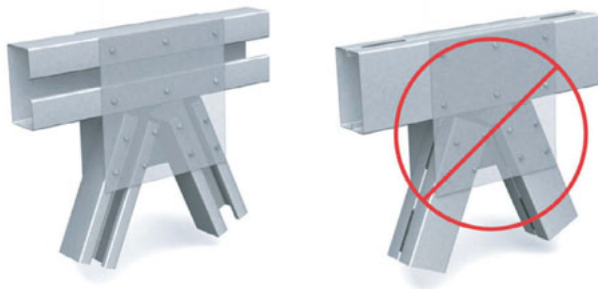


Overview

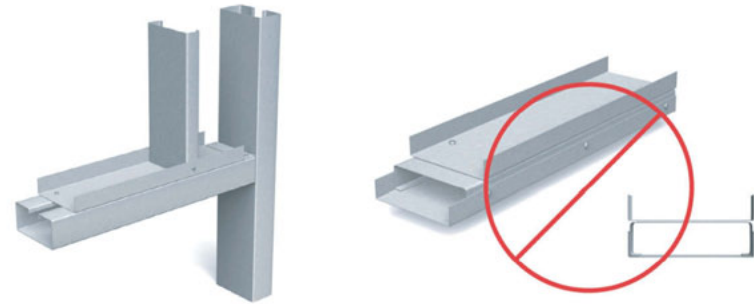
The **Heavy-Duty Stud (HDS®) Framing System** is a high-performance, cost-effective, multipurpose, heavy-duty framing stud for headers, jambs, posts and built-up tube truss chords and webs. The superior strength and carrying capacity of the HDS means higher performance with fewer members. It means eliminating box beam headers, nesting track and stud for posts and jambs and eliminating multi-member, built-up truss chords and webs. It also means improved finish quality and labor savings by eliminating excessive material and screw head buildup around doors and windows.

The HDSC header bracket is the perfect complement to the HDS framing system. This simple, yet innovative header bracket turns curtain wall header installation from a two-man job into a one-man job. Since all the fasteners are located within the wall cavity, this unique prepunched clip also eliminates fastener head buildup that can create finishing challenges. Let the light gauge framing experts at ClarkDietrich Engineering Services help you incorporate this cutting-edge framing assembly into your next project. For free HDS Preliminary Sizing, download and complete the HDS Preliminary Sizing Sheet from www.clarkdietrich.com. You may also contact us at 877-832-3206.

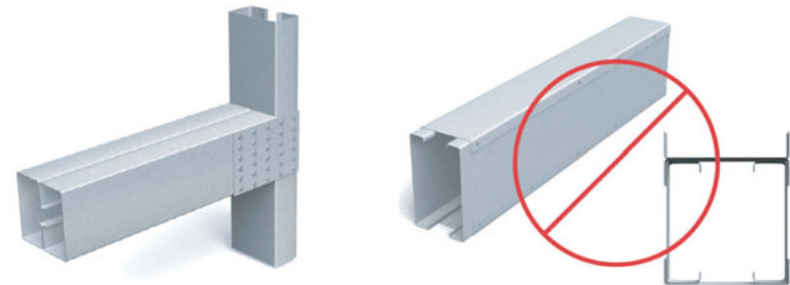
HDS replaces built-up or tube truss chords



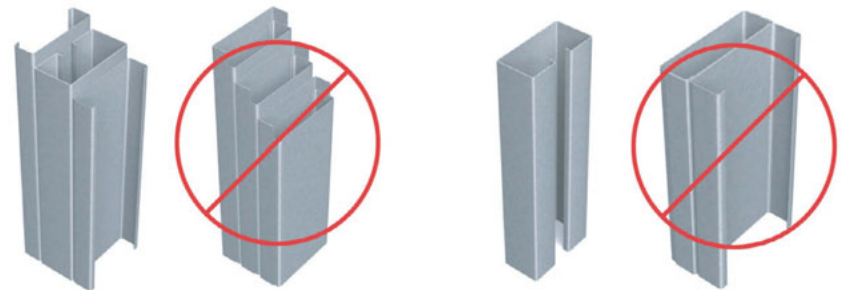
HDS replaces built-up curtain wall headers



HDS replaces load-bearing box beam headers



HDS replaces or reduces jambs and posts



Overview

The highly innovative multipurpose HDS® Framing System provides cost-effective, member-reducing framing solutions for headers, jamps, posts and heavy-duty, built-up tube truss chords and webs.

