

2016 SINEWAVE LOAD TABLES

2.67 x 1/2", 2.67 x 3/4" 2.67 x 7/8" SINEWAVE PROFILES

WITH

GALVANIZED/COLD-ROLLED GRADE 30 KSI STEEL

(24 GA, 22 GA, 20 GA, 18 GA, & 16 GA)

3004-H14 ALUMINUM, $F_{TY} = 17$ KSI

(0.032 ALUM, 0.040 ALUM & 0.050 ALUM)

STAINLESS STEEL GRADE 30 KSI

(24 GA, 22 GA, 20 GA, 18 GA, & 16 GA)

HIGH STRENGTH GRADE 45 KSI STEEL

(24 GA, 22 GA, 20 GA, 18 GA, & 16 GA)

FOR

CORRUGATED METALS, INC.

APRIL 25, 2016



WILLETT HOFMANN
& ASSOCIATES INC

ENGINEERING ARCHITECTURE LAND SURVEYING

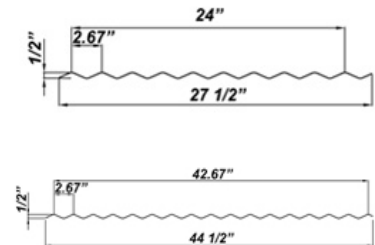
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

Brian K. Converse, P.E., S.E.
Illinois Licensed Structural Engineer
License No. 081-005213
Expires: 11/30/2016
WHA # 1194D13

CORRUGATED METALS PRODUCTS: SINEWAVE (1/2 x 2.67) - Galvanized / Cold-rolled & Aluminum Alloy

Section	Weight		Total Cross- Sectional Area	Allowable Stress	Top Flat in Compression			Bottom Flat in Compression		
	Sheet	Area			Moment of Inertia	Section Modulus	Allowable Moment	Moment of Inertia	Section Modulus	Allowable Moment
	lb/ft	lb/sf	A (in ²)	Fa (psi)	I (in ⁴ /ft)	S (in ³ /ft)	Ma (lb-ft/ft)	I (in ⁴ /ft)	S (in ³ /ft)	Ma (lb-ft/ft)
24 Ga Sinewave	4.41	1.19	1.30	17964	0.010	0.019	28	0.010	0.019	28
22 Ga Sinewave	5.06	1.36	1.49	17964	0.011	0.021	32	0.011	0.021	32
20 Ga Sinewave	6.53	1.76	1.92	17964	0.015	0.027	40	0.015	0.027	40
18 Ga Sinewave	8.16	2.20	2.40	17964	0.018	0.033	49	0.018	0.033	49
16 Ga Sinewave	10.12	2.73	2.97	17964	0.023	0.040	60	0.023	0.040	60
0.032 Alum.	1.82	0.49	1.54	9273	0.012	0.022	17	0.012	0.022	17
0.040 Alum.	2.27	0.61	1.92	9273	0.015	0.027	21	0.015	0.027	21
0.050 Alum.	2.84	0.77	2.40	9273	0.018	0.033	26	0.018	0.033	26

Table 1			Applied Load (PSF)					
Allowable Spans			10	20	30	40	50	60
Section	Span Limit	Span Type	Allowable Spans (ft)					
24 Ga Sinewave	L/60	1 Span	4'- 5" *	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		2 Span	4'- 5" *	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		3 Span	4'- 7" *	3'- 4" *	2'- 9" *	2'- 5" *	2'- 2" *	2'- 0" *
	L/240	1 Span	3'- 10"	3'- 1"	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		2 Span	4'- 4"	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		3 Span	4'- 2"	3'- 4" *	2'- 9" *	2'- 5" *	2'- 2" *	2'- 0" *
22 Ga Sinewave	L/60	1 Span	4'- 9" *	3'- 5" *	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		2 Span	4'- 9" *	3'- 5" *	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		3 Span	4'- 11" *	3'- 7" *	2'- 11" *	2'- 7" *	2'- 4" *	2'- 1" *
	L/240	1 Span	4'- 0"	3'- 3"	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		2 Span	4'- 6"	3'- 5" *	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		3 Span	4'- 4"	3'- 7"	2'- 11" *	2'- 7" *	2'- 4" *	2'- 1" *
20 Ga Sinewave	L/60	1 Span	5'- 3" *	3'- 10" *	3'- 2" *	2'- 9" *	2'- 6" *	2'- 3" *
		2 Span	5'- 3" *	3'- 10" *	3'- 2" *	2'- 9" *	2'- 6" *	2'- 3" *
		3 Span	5'- 5" *	4'- 0" *	3'- 3" *	2'- 10" *	2'- 7" *	2'- 4" *
	L/240	1 Span	4'- 4"	3'- 6"	3'- 1"	2'- 9" *	2'- 6" *	2'- 3" *
		2 Span	4'- 10"	3'- 10" *	3'- 2" *	2'- 9" *	2'- 6" *	2'- 3" *
		3 Span	4'- 9"	3'- 10"	3'- 3" *	2'- 10" *	2'- 7" *	2'- 4" *
18 Ga Sinewave	L/60	1 Span	5'- 8" *	4'- 3" *	3'- 6" *	3'- 1" *	2'- 9" *	2'- 6" *
		2 Span	5'- 8" *	4'- 3" *	3'- 6" *	3'- 1" *	2'- 9" *	2'- 6" *
		3 Span	5'- 11" *	4'- 4" *	3'- 7" *	3'- 2" *	2'- 10" *	2'- 7" *
	L/240	1 Span	4'- 7"	3'- 9"	3'- 4"	3'- 0"	2'- 9" *	2'- 6" *
		2 Span	5'- 2"	4'- 3"	3'- 6" *	3'- 1" *	2'- 9" *	2'- 6" *
		3 Span	5'- 0"	4'- 1"	3'- 7" *	3'- 2" *	2'- 10" *	2'- 7" *
16 Ga Sinewave	L/60	1 Span	6'- 2" *	4'- 7" *	3'- 10" *	3'- 4" *	3'- 0" *	2'- 9" *
		2 Span	6'- 2" *	4'- 7" *	3'- 10" *	3'- 4" *	3'- 0" *	2'- 9" *
		3 Span	6'- 4" *	4'- 9" *	4'- 0" *	3'- 6" *	3'- 2" *	2'- 10" *
	L/240	1 Span	4'- 10"	4'- 0"	3'- 7"	3'- 3"	3'- 0"	2'- 9" *
		2 Span	5'- 5"	4'- 6"	3'- 10" *	3'- 4" *	3'- 0" *	2'- 9" *
		3 Span	5'- 4"	4'- 5"	3'- 11"	3'- 6" *	3'- 2" *	2'- 10" *
0.032 Alum.	L/60	1 Span	3'- 7" *	2'- 7" *	2'- 1" *	1'- 10" *	1'- 8" *	1'- 6" *
		2 Span	3'- 7" *	2'- 7" *	2'- 1" *	1'- 10" *	1'- 8" *	1'- 6" *
		3 Span	3'- 8" *	2'- 8" *	2'- 2" *	1'- 11" *	1'- 8" *	1'- 6" *
	L/240	1 Span	2'- 11"	2'- 4"	2'- 1"	1'- 10" *	1'- 8" *	1'- 6" *
		2 Span	3'- 3"	2'- 7" *	2'- 1" *	1'- 10" *	1'- 8" *	1'- 6" *
		3 Span	3'- 2"	2'- 7"	2'- 2" *	1'- 11" *	1'- 8" *	1'- 6" *
0.040 Alum.	L/60	1 Span	3'- 11" *	2'- 10" *	2'- 4" *	2'- 0" *	1'- 10" *	1'- 8" *
		2 Span	3'- 11" *	2'- 10" *	2'- 4" *	2'- 0" *	1'- 10" *	1'- 8" *
		3 Span	4'- 1" *	2'- 11" *	2'- 5" *	2'- 1" *	1'- 10" *	1'- 9" *
	L/240	1 Span	3'- 2"	2'- 6"	2'- 2"	2'- 0"	1'- 10" *	1'- 8" *
		2 Span	3'- 6"	2'- 10"	2'- 4" *	2'- 0" *	1'- 10" *	1'- 8" *
		3 Span	3'- 5"	2'- 9"	2'- 5" *	2'- 1" *	1'- 10" *	1'- 9" *
0.050 Alum.	L/60	1 Span	4'- 4" *	3'- 2" *	2'- 7" *	2'- 3" *	2'- 0" *	1'- 10" *
		2 Span	4'- 4" *	3'- 2" *	2'- 7" *	2'- 3" *	2'- 0" *	1'- 10" *
		3 Span	4'- 6" *	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
	L/240	1 Span	3'- 4"	2'- 8"	2'- 4"	2'- 2"	2'- 0"	1'- 10" *
		2 Span	3'- 9"	3'- 0"	2'- 7" *	2'- 3" *	2'- 0" *	1'- 10" *
		3 Span	3'- 8"	2'- 11"	2'- 7"	2'- 4" *	2'- 1" *	1'- 11" *



