



**SHAFTWALL C-H STUD
FIRE RATING
ENGINEERING CATALOG**



1-800-275-2279

STEELER® INC. Shaft Walls

C-H Studs & J-Track for Shaft Wall Construction



1-800-275-2279

STEELER® C-H Studs can be used in the Shaft Wall construction as listed below in the following UL Design Numbers. UL Certifications are available at www.ul.com, or copies are available upon request.

<u>Design Number:</u>	<u>Minimum "C-H" Shaped Stud Size:</u>	<u>Min. Thickness:</u>	<u>Fire Resistance Rating</u>
U428	2-1/2" C-H Shaped studs, 1-1/2" wide	25 GA.	2 hour
U429	2-1/2" C-H Shaped studs, 1-1/2" wide	25 GA.	2 hour
U438	2 1/2" C-H Shaped studs, 1 1/2" wide	25 GA. *	2 hour
U459	2 1/2" C-H Shaped studs, 1 1/2" wide	20 GA.	2 hour
U467	2 1/2" C-H Shaped studs, 1 1/2" wide	25 GA. *	2 hour
U469	2 1/2" C-H Shaped studs, 1 1/2" wide	25 GA. *	1 hour
U492	4" C-H Shaped studs, 1 1/2" wide	25 GA.	2 hour

* - Minimum thickness depends on manufacturer of drywall.

- 1) Steeler C-H Studs conform to the manufacturers standard gauge (MSG), shape, and section property specifications listed in each UL/USG system design and Fire Resistance Rating and are therefore acceptable for use with listed wallboard gypsum products bearing the UL classification marking.
- 2) The 2 1/2" web X 1 1/2" flange dimension for C-H Studs is a minimum requirement and larger sizes, i.e.; 4" and 6" (studs) are permitted system stud sizes under any UL certification.
- 3) All wallboard sizes specified in each system design must bear a UL classification marking.
- 4) Note specific manufacturers standard gauge (MSG) and stud length (floor to ceiling) requirements in each system design.
- 5) Note "J" shaped floor and ceiling runners (J Track) require unequal leg lengths of 1 in. and 2 in. and manufacturers standard gauge (MSG) requirements may vary by system design.

<u>Steeler Part #:</u>	<u>Stud Dimensions:</u>	<u>Gauge:</u>
0250H150-024	2 1/2" x 1 1/2" deep	EU 30
0250H150-027	2 1/2" x 1 1/2" deep	22
0250H150-030	2 1/2" x 1 1/2" deep	20DW
0250H150-033	2 1/2" x 1 1/2" deep	20
0400H150-024	4" x 1 1/2" deep	EU 30
0400H150-027	4" x 1 1/2" deep	22
0400H150-030	4" x 1 1/2" deep	20DW
0400H150-033	4" x 1 1/2" deep	20
0600H150-024	6" x 1 1/2" deep	EU 30
0600H150-027	6" x 1 1/2" deep	22
0600H150-030	6" x 1 1/2" deep	20DW
0600H150-033	6" x 1 1/2" deep	20

References:

UL Technical Services, Conformity Assessment Services (CAS)

Phone Number: (847) 272-8800 ext. 42364; Fax (847) 509-6292.

<http://www.ul.com/contact.html>

David Jeter, Steeler Engineer.

Phone Number: (800) 275-2279; Fax (206) 725-1300.

10023 Martin Luther King Jr. Way South, Seattle, WA 98178

www.steeler.com e-mail: engineering@steeler.com

STEELER® INC. Shaft Walls

C-H Studs & J-Track for Shaft Wall Construction

1-800-275-2279



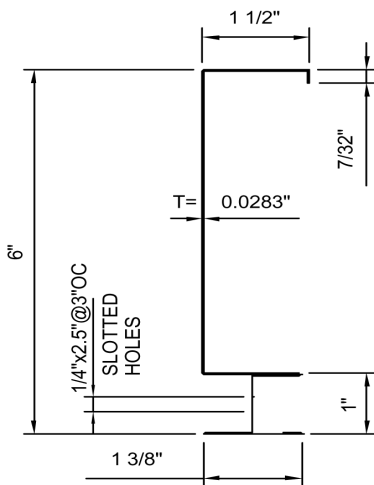
Steeler Inc.'s Engineered C-H Stud and J-Track are an economical solution to Shaft Wall Systems. Steeler C-H shaped studs are shaped by cold-formed shaping of the steel, which increases the strength of the C-H stud. Other competing Shaft Wall Systems use knock out tabs to hold the shaft liner in place, however these knock-out tabs reduce the strength of those Shaft Wall studs and reduce the limiting wall heights of such walls. Steeler C-H are safer and easier to work with because the edges (except for one lip return) are hemmed and there are no sharp knock out tabs to worry about.

Steeler J-Track is manufactured from steel meeting the requirements of ASTM C653-02a or equal, Grade 33 (fy=33KSI).

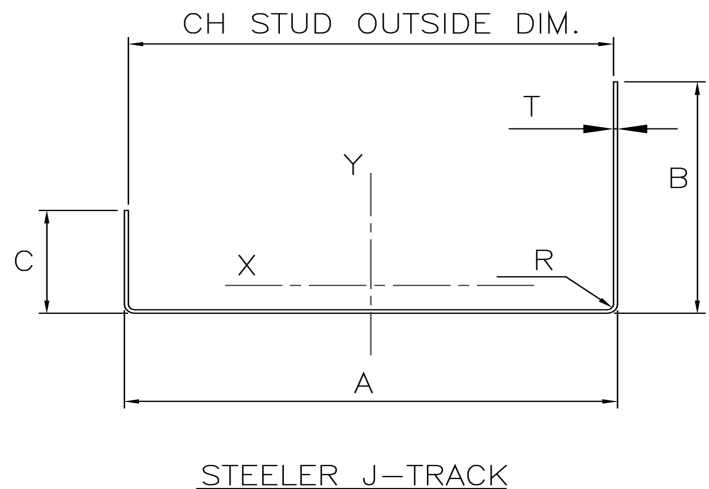
J-Track is used for top, bottom, and end of wall track in construction of Shaft Wall Systems.