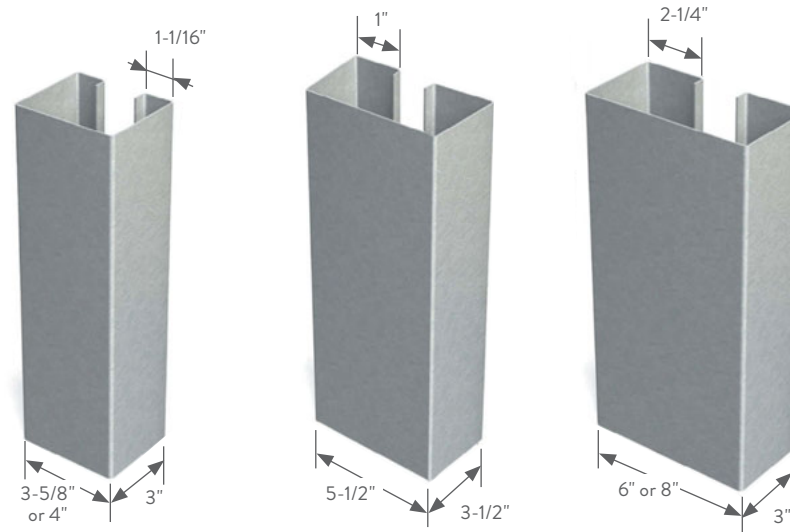
Applications

- Curtain wall headers, jamps and sills
- Drywall headers and jamps
- Load-bearing jamps
- Trusses
- Shear wall posts
- Heavily loaded or long-span wall studs
- Any other application involving nested stud and track

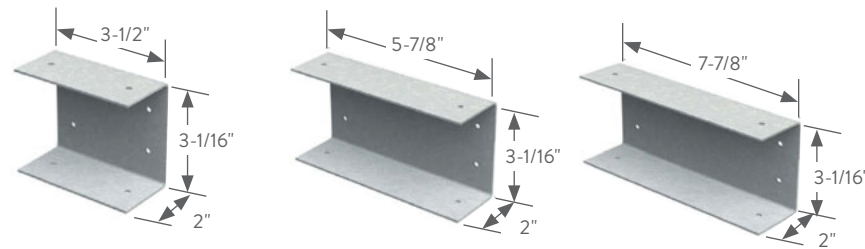
Construction Advantages

- Outstanding bending strength in two directions
- Reduces installation time by 50%
- Eliminates box beam header assembly
- Reduces material and labor costs up to 50%
- HDS can be screw-attached from either side
- Eliminates stud-to-track nesting for post, header and jamb studs
- Openings up to 15' wide
- Eliminates multi-member built-up truss chords and webs
- Eliminates excessive bridging for load-bearing walls and posts
- Improves drywall finishing around doors and windows; no screw head buildup
- Superior axial strength

HDS



HDSC

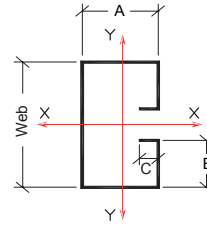


HDSC clip is also available to fit 3-1/2" flange members.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

HDS® SECTION PROPERTIES



Web	A	B	C
3-5/8"	3"	1-1/16"	3/4"
4"	3"	1-1/16"	3/4"
5-1/2"	3-1/2"	1"	3/4"
6"	3"	2-1/4"	3/4"
8"	3"	2-1/4"	3/4"