Sinewave Profile Sample Calculation

Required Load = 40 psf
Required Deflection Limit = L / 240
Span Type = 2 Span

Allowable Span = 2'-9" (20 Ga Steel)
Allowable Span = 2'-0" (0.040 Alum.)

GENERAL NOTES

1. An asterisk (*) indicates allowable stress is reached.
2. For structural roofing & siding made of formed metal sheets, the total load deflection shall not exceed L/60.
3. Refer to Table 1604.3 limits & footnotes of the International Building Code (IBC) for additional guidance.
4. Allowable spans & loads DO include self-weight of panel.
5. All values are for one foot of panel width unless noted otherwise.

STEEL NOTES

1. Yield stress = Fy = 30,000 psi
2. Loads & spans for steel are based on the AISI Standard for Design of Cold-Formed Steel Structural Members (2007 Edition)

ALUMINUM NOTES (3003-H14)

1. Yield stress = Fty = 17,000 psi & Fcy = 15,300 psi
2. Loads & spans for aluminum are based on the Aluminum Design Manual (January 2015).

CORRUGATED METALS PRODUCTS: SINEWAVE (1/2 x 2.67) - Galvanized / Cold-rolled & Aluminum Alloy

Table 2			Trial Span (ft)									
Allowable Loads			3	4	5	6	7	8	9	10	11	12
Section	Span	Span	Allowable Loads (PSF)									
24 Ga Sinewave	L/60	1 Span	23 *	12 *	7 *	4 *	3 *	2 *	1 *	1 *	0 *	0 -
		2 Span	23 *	12 *	7 *	4 *	3 *	2 *	1 *	1 *	0 *	0 *
		3 Span	25 *	13 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *	0 *
	L/240	1 Span	22	8 -	3 -	1 -	0 -	0 -	1 -	1 -	1 -	1 -
		2 Span	23 *	12 *	5 -	2 -	1 -	0 -	0 -	1 -	1 -	1 -
		3 Span	25 *	11	5 -	2 -	1 -	0 -	1 -	1 -	1 -	1 -
22 Ga Sinewave	L/60	1 Span	26 *	14 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *	0 -
		2 Span	26 *	14 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *	0 *
		3 Span	28 *	15 *	9 *	6 *	4 *	2 *	1 *	1 *	0 *	0 *
	L/240	1 Span	25	9 -	4 -	1 -	0 -	0 -	1 -	1 -	1 -	1 -
		2 Span	26 *	14 *	6 -	3 -	1 -	0 -	0 -	1 -	1 -	1 -
		3 Span	28 *	13	6 -	3 -	1 -	0 -	1 -	1 -	1 -	1 -
20 Ga Sinewave	L/60	1 Span	33 *	18 *	11 *	7 *	4 *	3 *	2 *	1 *	0 *	0 -
		2 Span	33 *	18 *	11 *	7 *	4 *	3 *	2 *	1 *	0 *	0 *
		3 Span	36 *	19 *	11 *	7 *	5 *	3 *	2 *	1 *	1 *	0 *
	L/240	1 Span	32	12	5 -	2 -	0 -	0 -	1 -	1 -	2 -	2 -
		2 Span	33 *	18 *	8 -	4 -	2 -	0 -	0 -	1 -	1 -	1 -
		3 Span	36 *	17	8 -	3 -	1 -	0 -	1 -	1 -	1 -	2 -
18 Ga Sinewave	L/60	1 Span	41 *	22 *	13 *	8 *	5 *	3 *	2 *	1 *	1 *	0 -
		2 Span	41 *	22 *	13 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *
		3 Span	44 *	24 *	14 *	9 *	6 *	4 *	3 *	2 *	1 *	0 *
	L/240	1 Span	41	16	7 -	3 -	1 -	0 -	1 -	2 -	2 -	2 -
		2 Span	41 *	22 *	11	5 -	2 -	1 -	0 -	1 -	1 -	2 -
		3 Span	44 *	21	10	4 -	2 -	0 -	1 -	1 -	2 -	2 -
16 Ga Sinewave	L/60	1 Span	50 *	27 *	16 *	10 *	7 *	4 *	3 *	2 *	1 *	0 *
		2 Span	50 *	27 *	16 *	10 *	7 *	4 *	3 *	2 *	1 *	0 *
		3 Span	54 *	29 *	17 *	11 *	7 *	5 *	3 *	2 *	1 *	0 *