Steeler J-Track is available with webs of 2 1/2", 4", and 6". The long flange is 2 1/4" and short flange (stiffener) is available with 1" and 2" flanges.

6" C-H Stud Diagram



J - Track Diagram



STEELER J-TRACK

J-Track Part #:	Web (A):	Flange (B):	Stiffener flange (C):	Thickness:
0250J100	2 1/2"	2 1/4"	1"	18, 27, 30, 33 mils
0250J200	2 1/2"	2 1/4"	2"	18, 27, 30, 33 mils
0400J100	4"	2 1/4"	1"	18, 27, 30, 33 mils
0400J200	4"	2 1/4"	2"	18, 27, 30, 33 mils
0600J100	6"	2 1/4"	1"	18, 27, 30, 33 mils
0600J200	6"	2 1/4"	2"	18, 27, 30, 33 mils

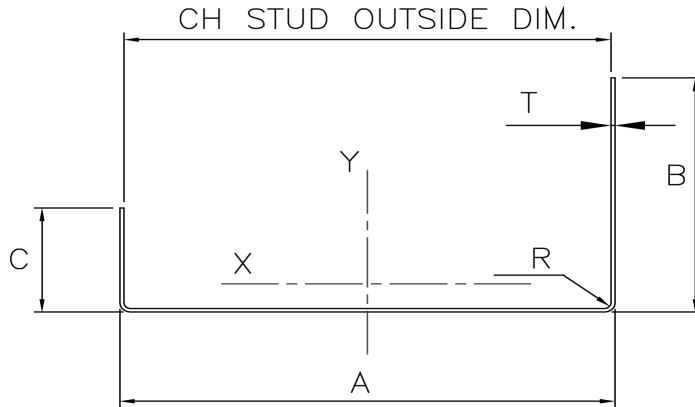
*Part # Notes: Desired thickness of J-Track is indicated by appending mil thickness to part # listed above.

STEELER® INC. J-Track Properties



J-Track for Shaft Wall Construction

1-800-275-2279



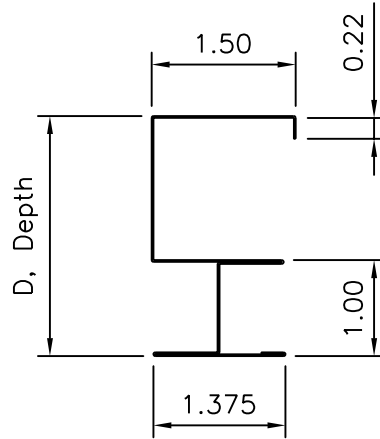
STEELER J-TRACK



EXPIRES 07/27/03

SIGNED: 4-18-2003
BY: H.D. JETER

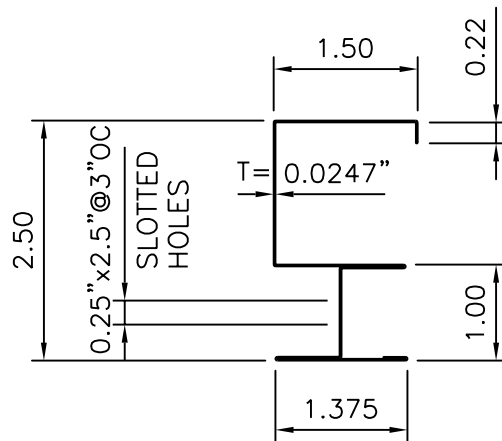
Allowable Moment, Shear and Effective Section Properties										
Section	Web A in	Flange B in	Stiffener C in	Design T in	Radius R in	Fy = 33 ksi, Fu = 45 ksi				
						May kip-in	Vax kips	Iye in ⁴	Sye in ³	Ae in ²
Web Depth 2.50" Lip 1.00"										
250 J100-18	2.622	2.25	1.00	0.0188	0.0843	0.8999	0.247	0.0679	0.0455	0.0366
250 J100-27	2.636	2.25	1.00	0.0283	0.0796	1.5439	0.685	0.1123	0.0781	0.0754
250 J100-30	2.641	2.25	1.00	0.0312	0.0782	1.7646	0.832	0.1270	0.0893	0.0896
250 J100-33	2.646	2.25	1.00	0.0346	0.0764	2.0359	1.023	0.1448	0.1030	0.1073
Web Depth 2.50" Lip 2.00"										
250 J200-18	2.622	2.25	2.00	0.0188	0.0843	0.8674	0.247	0.0792	0.0439	0.0369
250 J200-27	2.636	2.25	2.00	0.0283	0.0796	1.7070	0.685	0.1442	0.0864	0.0765
250 J200-30	2.641	2.25	2.00	0.0312	0.0782	1.9498	0.832	0.1634	0.0987	0.0910
250 J200-33	2.646	2.25	2.00	0.0346	0.0764	2.2482	1.023	0.1866	0.1138	0.1092
Web Depth 4.00" Lip 1.00"										
400 J100-18	4.122	2.25	1.00	0.0188	0.0843	1.4271	0.152	0.1807	0.0722	0.0373
400 J100-27	4.136	2.25	1.00	0.0283	0.0796	3.0404	0.518	0.3395	0.1539	0.0780
400 J100-30	4.141	2.25	1.00	0.0312	0.0782	3.4461	0.695	0.3818	0.1744	0.0930
400 J100-33	4.146	2.25	1.00	0.0346	0.0764	3.9409	0.948	0.4326	0.1994	0.1121
Web Depth 4.00" Lip 2.00"										
400 J200-18	4.122	2.25	2.00	0.0188	0.0843	1.4113	0.152	0.2075	0.0714	0.0376
400 J200-27	4.136	2.25	2.00	0.0283	0.0796	3.0457	0.518	0.4004	0.1541	0.0791
400 J200-30	4.141	2.25	2.00	0.0312	0.0782	3.6946	0.695	0.4703	0.1870	0.0945
400 J200-33	4.146	2.25	2.00	0.0346	0.0764	4.3807	0.948	0.5456	0.2217	0.1140
Web Depth 6.00" Lip 1.00"										
600 J100-18	6.122	2.25	1.00	0.0188	0.0843	2.1186	0.100	0.4251	0.1072	0.0377
600 J100-27	6.136	2.25	1.00	0.0283	0.0796	4.6117	0.342	0.8177	0.2334	0.0794
600 J100-30	6.141	2.25	1.00	0.0312	0.0782	5.6255	0.459	0.9610	0.2847	0.0949
600 J100-33	6.146	2.25	1.00	0.0346	0.0764	7.0098	0.626	1.1457	0.3547	0.1146
Web Depth 6.00" Lip 2.00"										
600 J200-18	6.122	2.25	2.00	0.0188	0.0843	2.1381	0.100	0.4798	0.1082	0.0380
600 J200-27	6.136	2.25	2.00	0.0283	0.0796	4.5505	0.342	0.9255	0.2303	0.0805
600 J200-30	6.141	2.25	2.00	0.0312	0.0782	5.4838	0.459	1.0839	0.2775	0.0963
600 J200-33	6.146	2.25	2.00	0.0346	0.0764	6.7098	0.626	1.2830	0.3396	0.1166



