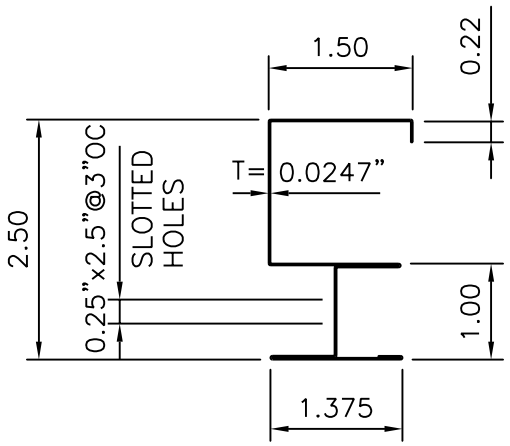

SHAFT WALL STUD, 250H150-24 (50ksi)

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

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

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 in^2
Wt. = 0.6937 plf
Ixe = 0.13136 in^4
Sxe = 0.08392 in^3
Maxo = 2.513 k-in
Vay = 0.943 kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/w (Does not control)

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

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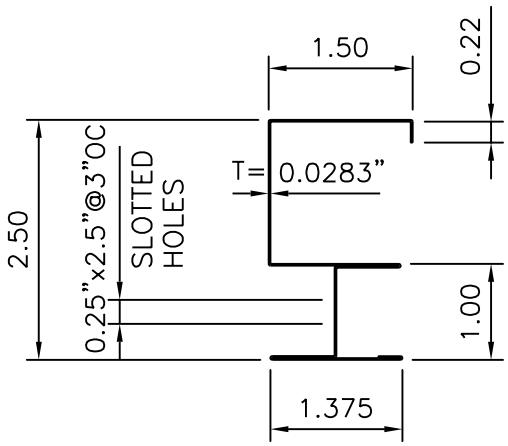

SHAFT WALL STUD, 250H150-27

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	in^2
Wt.	=	0.7906	plf
Ixe	=	0.1651	in^4
Sxe	=	0.1103	in^3
Maxo	=	2.1789	k-in
Vay	=	0.4619	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/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

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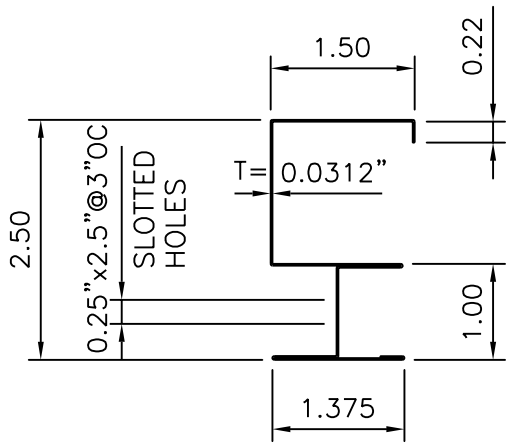
*No reduction in lateral loading for bending or deflection has been used.



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:

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	=	0.2270	in^2
Wt.	=	0.8678	plf
Ixe	=	0.1829	in^4
Sxe	=	0.1234	in^3
Maxo	=	2.4388	k-in
Vay	=	0.5080	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/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

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

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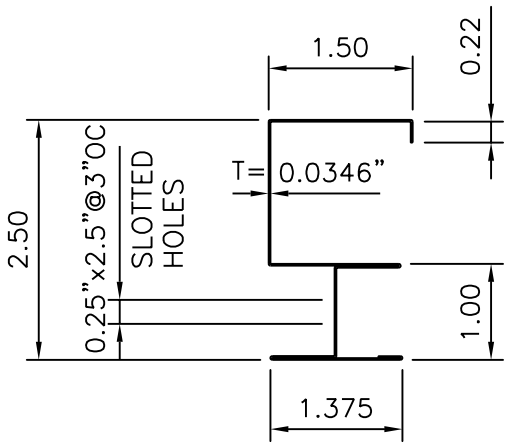

SHAFT WALL STUD, 250H150-33

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	in^2
Wt.	=	0.9575	plf
Ixe	=	0.2040	in^4
Sxe	=	0.1393	in^3
Maxo	=	2.7517	k-in
Vay	=	0.5620	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/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

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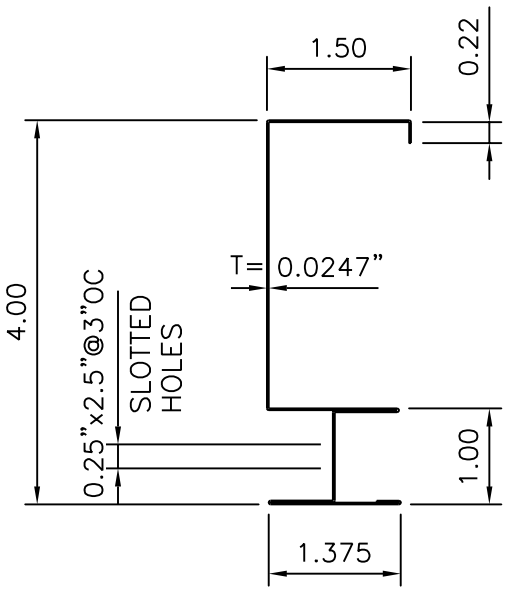
*No reduction in lateral loading for bending or deflection has been used.