	L/240	1 Span	50 *	20	8 -	4 -	1 -	0 -	1 -	2 -	2 -	2 -
		2 Span	50 *	27 *	13	6 -	3 -	1 -	0 -	1 -	2 -	2 -
		3 Span	54 *	27	12	6 -	2 -	1 -	1 -	1 -	2 -	2 -
0.032 Alum.	L/60	1 Span	14 *	7 *	4 *	3 *	2 *	1 -	0 -	0 -	0 -	0 -
		2 Span	14 *	7 *	4 *	3 *	2 *	1 *	1 *	0 *	0 -	0 -
		3 Span	15 *	8 *	5 *	3 *	2 *	1 *	1 *	0 -	0 -	0 -
	L/240	1 Span	9 -	3 -	1 -	0 -	0 -	0 -	1 -	1 -	1 -	1 -
		2 Span	13	5 -	2 -	1 -	0 -	0 -	0 -	1 -	1 -	1 -
		3 Span	12	4 -	2 -	1 -	0 -	0 -	1 -	1 -	1 -	1 -
0.040 Alum.	L/60	1 Span	17 *	9 *	6 *	3 *	2 *	1 -	1 -	0 -	0 -	0 -
		2 Span	17 *	9 *	6 *	3 *	2 *	1 *	1 *	1 *	0 *	0 -
		3 Span	19 *	10 *	6 *	4 *	3 *	2 *	1 *	1 -	0 -	0 -
	L/240	1 Span	11	4 -	1 -	0 -	0 -	0 -	1 -	1 -	1 -	1 -
		2 Span	16	6 -	3 -	1 -	0 -	0 -	0 -	1 -	1 -	1 -
		3 Span	15	6 -	2 -	1 -	0 -	0 -	1 -	1 -	1 -	1 -
0.050 Alum.	L/60	1 Span	21 *	12 *	7 *	4 *	3 *	2 -	1 -	0 -	0 -	0 -
		2 Span	21 *	12 *	7 *	4 *	3 *	2 *	1 *	1 *	0 *	0 -
		3 Span	23 *	12 *	7 *	5 *	3 *	2 *	1 *	1 -	0 -	0 -
	L/240	1 Span	14	5 -	2 -	1 -	0 -	0 -	1 -	1 -	1 -	1 -
		2 Span	20	8 -	3 -	1 -	0 -	0 -	0 -	1 -	1 -	1 -
		3 Span	19	7 -	3 -	1 -	0 -	0 -	1 -	1 -	1 -	1 -

GENERAL NOTES

1. An asterisk (*) indicates allowable stress is reached.
2. A Strikethrough (~~100~~) indicates less than 10 psf ASCE minimum.
3. For structural roofing & siding made of formed metal sheets, the total load deflection shall not exceed L/60.
4. Refer to Table 1604.3 limits & footnotes of the International Building Code (IBC) for additional guidance.
5. Allowable spans & loads DO include self-weight of panel.
6. All values are for one foot of panel width unless noted otherwise.

STEEL NOTES

1. Yield stress = Fy = 30,000 psi
2. Loads & spans for steel are based on the AISI Standard for Design of Cold-Formed Steel Structural Members (2007 Edition)

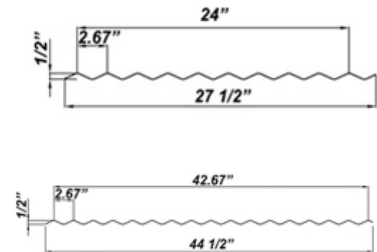
ALUMINUM NOTES (3003-H-14)

1. Yield stress = Fty = 17,000 psi & Fcy = 15,300 psi
2. Loads & spans for aluminum are based on the Aluminum Design Manual (January 2015).

CORRUGATED METALS PRODUCTS: SINEWAVE (1/2 x 2.67) - Stainless Steel

Section	Weight		Total Cross- Sectional Area	Allowable Stress	Top Flat in Compression			Bottom Flat in Compression		
	Sheet	Area			Moment of Inertia	Section Modulus	Allowable Moment	Moment of Inertia	Section Modulus	Allowable Moment
	lb/ft	lb/sf	A (in2)	Fa (psi)	I (in4/ft)	S (in3/ft)	Ma (lb-ft/ft)	I (in4/ft)	S (in3/ft)	Ma (lb-ft/ft)
24 Ga Sinewave SS	4.41	1.19	1.30	17964	0.010	0.019	28	0.010	0.019	28
22 Ga Sinewave SS	5.06	1.36	1.49	17964	0.011	0.021	32	0.011	0.021	32
20 Ga Sinewave SS	6.53	1.76	1.92	17964	0.015	0.027	40	0.015	0.027	40
18 Ga Sinewave SS	8.16	2.20	2.40	17964	0.018	0.033	49	0.018	0.033	49
16 Ga Sinewave SS	10.12	2.73	2.97	17964	0.023	0.040	60	0.023	0.040	60