SHAFT WALL STUD

STEELER SHAFT WALL STUD MEMBER PROPERTY TABLES							
Member ID	D, in	Ae, in ³	Wt, plf	I _{xe} , in ⁴	S _{xe} , in ³	Max, k-in	Vay, kips
250H150-24	2.50	0.1513	0.6937	0.1314	0.0839	2.513	0.943
250H150-27	2.50	0.1994	0.7906	0.1651	0.1103	2.179	0.462
250H150-30	2.50	0.2270	0.8678	0.1829	0.1234	2.439	0.508
250H150-33	2.50	0.2576	0.9575	0.2040	0.1393	2.752	0.562
400H150-24	4.00	0.1542	0.8197	0.3542	0.1308	3.917	0.595
400H150-27	4.00	0.2059	0.9350	0.4812	0.1917	3.789	0.685
400H150-30	4.00	0.2358	1.0270	0.5523	0.2256	4.458	0.832
400H150-33	4.00	0.2698	1.1340	0.6279	0.2611	5.160	1.024
600H150-24	6.00	0.1552	0.9877	0.853	0.2003	5.998	0.278
600H150-27	6.00	0.2083	1.1274	1.1442	0.2839	5.783	0.418
600H150-30	6.00	0.2389	1.2391	1.3023	0.3285	6.491	0.561
600H150-33	6.00	0.2742	1.3693	1.4998	0.3868	7.643	0.766

Summary: Limiting Span Table, L, ft, Shaftwall Studs Spaced @ 24" oc									
Member ID	5 psf			10 psf			15 psf		
	L/120	L/240	L/360	L/180	L/240	L/360	L/180	L/240	L/360
250H150-24	11.99	9.51	8.31	8.31	7.55	6.60	7.26	6.60	5.76
250H150-27	12.05	10.27	8.97	8.52	8.15	7.12	6.96	6.96	6.22
250H150-30	12.75	10.62	9.28	9.02	8.43	7.37	7.36	7.36	6.43
250H150-33	13.54	11.02	9.62	9.58	8.74	7.64	7.82	7.64	6.67
400H150-24	16.16	13.24	11.57	11.43	10.51	9.18	9.33	9.18	8.02
400H150-27	15.89	14.67	12.81	11.24	11.24	10.17	9.18	9.18	8.88
400H150-30	17.24	15.35	13.41	12.19	12.19	10.65	9.95	9.95	9.30
400H150-33	18.55	16.03	14.00	13.11	12.72	11.11	10.71	10.71	9.71
600H150-24	20.00	17.75	15.51	14.14	14.09	12.31	11.55	11.55	10.75
600H150-27	19.64	19.57	17.10	13.88	13.88	13.57	11.34	11.34	11.34
600H150-30	20.80	20.44	17.85	14.71	14.71	14.17	12.01	12.01	12.01
600H150-33	22.57	21.42	18.71	15.96	15.96	14.85	13.03	13.03	12.98



SHAFT WALL STUD, 250H150-24 (50ksi)

Limiting Span Table, L, ft, 250H150-24 (50ksi) @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	12.94	11.99	10.47	9.51	8.31
7.5 psf	10.57	10.47	9.15	8.31	7.26
10 psf	9.15	9.51	8.31	7.55	6.60
15 psf	7.47	8.31	7.26	6.60	5.76

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material: ASTM A653 Grade 50
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 50 ksi
 Tensile Strength, Fu = 65 ksi

3. Fully Braced Section Properties:

Ae = 0.1513 in²
 Wt. = 0.6937 plf
 Ixe = 0.13136 in⁴
 Sxe = 0.08392 in³
 Maxo = 2.513 k-in
 Vay = 0.943 kips

4. Limiting Span Calculations:

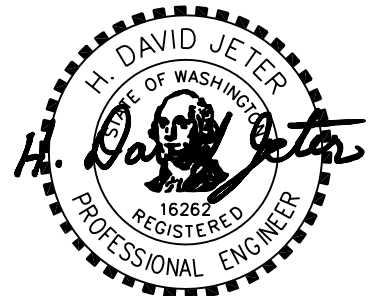
Bending Limits*: $L = (8 \cdot \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 \cdot E \cdot I_{xo}) / [5 \cdot w \cdot (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 \cdot V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 9'-0"
 Loading = 5 psf
 Deflection = L/240