Web size (in)	Ga	Mils	Fy (ksi)	Design thickness (in)	Min. delivered thickness (in)	Gross Section Properties (Unperforated)										Torsional Properties				
						Area (in ²)	Wt (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	xbar (in)	S _y (in ³)	R _y (in)	Jx1000 (in ⁴)	C _w (in ⁶)	X _o (in)	R _o (in)	Beta	
3-5/8	20	33	33	0.0346	0.0329	0.445	1.52	0.934	0.515	1.448	0.631	1.426	0.405	1.190	0.178	4.624	-3.485	3.957	0.224	
	18	43	33	0.0451	0.0428	0.574	1.95	1.198	0.661	1.444	0.805	1.416	0.516	1.184	0.389	5.759	-3.483	3.952	0.223	
	16	54	50	0.0566	0.0538	0.715	2.43	1.483	0.818	1.441	0.990	1.406	0.632	1.177	0.764	6.894	-3.480	3.946	0.222	
	14	68	50	0.0713	0.0677	0.888	3.02	1.829	1.009	1.436	1.211	1.392	0.770	1.168	1.503	8.151	-3.476	3.938	0.221	
	12	97	50	0.1017	0.0966	1.239	4.22	2.520	1.390	1.426	1.645	1.367	1.039	1.152	4.271	10.420	-3.449	3.906	0.220	
4	20	33	33	0.0346	0.0329	0.458	1.56	1.175	0.588	1.601	0.656	1.386	0.411	1.196	0.183	5.146	-3.422	3.963	0.254	
	18	43	33	0.0451	0.0428	0.591	2.01	1.509	0.754	1.598	0.838	1.376	0.523	1.190	0.400	6.425	-3.418	3.956	0.254	
	16	54	50	0.0566	0.0538	0.736	2.50	1.869	0.934	1.594	1.031	1.365	0.641	1.183	0.787	7.715	-3.414	3.949	0.253	
	14	68	50	0.0713	0.0677	0.914	3.11	2.307	1.154	1.588	1.261	1.351	0.782	1.175	1.548	9.159	-3.409	3.940	0.251	
	12	97	50	0.1017	0.0966	1.277	4.35	3.183	1.592	1.579	1.714	1.326	1.056	1.158	4.403	11.787	-3.379	3.905	0.251	
5-1/2	20	33	33	0.0346	0.0329	0.541	1.84	2.728	0.992	2.246	1.048	1.462	0.519	1.392	0.216	10.384	-3.628	4.488	0.347	
	18	43	33	0.0451	0.0428	0.698	2.38	3.510	1.276	2.242	1.340	1.452	0.661	1.385	0.472	13.079	-3.621	4.479	0.346	
	16	54	50	0.0566	0.0538	0.870	2.96	4.358	1.585	2.238	1.652	1.440	0.813	1.378	0.930	15.860	-3.614	4.469	0.346	
	14	68	50	0.0713	0.0677	1.084	3.69	5.397	1.963	2.232	2.027	1.425	0.994	1.368	1.834	19.075	-3.605	4.455	0.345	
	12	97	50	0.1017	0.0966	1.519	5.17	7.490	2.724	2.221	2.768	1.398	1.350	1.350	5.235	25.095	-3.570	4.416	0.346	
6	20	33	33	0.0346	0.0329	0.610	2.08	3.034	1.011	2.230	0.993	1.441	0.644	1.276	0.244	24.960	-3.636	4.452	0.333	
	18	43	33	0.0451	0.0428	0.788	2.68	3.907	1.302	2.226	1.273	1.433	0.824	1.271	0.533	31.427	-3.633	4.446	0.332	
	16	54	50	0.0566	0.0538	0.984	3.35	4.856	1.619	2.222	1.573	1.424	1.016	1.265	1.052	38.080	-3.630	4.440	0.332	
	14	68	50	0.0713	0.0677	1.226	4.17	6.023	2.008	2.216	1.938	1.412	1.249	1.257	2.076	45.721	-3.626	4.432	0.331	
	12	97	50	0.1017	0.0966	1.722	5.86	8.380	2.793	2.206	2.662	1.390	1.707	1.243	5.936	60.160	-3.602	4.403	0.331	
8	20*	33	33	0.0346	0.0329	0.679	2.31	6.134	1.533	3.005	1.122	1.294	0.665	1.285	0.272	33.350	-3.412	4.725	0.479	
	18	43	33	0.0451	0.0428	0.878	2.99	7.909	1.977	3.001	1.439	1.286	0.851	1.280	0.594	42.201	-3.406	4.716	0.478	
	16	54	50	0.0566	0.0538	1.097	3.73	9.843	2.461	2.996	1.779	1.277	1.050	1.274	1.173	51.431	-3.399	4.706	0.478	
	14	68	50	0.0713	0.0677	1.369	4.66	12.230	3.058	2.989	2.193	1.265	1.291	1.266	2.317	62.225	-3.391	4.694	0.478	
	12	97	50	0.1017	0.0966	1.926	6.55	17.075	4.269	2.978	3.013	1.243	1.766	1.251	6.637	82.848	-3.360	4.661	0.480	