Table 1			Applied Load (PSF)					
Allowable Spans			10	20	30	40	50	60
Section	Span Limit	Span Type	Allowable Spans (ft)					
24 Ga Sinewave SS	L/60	1 Span	4'- 5" *	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		2 Span	4'- 5" *	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		3 Span	4'- 7" *	3'- 4" *	2'- 9" *	2'- 5" *	2'- 2" *	2'- 0" *
	L/240	1 Span	3'- 7" *	2'- 11" *	2'- 7" *	2'- 4" *	2'- 1" *	1'- 11" *
		2 Span	4'- 0" *	3'- 3" *	2'- 8" *	2'- 4" *	2'- 1" *	1'- 11" *
		3 Span	3'- 11" *	3'- 2" *	2'- 9" *	2'- 5" *	2'- 2" *	2'- 0" *
22 Ga Sinewave SS	L/60	1 Span	4'- 9" *	3'- 5" *	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		2 Span	4'- 9" *	3'- 5" *	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		3 Span	4'- 11" *	3'- 7" *	2'- 11" *	2'- 7" *	2'- 4" *	2'- 1" *
	L/240	1 Span	3'- 9" *	3'- 0" *	2'- 8" *	2'- 5" *	2'- 3" *	2'- 0" *
		2 Span	4'- 2" *	3'- 5" *	2'- 10" *	2'- 6" *	2'- 3" *	2'- 0" *
		3 Span	4'- 1" *	3'- 4" *	2'- 11" *	2'- 7" *	2'- 4" *	2'- 1" *
20 Ga Sinewave SS	L/60	1 Span	5'- 3" *	3'- 10" *	3'- 2" *	2'- 9" *	2'- 6" *	2'- 3" *
		2 Span	5'- 3" *	3'- 10" *	3'- 2" *	2'- 9" *	2'- 6" *	2'- 3" *
		3 Span	5'- 5" *	4'- 0" *	3'- 3" *	2'- 10" *	2'- 7" *	2'- 4" *
	L/240	1 Span	4'- 0" *	3'- 3" *	2'- 11" *	2'- 8" *	2'- 5" *	2'- 3" *
		2 Span	4'- 6" *	3'- 8" *	3'- 2" *	2'- 9" *	2'- 6" *	2'- 3" *
		3 Span	4'- 5" *	3'- 7" *	3'- 2" *	2'- 10" *	2'- 7" *	2'- 4" *
18 Ga Sinewave SS	L/60	1 Span	5'- 8" *	4'- 3" *	3'- 6" *	3'- 1" *	2'- 9" *	2'- 6" *
		2 Span	5'- 8" *	4'- 3" *	3'- 6" *	3'- 1" *	2'- 9" *	2'- 6" *
		3 Span	5'- 11" *	4'- 4" *	3'- 7" *	3'- 2" *	2'- 10" *	2'- 7" *
	L/240	1 Span	4'- 3" *	3'- 6" *	3'- 1" *	2'- 10" *	2'- 8" *	2'- 6" *
		2 Span	4'- 10" *	3'- 11" *	3'- 6" *	3'- 1" *	2'- 9" *	2'- 6" *
		3 Span	4'- 8" *	3'- 10" *	3'- 5" *	3'- 1" *	2'- 10" *	2'- 7" *
16 Ga Sinewave SS	L/60	1 Span	6'- 2" *	4'- 7" *	3'- 10" *	3'- 4" *	3'- 0" *	2'- 9" *
		2 Span	6'- 2" *	4'- 7" *	3'- 10" *	3'- 4" *	3'- 0" *	2'- 9" *
		3 Span	6'- 4" *	4'- 9" *	4'- 0" *	3'- 6" *	3'- 2" *	2'- 10" *
	L/240	1 Span	4'- 7" *	3'- 9" *	3'- 4" *	3'- 0" *	2'- 10" *	2'- 8" *
		2 Span	5'- 1" *	4'- 3" *	3'- 9" *	3'- 4" *	3'- 0" *	2'- 9" *
		3 Span	5'- 0" *	4'- 1" *	3'- 8" *	3'- 4" *	3'- 1" *	2'- 10" *



Sinewave Profile Sample Calculation

Required Load = 40 psf
Required Deflection Limit = L / 240
Span Type = 2 Span

Allowable Span = 2'-9" (20 Ga Steel)

GENERAL NOTES

1. An asterisk (*) indicates allowable stress is reached.
2. For structural roofing & siding made of formed metal sheets, the total load deflection shall not exceed L/60.
3. Refer to Table 1604.3 limits & footnotes of the International Building Code (IBC) for additional guidance.
4. Allowable spans & loads DO include self-weight of panel.
5. All values are for one foot of panel width unless noted otherwise.
6. "SS" indicates Stainless Steel

STEEL NOTES

1. Yield stress = Fy = 30,000 psi
2. Loads & spans for steel are based on the ASCE "Specification for the Design of Stainless Steel Cold-Formed Structural Members" (ASCE 8-02) and AISC Steel Design Guide 27 for "Structural Stainless Steel"