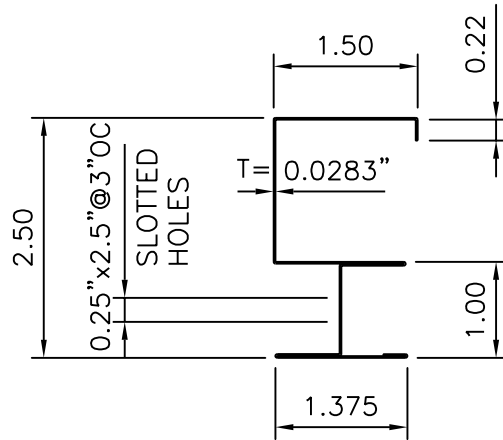
From Table Above Smaller Limit Controls

Bending = 12.94 ft
 Deflection = 9.51 ft
 Deflection Controls 9.51 ft >= 9.00 OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 250H150-27

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Limiting Span Table, L, ft, 250H150-27 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	12.05	12.93	11.30	10.27	8.97
7.5 psf	9.84	11.30	9.87	8.97	7.83
10 psf	8.52	10.27	8.97	8.15	7.12
15 psf	6.96	8.97	7.83	7.12	6.22

GENERAL NOTES:

1. Design Specifications:
2004 North American Specification-US (ASD)
2. Material Properties:
Material: ASTM A653 Grade 33
Modulus of Elasticity, E = 29500 ksi
Yield Strength, Fy = 33 ksi
Tensile Strength, Fu = 45 ksi
3. Fully Braced Section Properties:
Ae = 0.1994 in²
Wt. = 0.7906 plf
Ixe = 0.1651 in⁴
Sxe = 0.1103 in³
Maxo = 2.1789 k-in
Vay = 0.4619 kips
4. Limiting Span Calculations:
Bending Limits*: $L = (8 * \text{Maxo} / w)^{0.50}$
Deflection Limits: $L = \{(384 * E * I_{xo}) / [5 * w * (120, 180, 240, 360)]\}^{0.33}$
Shear Limits: $L = 2 * V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 10'-0"
Loading = 5 psf
Deflection = L/180

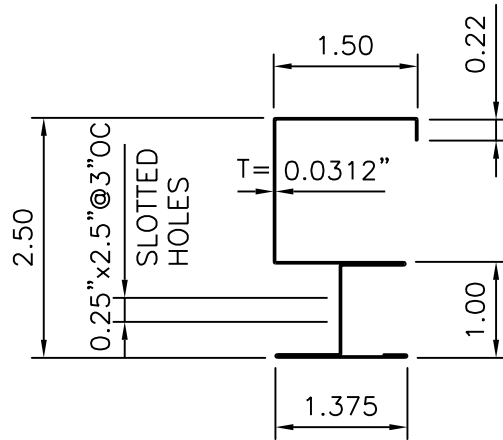
From Table Above Smaller Limit Controls

Bending = 12.10 ft
Deflection = 11.30 ft
Deflection Controls 11.30 ft >= 10'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 250H150-30

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Limiting Span Table, L, ft, 250H150-30 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	12.75	13.38	11.69	10.62	9.28
7.5 psf	10.41	11.69	10.21	9.28	8.11
10 psf	9.02	10.62	9.28	8.43	7.37
15 psf	7.36	9.28	8.11	7.37	6.43

GENERAL NOTES:

- Design Specifications:
2004 North American Specification-US (ASD)
- Material Properties:
Material ASTM A653 Grade 33
Modulus of Elasticity, E = 29500 ksi
Yield Strength, Fy = 33 ksi
Tensile Strength, Fu = 45 ksi
- Fully Braced Section Properties:
Ae = 0.2270 in²
Wt. = 0.8678 plf
Ixe = 0.1829 in⁴
Sxe = 0.1234 in³
Maxo = 2.4388 k-in
Vay = 0.5080 kips
- Limiting Span Calculations:
Bending Limits*: $L = (8 * \text{Maxo} / w)^{0.50}$
Deflection Limits: $L = \{(384 * E * I_{xo}) / [5 * w * (120, 180, 240, 360)]\}^{0.33}$
Shear Limits: $L = 2 * V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 10'-0"
Loading = 5 psf
Deflection = L/240

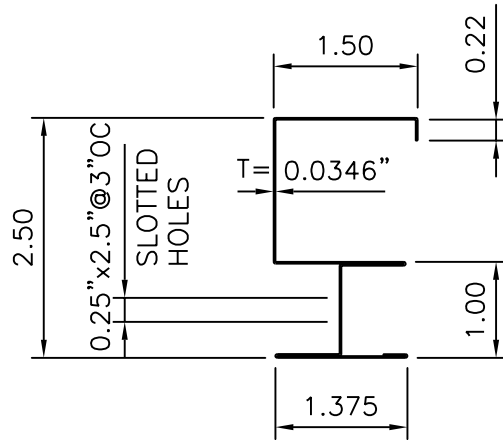
From Table Above Smaller Limit Controls

Bending = 12.75 ft
Deflection = 10.62 ft
Deflection Controls 10.62 ft >= 10'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 250H150-33

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Limiting Span Table, L, ft, 250H150-33 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	13.54	13.88	12.13	11.02	9.62
7.5 psf	11.06	12.13	10.59	9.62	8.41
10 psf	9.58	11.02	9.62	8.74	7.64
15 psf	7.82	9.62	8.41	7.64	6.67

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material ASTM A653 Grade 33
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 33 ksi
 Tensile Strength, Fu = 45 ksi

3. Fully Braced Section Properties:

Ae = 0.2576 in²
 Wt. = 0.9575 plf
 Ixe = 0.2040 in⁴
 Sxe = 0.1393 in³
 Maxo = 2.7517 k-in
 Vay = 0.5620 kips