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

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

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	in^2
Wt.	=	0.8197	plf
Ixe	=	0.3542	in^4
Sxe	=	0.1308	in^3
Maxo	=	3.917	k-in
Vay	=	0.595	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/w (Does not control)

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

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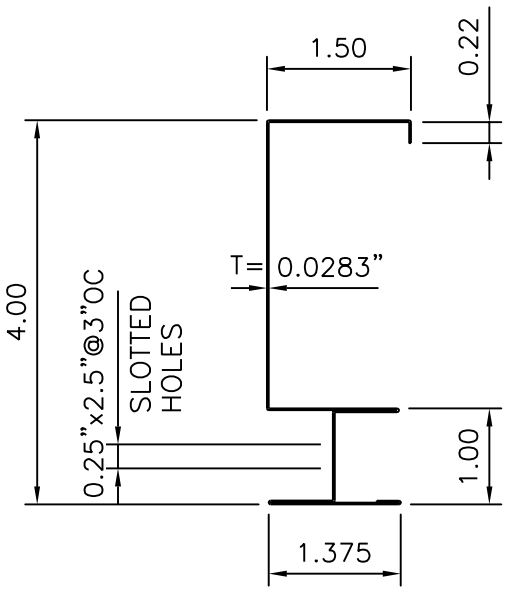

SHAFT WALL STUD, 400H150-27

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.

Limiting Span Table, L, ft, 400H150-27 @ 24" oc					
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

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

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	in^2
Wt.	=	0.9350	plf
Ixe	=	0.4812	in^4
Sxe	=	0.1917	in^3
Maxo	=	3.7886	k-in
Vay	=	0.6848	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/w (Does not control)

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

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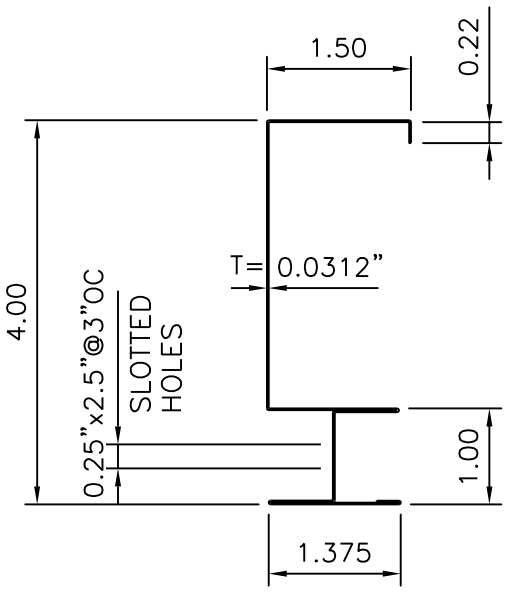

SHAFT WALL STUD, 400H150-30

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.

Limiting Span Table, L, ft, 400H150-30 @ 24" oc					
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

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

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	in^2
Wt.	=	1.0270	plf
Ixe	=	0.5523	in^4
Sxe	=	0.2256	in^3
Maxo	=	4.4579	k-in
Vay	=	0.8323	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/w (Does not control)

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

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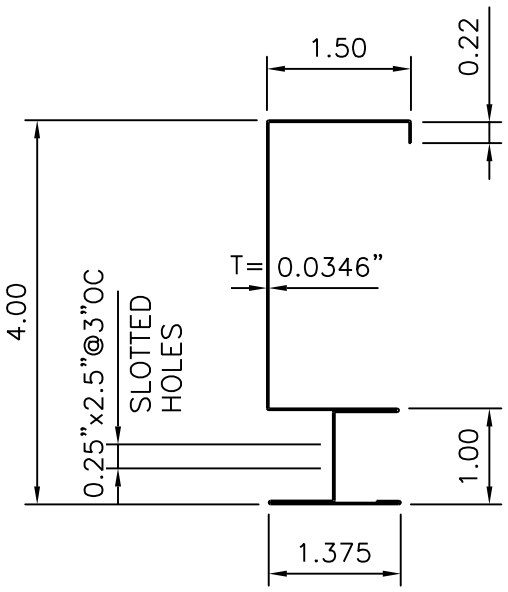

SHAFT WALL STUD, 400H150-33

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

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

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	in^2
Wt.	=	1.1340	plf
Ixe	=	0.6279	in^4
Sxe	=	0.2611	in^3
Maxo	=	5.1599	k-in
Vay	=	1.0236	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/w (Does not control)