CORRUGATED METALS PRODUCTS: SINEWAVE (1/2 x 2.67) - Stainless Steel

Table 2			Trial Span (ft)									
Allowable Loads			3	4	5	6	7	8	9	10	11	12
Section	Span	Span	Allowable Loads (PSF)									
24 Ga Sinewave SS	L/60	1 Span	23 *	12 *	7 *	4 *	3 *	2 *	1 *	0	0	0
		2 Span	23 *	12 *	7 *	4 *	3 *	2 *	1 *	1 *	0 *	0 *
		3 Span	25 *	13 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *	0
	L/240	1 Span	17	6	2	1	0	1	1	1	1	1
		2 Span	23 *	10	4	2	0	0	1	1	1	1
		3 Span	23	9	4	1	0	0	1	1	1	1
22 Ga Sinewave SS	L/60	1 Span	26 *	14 *	8 *	5 *	3 *	2 *	1 *	1	0	0
		2 Span	26 *	14 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *	0 *
		3 Span	28 *	15 *	9 *	6 *	4 *	2 *	1 *	1 *	0 *	0
	L/240	1 Span	20	7	3	1	0	1	1	1	1	2
		2 Span	26 *	11	5	2	1	0	1	1	1	1
		3 Span	27	10	4	2	0	0	1	1	1	1
20 Ga Sinewave SS	L/60	1 Span	33 *	18 *	11 *	7 *	4 *	3 *	2 *	1	0	0
		2 Span	33 *	18 *	11 *	7 *	4 *	3 *	2 *	1 *	0 *	0 *
		3 Span	36 *	19 *	11 *	7 *	5 *	3 *	2 *	1 *	1 *	0
	L/240	1 Span	26	10	4	1	0	1	1	1	2	2
		2 Span	33 *	15	6	3	1	0	1	1	1	2
		3 Span	35	13	6	2	1	0	1	1	2	2
18 Ga Sinewave SS	L/60	1 Span	41 *	22 *	13 *	8 *	5 *	3 *	2 *	1	0	0
		2 Span	41 *	22 *	13 *	8 *	5 *	3 *	2 *	1 *	1 *	0 *
		3 Span	44 *	24 *	14 *	9 *	6 *	4 *	3 *	2 *	1 *	0
	L/240	1 Span	33	12	5	2	0	1	1	2	2	2
		2 Span	41 *	19	8	4	1	0	1	1	2	2
		3 Span	44	17	7	3	1	0	1	1	2	2
16 Ga Sinewave SS	L/60	1 Span	50 *	27 *	16 *	10 *	7 *	4 *	3 *	2	0	0
		2 Span	50 *	27 *	16 *	10 *	7 *	4 *	3 *	2 *	1 *	0 *
		3 Span	54 *	29 *	17 *	11 *	7 *	5 *	3 *	2 *	1 *	0 *
	L/240	1 Span	41	15	6	2	0	1	2	2	2	3
		2 Span	50 *	23	10	5	2	0	1	2	2	2
		3 Span	54 *	21	9	4	1	0	1	2	2	2

GENERAL NOTES

1. An asterisk (*) indicates allowable stress is reached.
2. A Strikethrough (~~100~~) indicates less than 10 psf ASCE minimum.
3. For structural roofing & siding made of formed metal sheets, the total load deflection shall not exceed L/60.
4. Refer to Table 1604.3 limits & footnotes of the International Building Code (IBC) for additional guidance.
5. Allowable spans & loads DO include self-weight of panel.
6. All values are for one foot of panel width unless noted otherwise.
7. "SS" indicates Stainless Steel

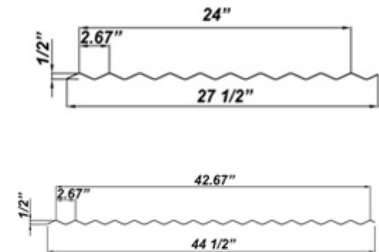
STEEL NOTES

1. Yield stress = Fy = 30,000 psi
2. Loads & spans for steel are based on the ASCE "Specification for the Design of Stainless Steel Cold-Formed Structural Members" (ASCE 8-02) and AISC Steel Design Guide 27 for "Structural Stainless Steel"

CORRUGATED METALS PRODUCTS: SINEWAVE (1/2 x 2.67) - High-Strength Steel

Section	Weight		Total Cross- Sectional Area	Allowable Stress	Top Flat in Compression			Bottom Flat in Compression		
	Sheet	Area			Moment of Inertia	Section Modulus	Allowable Moment	Moment of Inertia	Section Modulus	Allowable Moment
	lb/ft	lb/sf	A (in2)	Fa (psi)	I (in4/ft)	S (in3/ft)	Ma (lb-ft/ft)	I (in4/ft)	S (in3/ft)	Ma (lb-ft/ft)
24 Ga Sinewave	4.41	1.19	1.30	26946	0.010	0.019	42	0.010	0.019	42
22 Ga Sinewave	5.06	1.36	1.49	26946	0.011	0.021	47	0.011	0.021	47
20 Ga Sinewave	6.53	1.76	1.92	26946	0.015	0.027	60	0.015	0.027	60
18 Ga Sinewave	8.16	2.20	2.40	26946	0.018	0.033	74	0.018	0.033	74
16 Ga Sinewave	10.12	2.73	2.97	26946	0.023	0.040	90	0.023	0.040	90

Table 1			Applied Load (PSF)					
Allowable Spans			10	20	30	40	50	60
Section	Span Limit	Span Type	Allowable Spans (ft)					
24 Ga Sinewave	L/60	1 Span	5'-5" *	4'-0" *	3'-3" *	2'-10" *	2'-7" *	2'-4" *
		2 Span	5'-5" *	4'-0" *	3'-3" *	2'-10" *	2'-7" *	2'-4" *
		3 Span	5'-8" *	4'-1" *	3'-5" *	2'-11" *	2'-8" *	2'-5" *
	L/240	1 Span	3'-10"	3'-1"	2'-9"	2'-6"	2'-4"	2'-2"
		2 Span	4'-4"	3'-6"	3'-1"	2'-9"	2'-7" *	2'-4" *
		3 Span	4'-2"	3'-5"	3'-0"	2'-9"	2'-6"	2'-5"
22 Ga Sinewave	L/60	1 Span	5'-9" *	4'-3" *	3'-6" *	3'-0" *	2'-9" *	2'-6" *
		2 Span	5'-9" *	4'-3" *	3'-6" *	3'-0" *	2'-9" *	2'-6" *
		3 Span	6'-0" *	4'-4" *	3'-7" *	3'-2" *	2'-10" *	2'-7" *
	L/240	1 Span	4'-0"	3'-3"	2'-10"	2'-7"	2'-5"	2'-3"
		2 Span	4'-6"	3'-8"	3'-2"	2'-11"	2'-9"	2'-6" *
		3 Span	4'-4"	3'-7"	3'-1"	2'-10"	2'-8"	2'-6"
20 Ga Sinewave	L/60	1 Span	6'-5" *	4'-8" *	3'-11" *	3'-5" *	3'-1" *	2'-10" *
		2 Span	6'-5" *	4'-8" *	3'-11" *	3'-5" *	3'-1" *	2'-10" *
		3 Span	6'-7" *	4'-10" *	4'-0" *	3'-6" *	3'-2" *	2'-11" *
	L/240	1 Span	4'-4"	3'-6"	3'-1"	2'-10"	2'-7"	2'-6"
		2 Span	4'-10"	3'-11"	3'-6"	3'-2"	2'-11"	2'-9"
		3 Span	4'-9"	3'-10"	3'-5"	3'-1"	2'-10"	2'-9"
18 Ga Sinewave	L/60	1 Span	7'-0" *	5'-2" *	4'-4" *	3'-9" *	3'-4" *	3'-1" *
		2 Span	7'-0" *	5'-2" *	4'-4" *	3'-9" *	3'-4" *	3'-1" *
		3 Span	7'-3" *	5'-4" *	4'-5" *	3'-11" *	3'-6" *	3'-2" *
	L/240	1 Span	4'-7"	3'-9"	3'-4"	3'-0"	2'-10"	2'-8"
		2 Span	5'-2"	4'-3"	3'-9"	3'-5"	3'-2"	3'-0"
		3 Span	5'-0"	4'-1"	3'-8"	3'-4"	3'-1"	2'-11"
16 Ga Sinewave	L/60	1 Span	7'-6" *	5'-8" *	4'-8" *	4'-1" *	3'-8" *	3'-5" *
		2 Span	7'-6" *	5'-8" *	4'-8" *	4'-1" *	3'-8" *	3'-5" *
		3 Span	7'-10" *	5'-10" *	4'-10" *	4'-3" *	3'-10" *	3'-6" *
	L/240	1 Span	4'-10"	4'-0"	3'-7"	3'-3"	3'-0"	2'-10"
		2 Span	5'-5"	4'-6"	4'-0"	3'-8"	3'-5"	3'-2"
		3 Span	5'-4"	4'-5"	3'-11"	3'-7"	3'-4"	3'-2"