4. Limiting Span Calculations:

Bending Limits*: $L = (8 * \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 * E * I_{xo}) / [5 * w * (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 * V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 10'-0"
 Loading = 7.5 psf
 Deflection = L/180

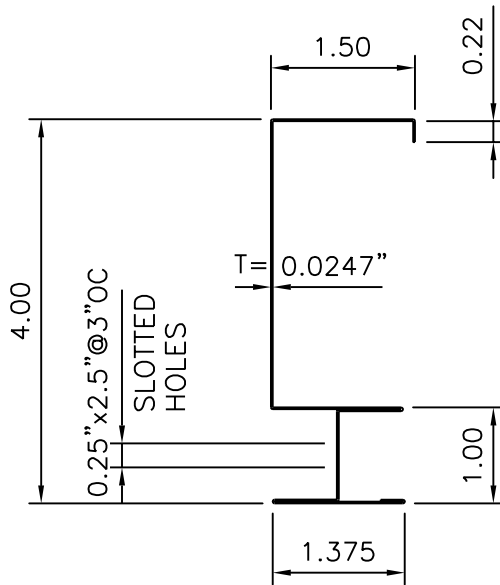
From Table Above Smaller Limit Controls

Bending = 11.06 ft
 Deflection = 10.59 ft
 Deflection Controls 10.59 ft >= 10'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 400H150-24 (50ksi)

Limiting Span Table, L, ft, 400H150-24 (50ksi) @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	16.16	16.68	14.57	13.24	11.57
7.5 psf	13.19	14.57	12.73	11.57	10.11
10 psf	11.43	13.24	11.57	10.51	9.18
15 psf	9.33	11.57	10.11	9.18	8.02

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material: ASTM A653 Grade 50
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 50 ksi
 Tensile Strength, Fu = 65 ksi

3. Fully Braced Section Properties:

Ae = 0.1542 in²
 Wt. = 0.8197 plf
 Ixe = 0.3542 in⁴
 Sxe = 0.1308 in³
 Maxo = 3.917 k-in
 Vay = 0.595 kips

4. Limiting Span Calculations:

Bending Limits*: $L = (8 \cdot \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 \cdot E \cdot I_{xo}) / [5 \cdot w \cdot (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 \cdot V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 16'-0
 Loading = 5 psf
 Deflection = L/120

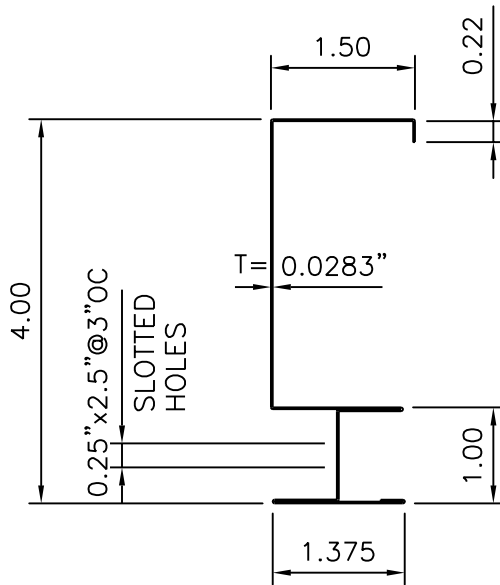
From Table Above Smaller Limit Controls

Bending = 16.16 ft
 Deflection = 16.68 ft
 Bending Controls 16.16 ft >= 16.00 ft OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 400H150-27

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	15.89	18.48	16.14	14.67	12.81
7.5 psf	12.98	16.14	14.10	12.81	11.19
10 psf	11.24	14.67	12.81	11.64	10.17
15 psf	9.18	12.81	11.19	10.17	8.88

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material ASTM A653 Grade 33
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 33 ksi
 Tensile Strength, Fu = 45 ksi

3. Fully Braced Section Properties:

Ae = 0.2059 in²
 Wt. = 0.9350 plf
 Ixe = 0.4812 in⁴
 Sxe = 0.1917 in³
 Maxo = 3.7886 k-in
 Vay = 0.6848 kips

4. Limiting Span Calculations:

Bending Limits*: $L = (8 \cdot \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 \cdot E \cdot I_{xo}) / [5 \cdot w \cdot (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 \cdot V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 10'-0"
 Loading = 10 psf
 Deflection = L/360

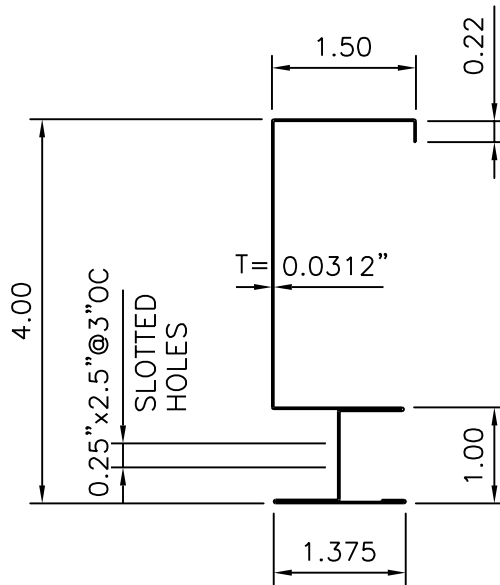
From Table Above Smaller Limit Controls

Bending = 11.24 ft
 Deflection = 10.17 ft
 Deflection Controls 10.17 ft >= 10'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 400H150-30

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	17.24	19.35	16.90	15.35	13.41
7.5 psf	14.08	16.90	14.76	13.41	11.72
10 psf	12.19	15.35	13.41	12.19	10.65
15 psf	9.95	13.41	11.72	10.65	9.30

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material ASTM A653 Grade 33
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 33 ksi
 Tensile Strength, Fu = 45 ksi

3. Fully Braced Section Properties:

Ae = 0.2358 in²
 Wt. = 1.0270 plf
 Ixe = 0.5523 in⁴
 Sxe = 0.2256 in³
 Maxo = 4.4579 k-in
 Vay = 0.8323 kips