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

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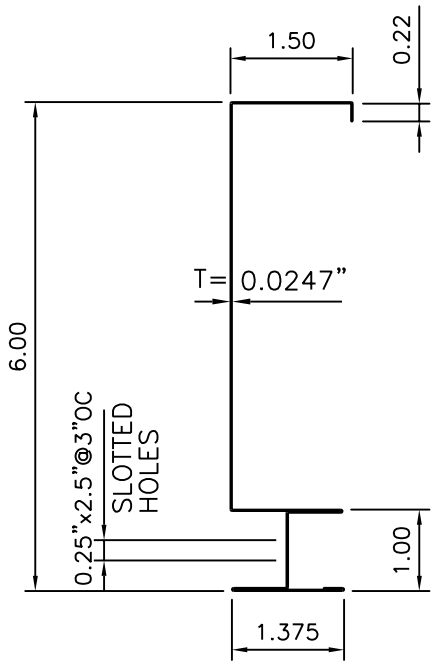

SHAFT WALL STUD, 600H150-24 (50ksi)

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	in^2
Wt.	=	0.9877	plf
Ixe	=	0.853	in^4
Sxe	=	0.2003	in^3
Maxo	=	5.998	k-in
Vay	=	0.278	kips

4. Limiting Span Calculations:
Bending Limits*: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/w (Does not control)

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

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

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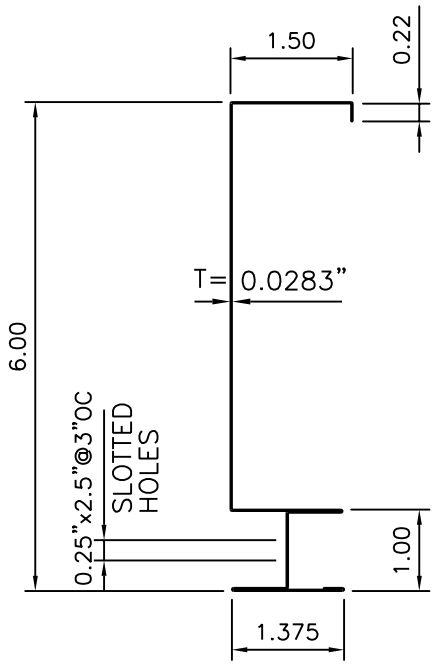

SHAFT WALL STUD, 600H150-27

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	in^2
Wt.	=	1.1274	plf
Ixe	=	1.1442	in^4
Sxe	=	0.2839	in^3
Maxo	=	5.7831	k-in
Vay	=	0.4185	kips

4. Limiting Span Calculations:
Bending Limits: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/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

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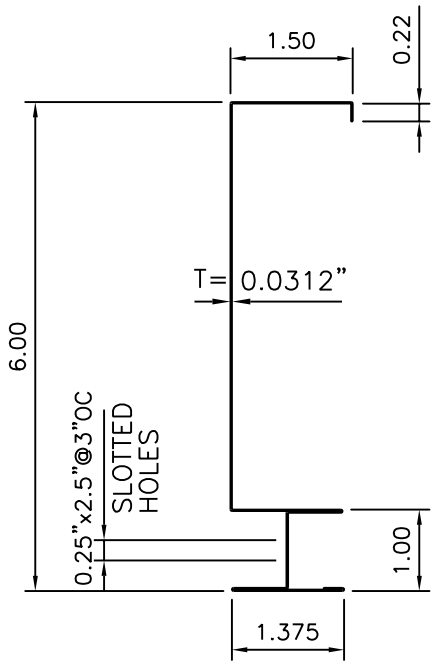
*No reduction in lateral loading for bending or deflection has been used.



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	in^2
Wt.	=	1.2391	plf
Ixe	=	1.3023	in^4
Sxe	=	0.3285	in^3
Maxo	=	6.491	k-in
Vay	=	0.561	kips

4. Limiting Span Calculations:
Bending Limits: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/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

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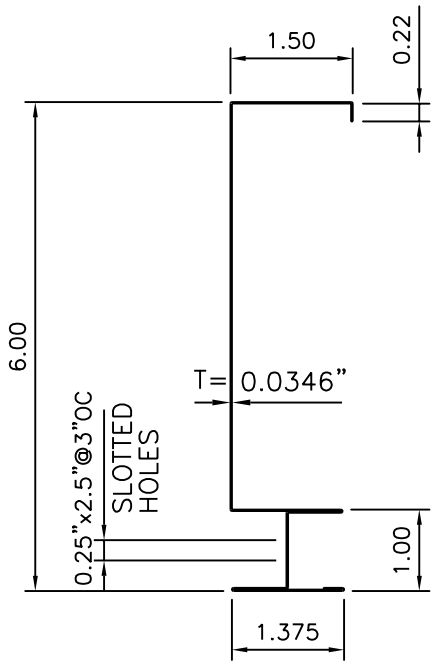
EXPIRES: 07/27/2011

*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:

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	=	0.2742	in^2
Wt.	=	1.3693	plf
Ixe	=	1.4998	in^4
Sxe	=	0.3868	in^3
Maxo	=	7.643	k-in
Vay	=	0.766	kips

4. Limiting Span Calculations:
Bending Limits: L=(8*Maxo/w)^0.50
Deflection Limits: L={(384*E*Ixo)/[5*w*(120,180,240,360)]}^0.33
Shear Limits: L=2*Vay/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

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