Sinewave Profile Sample Calculation

Required Load = 40 psf
Required Deflection Limit = $L / 240$
Span Type = 2 Span

Allowable Span = 3'-2" (20 Ga Steel)

GENERAL NOTES

1. An asterisk (*) indicates allowable stress is reached.
2. For structural roofing & siding made of formed metal sheets, the total load deflection shall not exceed $L/60$.
3. Refer to Table 1604.3 limits & footnotes of the International Building Code (IBC) for additional guidance.
4. Allowable spans & loads DO include self-weight of panel.
5. All values are for one foot of panel width unless noted otherwise.

STEEL NOTES

1. Yield stress = $F_y = 45,000$ psi
2. Loads & spans for steel are based on the AISI Standard for Design of Cold-Formed Steel Structural Members (2007 Edition)

CORRUGATED METALS PRODUCTS: SINEWAVE (1/2 x 2.67) - High-Strength Steel

Table 2			Trial Span (ft)									
Allowable Loads			3	4	5	6	7	8	9	10	11	12
Section	Span	Span	Allowable Loads (PSF)									
24 Ga Sinewave	L/60	1 Span	35 *	19 *	12 *	8 *	5 *	3	2	1	0	0
		2 Span	35 *	19 *	12 *	8 *	5 *	4 *	2 *	2 *	1	0
		3 Span	38 *	21 *	13 *	8 *	6 *	4 *	3 *	2	1	0
	L/240	1 Span	22	8	3	1	0	0	1	1	1	1
		2 Span	31	12	5	2	1	0	0	1	1	1
		3 Span	29	11	5	2	1	0	1	1	1	1
22 Ga Sinewave	L/60	1 Span	40 *	22 *	13 *	9 *	6 *	4	2	1	0	0
		2 Span	40 *	22 *	13 *	9 *	6 *	4 *	3 *	2 *	1	1
		3 Span	43 *	23 *	14 *	9 *	6 *	4 *	3 *	2	1	0
	L/240	1 Span	25	9	4	1	0	0	1	1	1	1
		2 Span	36	14	6	3	1	0	0	1	1	1
		3 Span	33	13	6	3	1	0	1	1	1	1
20 Ga Sinewave	L/60	1 Span	51 *	28 *	17 *	11 *	8 *	5	3	1	1	0
		2 Span	51 *	28 *	17 *	11 *	8 *	5 *	4 *	3 *	2	1
		3 Span	55 *	30 *	18 *	12 *	8 *	6 *	4 *	3	1	1
	L/240	1 Span	32	12	5	2	0	0	1	1	2	2
		2 Span	47	18	8	4	2	0	0	1	1	1
		3 Span	43	17	8	3	1	0	1	1	1	2
18 Ga Sinewave	L/60	1 Span	63 *	34 *	21 *	14 *	9 *	6	4	2	1	0
		2 Span	63 *	34 *	21 *	14 *	9 *	7 *	5 *	3 *	2 *	1
		3 Span	68 *	37 *	23 *	15 *	10 *	7 *	5 *	3	2	1
	L/240	1 Span	41	16	7	3	1	0	1	2	2	2
		2 Span	59	23	11	5	2	1	0	1	1	2
		3 Span	54	21	10	4	2	0	1	1	2	2
16 Ga Sinewave	L/60	1 Span	77 *	42 *	26 *	17 *	12 *	8 *	5	3	1	0
		2 Span	77 *	42 *	26 *	17 *	12 *	8 *	6 *	4 *	3 *	2
		3 Span	83 *	45 *	28 *	18 *	13 *	9 *	6 *	4	3	1
	L/240	1 Span	51	20	8	4	1	0	1	2	2	2
		2 Span	73	29	13	6	3	1	0	1	2	2
		3 Span	68	27	12	6	2	1	1	1	2	2

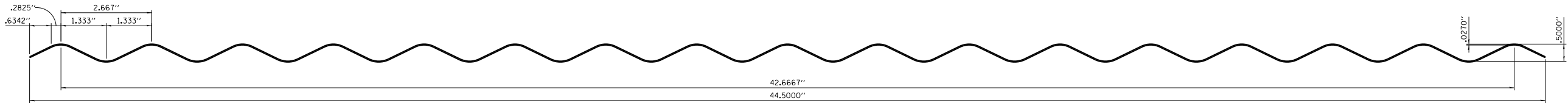
GENERAL NOTES

1. An asterisk (*) indicates allowable stress is reached.
2. A Strikethrough (~~100~~) indicates less than 10 psf ASCE minimum.
3. For structural roofing & siding made of formed metal sheets, the total load deflection shall not exceed L/60.
4. Refer to Table 1604.3 limits & footnotes of the International Building Code (IBC) for additional guidance.
5. Allowable spans & loads DO include self-weight of panel.
6. All values are for one foot of panel width unless noted otherwise.