4. Limiting Span Calculations:

Bending Limits*: $L = (8 \cdot \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 \cdot E \cdot I_{xo}) / [5 \cdot w \cdot (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 \cdot V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 9'-0"
 Loading = 15 psf
 Deflection = L/360

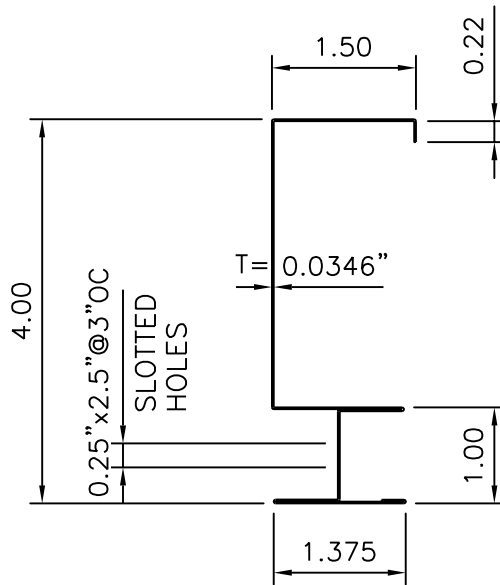
From Table Above Smaller Limit Controls

Bending = 9.95 ft
 Deflection = 9.30 ft
 Deflection Controls 9.30 ft >= 9'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 400H150-33

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Limiting Span Table, L, ft, 400H150-33 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	18.55	20.19	17.64	16.03	14.00
7.5 psf	15.14	17.64	15.41	14.00	12.23
10 psf	13.11	16.03	14.00	12.72	11.11
15 psf	10.71	14.00	12.23	11.11	9.71

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material ASTM A653 Grade 33
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 33 ksi
 Tensile Strength, Fu = 45 ksi

3. Fully Braced Section Properties:

Ae = 0.2698 in²
 Wt. = 1.1340 plf
 Ixe = 0.6279 in⁴
 Sxe = 0.2611 in³
 Maxo = 5.1599 k-in
 Vay = 1.0236 kips

4. Limiting Span Calculations:

Bending Limits*: $L = (8 \cdot \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 \cdot E \cdot I_{xo}) / [5 \cdot w \cdot (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 \cdot V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 9'-0"
 Loading = 15 psf
 Deflection = L/360

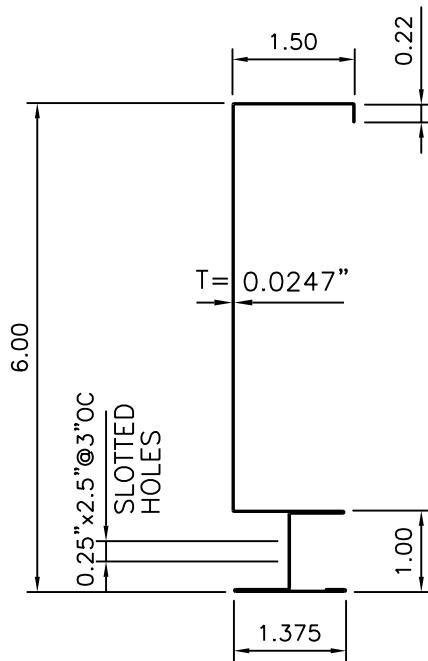
From Table Above Smaller Limit Controls

Bending = 10.71 ft
 Deflection = 9.71 ft
 Deflection Controls 9.71 ft >= 9'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 600H150-24 (50ksi)

Limiting Span Table, L, ft, 600H150-24 (50ksi) @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	20.00	22.36	19.54	17.75	15.51
7.5 psf	16.33	19.54	17.07	15.51	13.55
10 psf	14.14	17.75	15.51	14.09	12.31
15 psf	11.55	15.51	13.55	12.31	10.75

GENERAL NOTES:

1. Design Specifications:

2004 North American Specification-US (ASD)

2. Material Properties:

Material: ASTM A653 Grade 50
 Modulus of Elasticity, E = 29500 ksi
 Yield Strength, Fy = 50 ksi
 Tensile Strength, Fu = 65 ksi

3. Fully Braced Section Properties:

Ae = 0.1552 in²
 Wt. = 0.9877 plf
 Ixe = 0.853 in⁴
 Sxe = 0.2003 in³
 Maxo = 5.998 k-in
 Vay = 0.278 kips

4. Limiting Span Calculations:

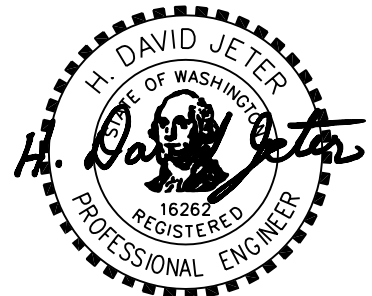
Bending Limits*: $L = (8 \cdot \text{Maxo} / w)^{0.50}$
 Deflection Limits: $L = \{(384 \cdot E \cdot I_{xo}) / [5 \cdot w \cdot (120, 180, 240, 360)]\}^{0.33}$
 Shear Limits: $L = 2 \cdot V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 20'-0"
 Loading = 5 psf
 Deflection = L/120

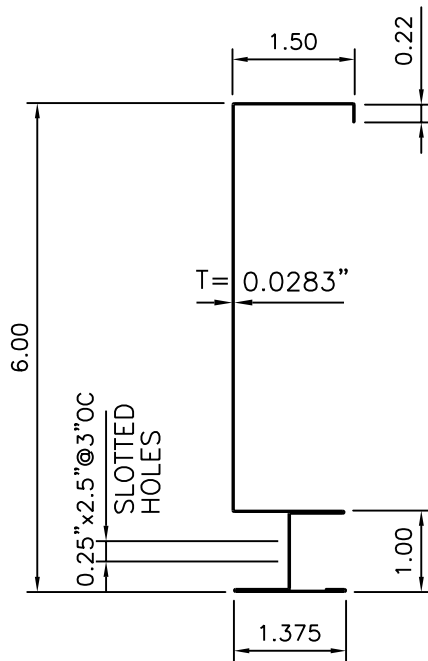
From Table Above Smaller Limit Controls

Bending = 20.00 ft
 Deflection = 22.36 ft
 Bending Controls 20.00 ft >= 20.00 OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 600H150-27

