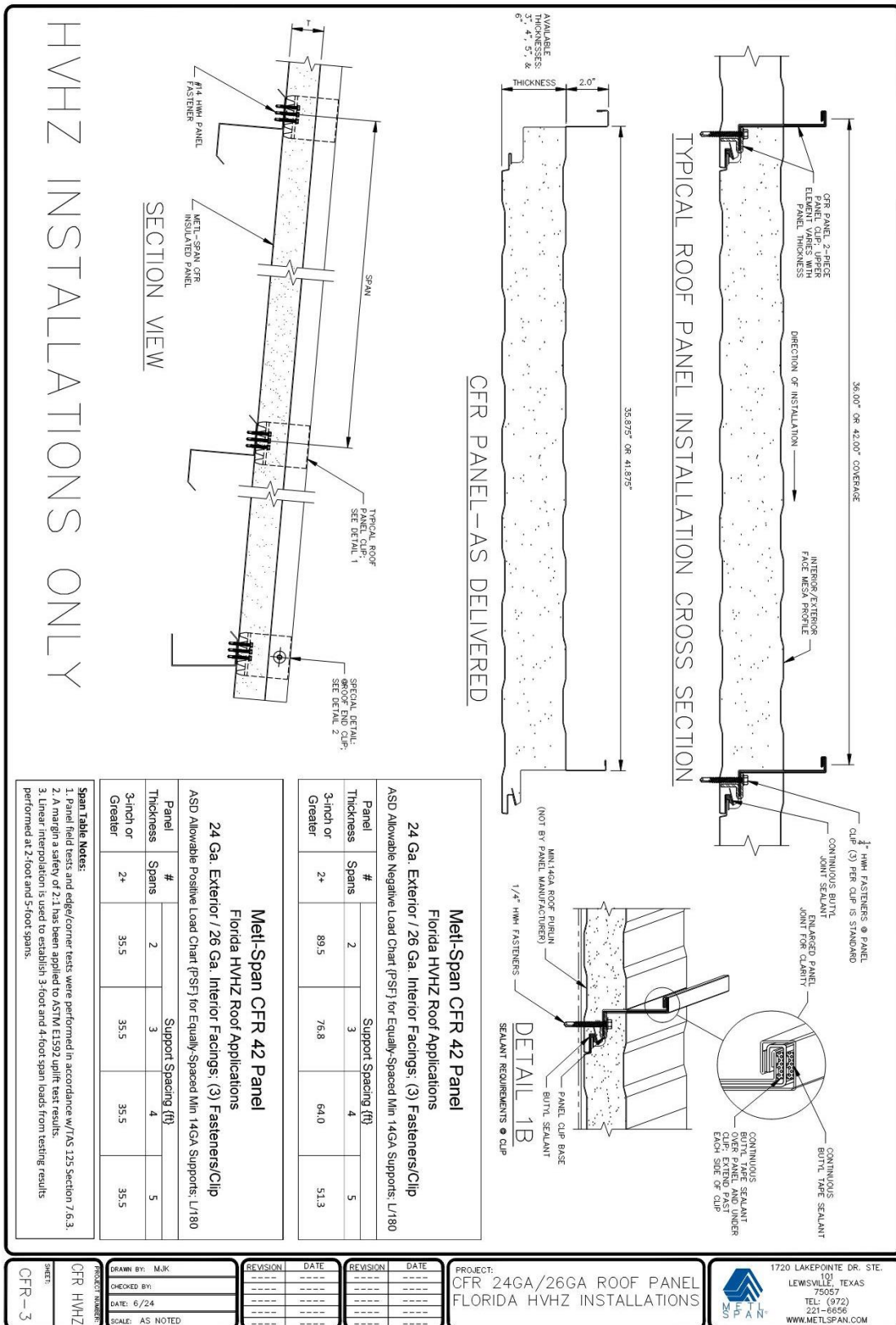


Figure 2a. CFR 24Ga/26Ga Roof Panel HVHZ Installation Instructions

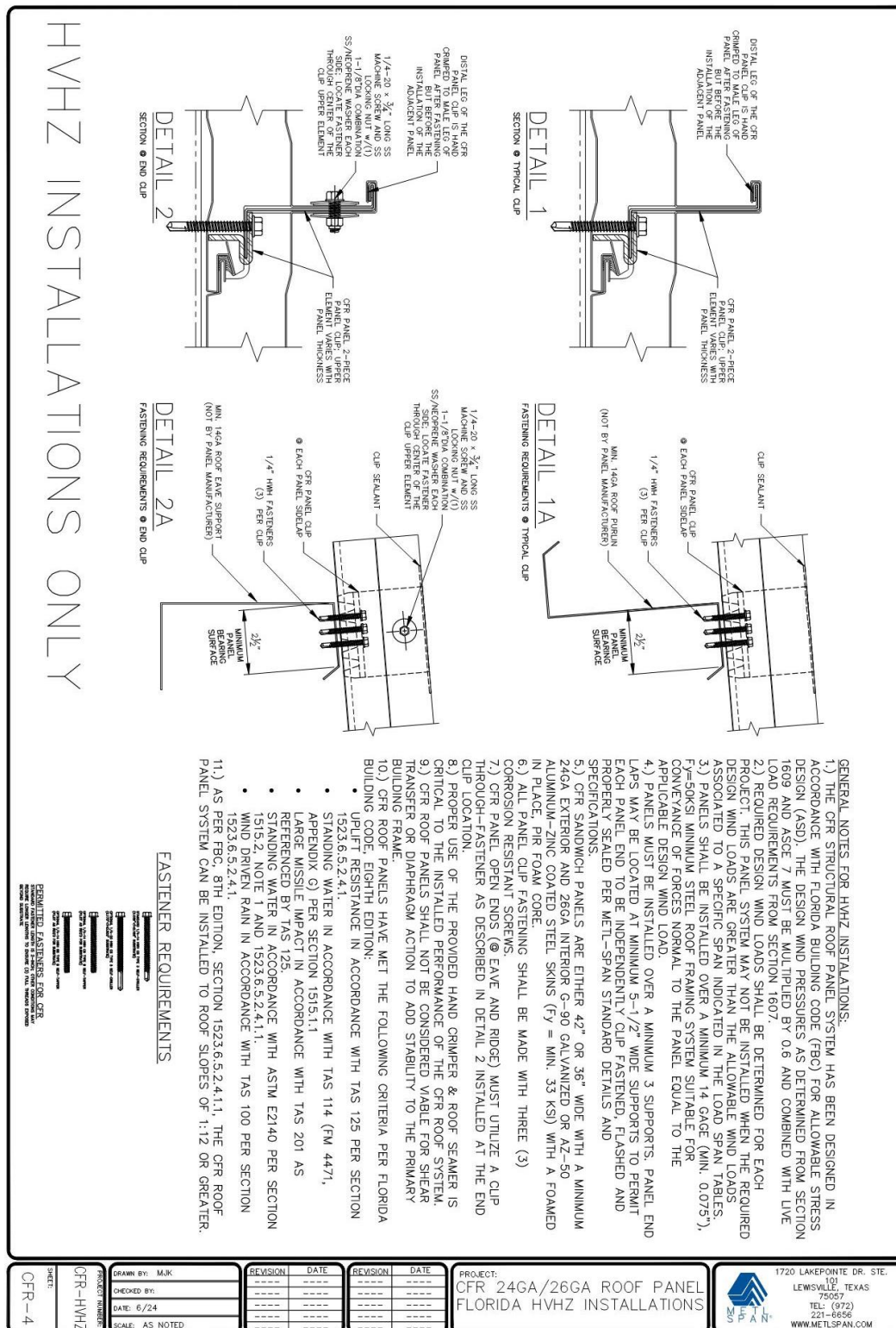


Figure 2b. CFR 24Ga/26Ga Roof Panel HVHZ Installation Instructions



CFR Roof Panels are available for use in High-Velocity Hurricane Zones (HVHZ) only in the configuration described in the HVHZ section above (3", 4", 5" and 6" thicknesses with a 24 ga exterior facer and a 26 ga interior facer). The 2" and 2.5" thicknesses, the 22 ga facer option, and the other configurations described for standard applications are not available for use in HVHZ.

General Code Compliance and Approval

DrJ's procedures are fully compliant with 17065 certification procedures and DrJ's scope of expertise.