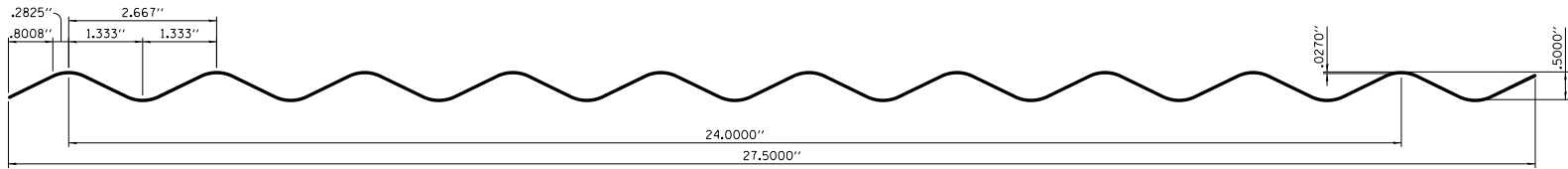
STEEL NOTES

1. Yield stress = Fy = 45,000 psi
2. Loads & spans for steel are based on the AISI Standard for Design of Cold-Formed Steel Structural Members (2007 Edition)

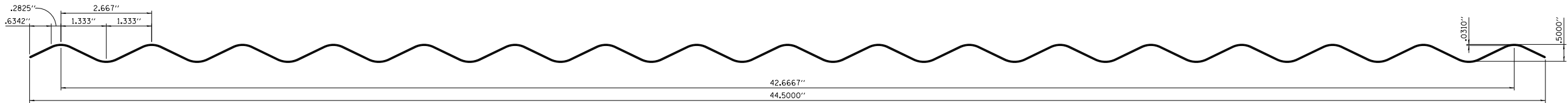
FILE = S:\PROJECTS\2013\1194D13.CM\LOAD DESIGN\STRUCT\2D Drawings\SineWave267x50 - 2016.dgn



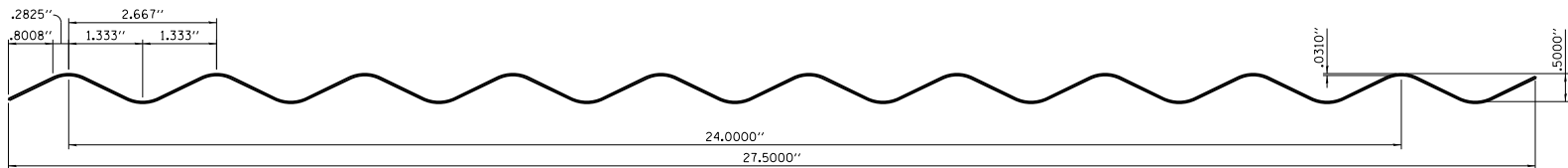
24 GA. (42 2/3 COVER)



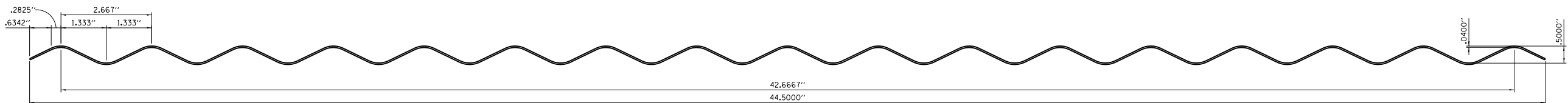
24 GA. (24 COVER)



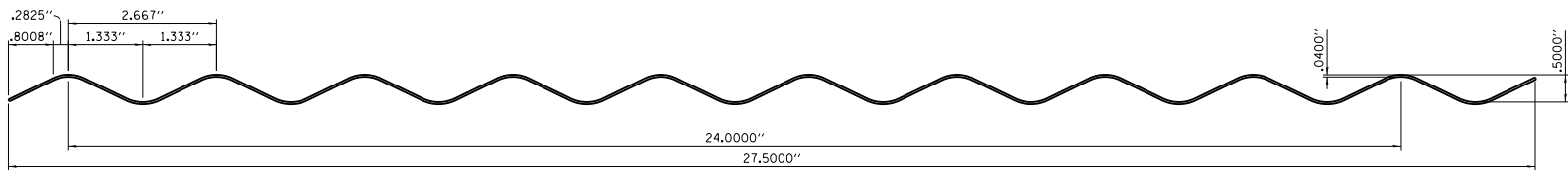
22 GA. (42 2/3 COVER)



22 GA. (24 COVER)



20 GA. (42 2/3 COVER)



20 GA. (24 COVER)

WILLET HOFMANN ASSOCIATES, INC. ENGINEERING ARCHITECTURE AND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0187 TEL: 815-224-5341 FAX: 815-224-5341	DRAWN	REV.	DATE	BY	REMARKS
	CHECKED	F.D.L.			
	APPROVED	P.L.P.			
		B.K.C.			
CORRUGATED METALS, INC. 6550 REVLON DRIVE BELVIDERE, ILLINOIS 61008 SINEWAVE (1/2"x2.67") PROFILE DRAWING - 20, 22 & 24 GA.	PHASE: ☐ PRELIM ☒ FINAL ☐ RECORD ☐				
	WHA No. 1194D13				
DATE: MAR. 2016					
TOTAL No. 3					
SHEET No. 1					

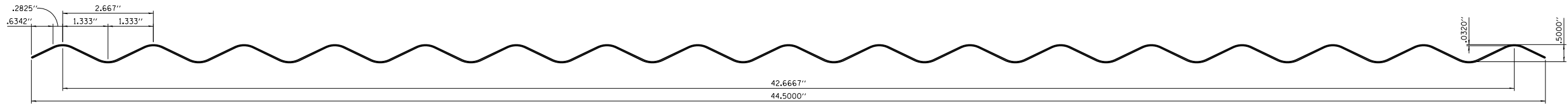
This document is the copyrighted property of Willett, Hofmann & Associates, Inc., and may not be copied or used by any person without written permission. © Copyright 2016 Willett, Hofmann & Associates, Inc.