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Limiting Span Table, L, ft, 600H150-27 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	19.64	24.66	21.54	19.57	17.10
7.5 psf	16.03	21.54	18.82	17.10	14.94
10 psf	13.88	19.57	17.10	15.54	13.57
15 psf	11.34	17.10	14.94	13.57	11.86

GENERAL NOTES:

1. Design Specifications:
2004 North American Specification-US (ASD)

2. Material Properties:
Material ASTM A653 Grade 33
Modulus of Elasticity, E = 29500 ksi
Yield Strength, Fy = 33 ksi
Tensile Strength, Fu = 45 ksi

3. Fully Braced Section Properties:

Ae = 0.2083 in²
Wt. = 1.1274 plf
Ixe = 1.1442 in⁴
Sxe = 0.2839 in³
Maxo = 5.7831 k-in
Vay = 0.4185 kips

4. Limiting Span Calculations:

Bending Limits: $L = (8 * \text{Maxo} / w)^{0.50}$
Deflection Limits: $L = \{(384 * E * I_{xo}) / [5 * w * (120, 180, 240, 360)]\}^{0.33}$
Shear Limits: $L = 2 * V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 13'-0"
Loading = 10 psf
Deflection = L/360

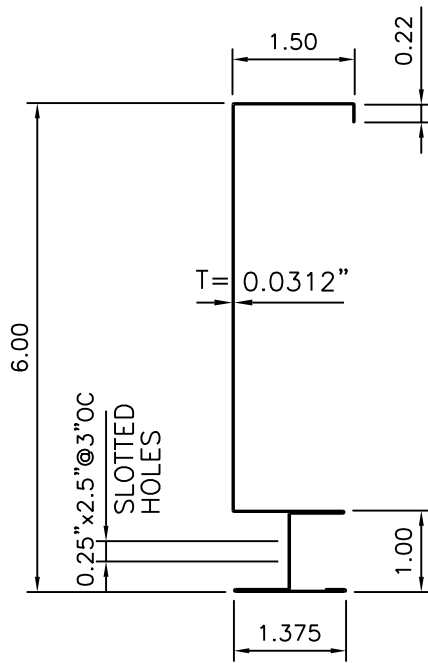
From Table Above Smaller Limit Controls

Bending = 13.88 ft
Deflection = 13.57 ft (Controls)
Deflection Controls 13.57 ft >= 13'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 600H150-30

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492.

Limiting Span Table, L, ft, 600H150-30 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5 psf	20.80	25.75	22.49	20.44	17.85
7.5 psf	16.98	22.49	19.65	17.85	15.60
10 psf	14.71	20.44	17.85	16.22	14.17
15 psf	12.01	17.85	15.60	14.17	12.38

GENERAL NOTES:

1. Design Specifications:
2004 North American Specification-US (ASD)
2. Material Properties:
Material ASTM A653 Grade 33
Modulus of Elasticity, E = 29500 ksi
Yield Strength, Fy = 33 ksi
Tensile Strength, Fu = 45 ksi
3. Fully Braced Section Properties:
Ae = 0.2389 in²
Wt. = 1.2391 plf
Ixe = 1.3023 in⁴
Sxe = 0.3285 in³
Maxo = 6.491 k-in
Vay = 0.561 kips
4. Limiting Span Calculations:
Bending Limits: $L = (8 * \text{Maxo} / w)^{0.50}$
Deflection Limits: $L = \{(384 * E * I_{xo}) / [5 * w * (120, 180, 240, 360)]\}^{0.33}$
Shear Limits: $L = 2 * V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 20'-0"
Loading = 5 psf
Deflection = L/240

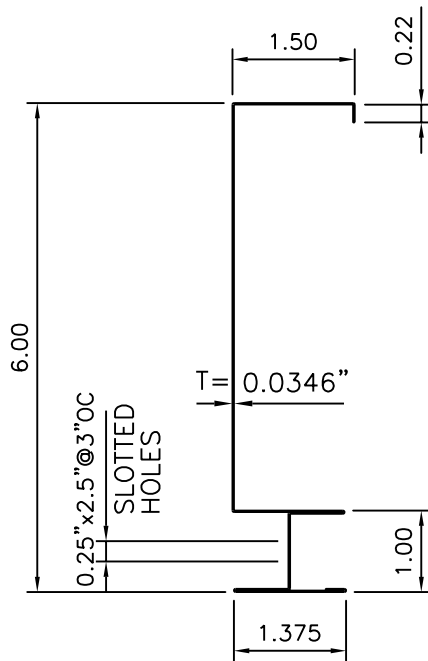
From Table Above Smaller Limit Controls

Bending = 20.80 ft
Deflection = 20.44 ft
Deflection Controls 20.44 ft >= 20'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.



SHAFT WALL STUD, 600H150-33

Note:

Steeler Shaft Wall Studs are to be used in the assembled construction for fire resistant shaft walls as shown in UL Design Numbers U428, U429, U438, U459, U467, U469 and U492. LIMITING HEIGHTS, FT.--600H150-33 @ 24" O.C.