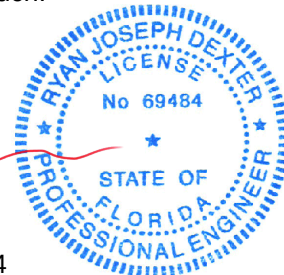
If there are any questions or concerns, we will gladly provide a professional engineering⁵ and ANAB 17065 accredited approved agency⁶ response. Pursuant to FBC Section 1707.1 and 104.11, we would sincerely appreciate knowing the specific building regulations and/or professional engineering law that this 17065 Research Report does not comply with, so that we can cure any non-conformance.⁷ From specifics, we can then delineate a path forward that will serve everyone's best interests regarding free and fair market⁸ competition.

Our goal with this 17065 evaluation and certification is to provide both the accepted engineering analysis and regulatory compliance substance that supports efficient approval. Please contact us if we can help further in any way. If your request is time sensitive, please contact Jill Zimmerman at 920-988-7165. Thank you very much.

Respectfully yours,

Chris Scoville
Vice President Product Certification
608-310-6720

Ryan Dexter, P.E.
Florida P.E. No. 69484
Vice President of Engineering
608-310-6744



DrJ Engineering, LLC
Certificate of Authorization
#29766



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¹ The scope of work contained herein is limited to the specific engineering and/or code compliance analysis undertaken in this duly authenticated report, which is also known as a technical evaluation, evaluation report, research report, accepted evaluation to a reasonable degree of engineering certainty, and so forth. This work has been prepared by an Approved Source, who is a Registered Design Professional (RDP). No representation or warranty is expressed or implied by this duly authenticated report beyond the scope of work performed. Information, data, and/or analysis that becomes available in the future may justify modifications to this professional evaluation report.

² Approval of an RDP takes place when the RDP is properly licensed in the pertinent jurisdiction. Commercial and professional engineering laws affirm that the RDP has the ability to undertake commerce applying engineering principles in their area of expertise without restraint or discrimination. Ohio has set legal precedent.

³ Capitalized terms are defined in the building code, reference standards, TPI 1, the NDS, AISI S202, professional engineering law, Appendix A: Definitions/Commentary, and the National Building Code of Canada. Otherwise, terms not defined shall have ordinarily accepted meanings as the context implies.

⁴ All ideas, engineering analysis, and test data are proprietary intellectual property (IP) and trade secrets (TS) and should not be provided to anyone. In particular, public regulatory officials are subject to freedom of information act requests, including federal and state public records acts. This means that IP and TS will be in the public domain when any information is provided. In addition, each state also has legislation that mimics the federal Defend Trade Secrets Act 2016 (DTSA), where providing test reports, engineering analysis, and/or other related IP/TS is subject to prison of not more than 10 years and/or a \$5,000,000 fine or 3 times the value of the IP and TS. To follow DTSA and to comply with state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please visit <http://www.drjengineering.org/AppendixC> and <https://www.drjcertification.org/cornell-2016-protection-trade-secrets>.

⁵ Approved source. An independent person, firm, or corporation, approved by the building official, who is competent and experienced in the application of engineering principles to materials, methods, or systems analyses, which is a professional engineer. To find licensed professional engineers please see this website:

<https://www.nspe.org/resources/licensure/licensing-boards>. An approved source is "approved" when a professional engineer (i.e., Registered Design Professional [RDP]) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the state legislature via its professional engineering regulations. Commercial and professional engineering laws affirm that the RDP has the ability to undertake commerce applying engineering principles in their area of expertise without restraint or discrimination. Ohio has set legal precedent.

⁶ ANAB accredited approved agencies. An approved agency shall be objective, competent and independent. An approved agency is "approved" when it is ANAB ISO/IEC 17065 accredited. DrJ Engineering, LLC (DrJ) is listed in the ANAB directory. Language is found in Section 1703.1.1.

⁷ Where the alternative material, design, or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Language is found in Section 104.11.

⁸ Competition provides businesses the opportunity to compete on price, quality, innovation, and wages, in an open market and on a level playing field, unhampered by anticompetitive restraints: <https://www.justice.gov/atr/mission>. State statutes by topic can be found at https://www.law.cornell.edu/wex/unfair_competition. Finally, given that government employees have monopoly approval power, they are held to high standards as it relates to bias in commerce (i.e., discrimination) as found at <https://www.justice.gov/crt/deprivation-rights-under-color-law> and <https://www.law.cornell.edu/uscode/text/42/1983>.