Figure 1 shows a wavy line profile with the following dimensions:

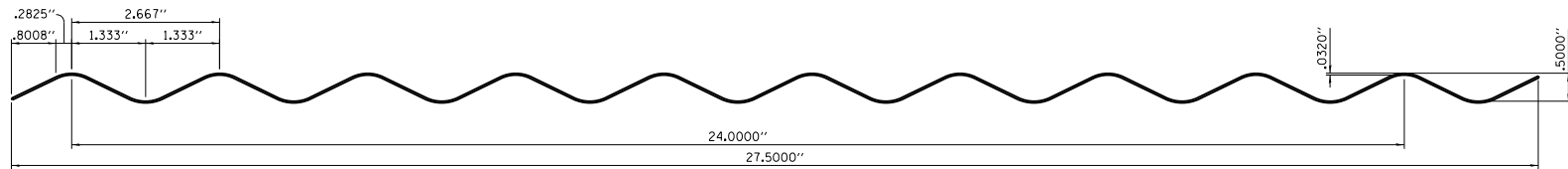
- Overall width: 27.5000"
- Peak height: .2825"
- Distance to first peak: .8008"
- Distance between peaks: 2.667"
- Distance between troughs: 1.333"
- Distance to last full cycle: 24.0000"
- Distance to final peak: .0620"
- Final height: .5000"

WILETT HOFMANN & ASSOCIATES INC. ENGINEERING ARCHITECTURE AND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0367 T. 815-284-3381 DESIGN FROM #184-000918			DRAWN	REV.	DATE	BY	REMARKS	
			F.D.L.					
			CHECKED					
			P.L.P.					
CORRUGATED METALS, INC. 6550 REVLON DRIVE BELVIDERE, ILLINOIS 61008			APPROVED					
SINEWAVE (1/2"x2.67") PROFILE DRAWING - 16 & 18 GA.			B.K.C.					
PHASE: ☐ PRELIM ☒ FINAL ☐ RECORD ☐ _____								
WHA No. 1194D13								
DATE: MAR. 2016								
TOTAL No. 3								
SHEET No. 2								

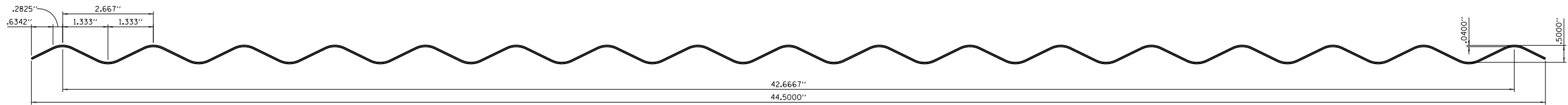
FILE = S:\PROJECTS\2013\1194D13.CM\LOAD DESIGN\STRUCT\2D Drawings\Sinewave2.67x50 2016.dgn



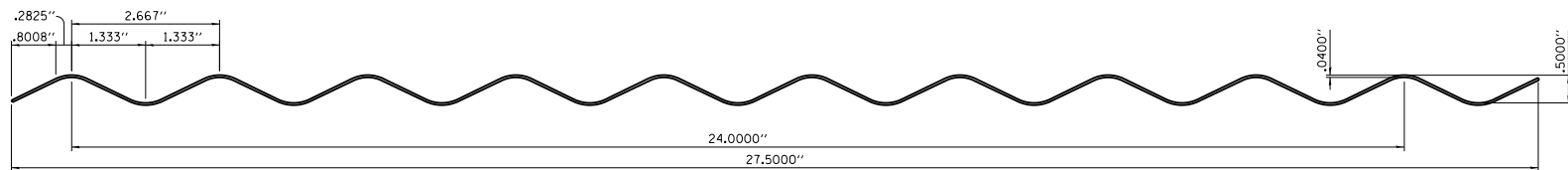
0.32 GA. (42 2/3 COVER)



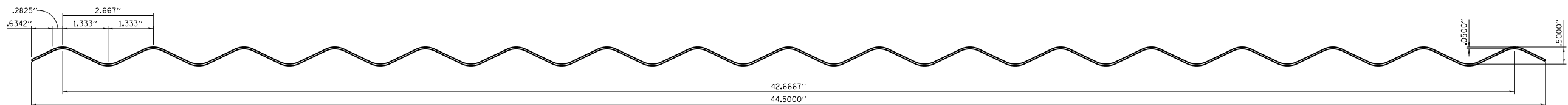
0.32 GA. (24 COVER)



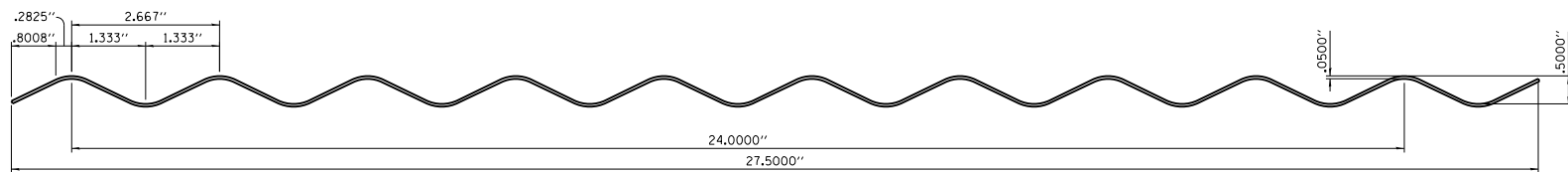
0.40 GA. (42 2/3 COVER)



0.40 GA. (24 COVER)



0.50 GA. (42 2/3 COVER)



0.50 GA. (24 COVER)

WILLET HOFMANN ASSOCIATES, INC. ENGINEERING ARCHITECTURE LAND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0187 TEL: 815-234-5341 FAX: 815-234-5341 © Copyright 2016 Willett, Hofmann & Associates, Inc.	DRAWN	REV.	DATE	BY	REMARKS
	CHECKED	F.D.L.			
	APPROVED	P.L.P.			
		B.K.C.			
CORRUGATED METALS, INC. 6550 REVLON DRIVE BELVIDERE, ILLINOIS 61008 SINEWAVE (12"x2.67") PROFILE DRAWING - 0.032 0.040 & 0.050 GA	PHASE:				
	☐ PRELIM ☒ FINAL ☐ RECORD ☐				
WHA No. 1194D13	DATE:				
	MAR. 2016				
TOTAL No. 3	SHEET No.				
	3				