Limiting Span Table, L, ft, 600H150-33 @ 24" oc					
Design Loads	Bending Limits, ft.	Deflection Limits, ft.			
		L/120	L/180	L/240	L/360
5. psf	22.57	26.99	23.58	21.42	18.71
7.5 psf	18.43	23.58	20.60	18.71	16.35
10 psf	15.96	21.42	18.71	17.00	14.85
15 psf	13.03	18.71	16.35	14.85	12.98

GENERAL NOTES:

- Design Specifications:
2004 North American Specification-US (ASD)
- Material Properties:
Material ASTM A653 Grade 33
Modulus of Elasticity, E = 29500 ksi
Yield Strength, Fy = 33 ksi
Tensile Strength, Fu = 45 ksi
- Fully Braced Section Properties:
Ae = 0.2742 in²
Wt. = 1.3693 plf
Ixe = 1.4998 in⁴
Sxe = 0.3868 in³
Maxo = 7.643 k-in
Vay = 0.766 kips
- Limiting Span Calculations:
Bending Limits: $L = (8 * \text{Maxo} / w)^{0.50}$
Deflection Limits: $L = \{(384 * E * I_{xo}) / [5 * w * (120, 180, 240, 360)]\}^{0.33}$
Shear Limits: $L = 2 * V_{ay} / w$ (Does not control)

EXAMPLE:

Span L = 20'-0"
Loading = 5 psf
Deflection = L/240

From Table Above Smaller Limit Controls

Bending = 22.57 ft
Deflection = 21.42 ft
Deflection Controls 21.42 ft >= 20'-0" OK



EXPIRES: 07/27/2011

*No reduction in lateral loading for bending or deflection has been used.

Potential LEED® Points for Steeler Metal Framing

11 Potential Points

Steeler Inc. is stepping up to the environmental challenges of today and contributing to future generations by supporting green building with green products. Steeler Inc. framing systems and products are the environmentally responsible choice. Below is a list of LEED Credits that can apply to your project and to sustainability of the built environment. Let us help you do your part by specifying Steeler framing and products.

LEED Credit MR 2

Construction Waste Management (1-2 points)

Steeler framing products are manufactured from cold-formed steel (CFS). CFS is 100% recyclable and therefore contributes significantly to LEED Credit MR 2. The specific contribution amounts will vary depending on the project and construction decisions.

LEED Credit MR 4

Recycled Content (1-2 points)

Steeler framing products contain a minimum of 26% post-consumer and 7% pre-consumer recycled steel content for a minimum of 33% recyclable. Recycled content of materials contributes to LEED Credits MR 4. If notified in advance, Steeler can order steel containing higher percentages of recycled content to meet your specific project needs. Contact Steeler technical services prior to ordering so we can help support your project goals.

LEED Credit MR 5

Regional Materials (1-2 points)

Steeler framing products contain a large percentage of locally sourced materials and can contribute to LEED Credits MR 5. Materials contributing to these credits must be extracted, harvested, or recovered, and manufactured within a 500 mile radius OR ≤ 500 miles of total travel distance using a weighted mileage contribution depending on the means of travel.

LEED Credit ID 1

Innovation in Design (1-2 points)

Steeler framing can contribute to LEED Credits ID 1 through Path 2 and exemplary performance for Recycled Content and/or Regional Materials. Credit for exemplary performance may require steel with a higher than average recycled content. Contact Steeler technical services prior to ordering so we can support your project goals by ordering highly recycled steel.

LEED Credit RP 1

Regional Priority (1-3 points)

Steeler framing can contribute to LEED Credits RP 1 by addressing geographic-specific environmental priorities. If your project area has defined any of the above LEED Credits as a regional priority, then your project qualifies for one credit per priority met. Verify your project's regional priority credits at the U.S. Green Building Council (USGBC) website, www.usgbc.org



Steeler Plant Locations

- Seattle, WA
- Newark, CA

Steeler Inc. supports the U.S. Green Building Council by retaining LEED knowledgeable professionals on staff. Steeler Inc. engineering services (206-760-7100) can assist you in documenting and applying LEED Certification Credits to your project. Let's develop a more sustainable building environment together!

INTERIOR & EXTERIOR FRAMING

Steeler Manufactured Products

- * Steel Studs & Track
- * Smooth Products™
- * Slotted Track
- * Sound Resilient Channel
- * Furring Channel
- * Cold-Rolled Channel
- * Angle
- * Flat Stock
- * Shaftwall Studs
- * J Track
- * Z-Furring Channel
- * Custom Brake Shapes
- * Steeler Slotted Studs™
- * Pony Wall Supports



INTERIOR FINISHING & DRYWALL

Steeler Product Offerings



- * Hanger Wire
- * U-Hank Tie Wire
- * Engineered Slide Clips
- * National Gypsum
- * The Steel Network
- * Knauf Insulation
- * Westpac Materials
- * Products from USG
- * Murco Wall Products
- * Award Metals Corner Beads
- * Trim-Tex Drywall Products
- * And more...



FASTENERS

Steeler Product Offerings

- * Super Steelers™*
- * Hi-Lo Super Steelers™
- * Super Woodies™*
- * Super Framers*
- * Super Lathers*
- * Super Hex Framers*
- * Super Laminating
- * Rust Resistant Screws
- * Drywall Drillers*
- * Cement Board Screws
- * Super Framing Drillers*
- * Wafer Head Drillers*
- * Super Hex Drillers*
- * And more...



*Denotes availability in zinc coating

TOOLS & ACCESSORIES

Steeler Product Offerings



- * Bit Tips & Bit Tip Holders
- * Magnetic Nut Runners
- * Chop Saw Blades
- * DeWalt
- * Empire Levels
- * Kett Tool Company
- * ToolPro
- * Pacific Laser Systems
- * Wal-Board Tools
- * Ramset Fastening Systems
- * 3M Construction Supplies
- * And more...



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Redmond

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Tacoma

253-572-8200

253-572-8400 FAX

Delta, B.C.

604-940-1332

604-940-1334 FAX

Tucson

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Newark

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510-505-0200 FAX

Portland

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623-848-3055 FAX

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619-527-1005 FAX