Notes:

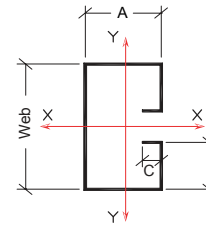
- 1 I_x = Gross Moment Of Inertia about x-axis.
- 2 S_x = Gross Section Modulus about x-axis.
- 3 R_x = Gross Radius of Gyration about x-axis.
- 4 I_y = Gross Moment Of Inertia about y-axis.
- 5 xbar = The distance from the web centerline to the center of gravity.
- 6 S_y = Gross Section Modulus about y-axis.
- 7 R_y = Gross Radius of Gyration about y-axis.
- 8 J = St. Venant Torsion Constant.
- 9 C_w = Warping Torsion Constant.
- 10 X_o = Distance from shear center to the centroid along the principal x-axis.
- 11 R_o = Polar Radius of Gyration about the centroidal principal axis.
- 12 Beta = 1 - (X_o/R_o)².
- 13 Stiffening Lip = 3/4" for all web sizes.
- 14 "*" Indicates that h/t exceeds 200. Web stiffeners are required at bearing points. No holes in the web are permitted.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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Web	A	B	C
3-5/8"	3"	1-1/16"	3/4"
4"	3"	1-1/16"	3/4"
5-1/2"	3-1/2"	1"	3/4"
6"	3"	2-1/4"	3/4"
8"	3"	2-1/4"	3/4"

HDS® EFFECTIVE PROPERTIES AND CAPACITIES

Web size (in)	Ga	Mils	Fy (ksi)	Design thickness (in)	Min. delivered thickness (in)	Unperforated Bending Properties						Perforated Bending Properties						Effect. Moment of Inertia			Other Properties									
						Sxe		Mxa		Syx		Myx		Sxe		Mxa		Syx		Myx		Ixe (in ⁴)	Web in ten. Iye (in ⁴)	Web in comp. Iye (in ⁴)	Lu (in)	Un-perf'd Vx (kips)	Perf'd Vx (kips)	Vy (kips)	Px (kips)	Py (kips)
						(in ³)	(in-lb)	(in ³)	(in-lb)	(in ³)	(in-lb)	(in ³)	(in-lb)	(in ³)	(in-lb)	(in ³)	(in-lb)	(in ³)	(in-lb)											
3-5/8	20	33	33	0.0346	0.0329	0.397	7846	0.401	7917	0.294	5814	0.367	7247	0.313	6192	0.243	4804	0.851	0.631	0.538	103	1.03	0.54	2.05	0.29	0.38				
	18	43	33	0.0451	0.0428	0.565	11165	0.516	11703	0.425	8401	0.540	10674	0.400	9080	0.342	6753	1.161	0.805	0.741	102	1.74	0.68	3.09	0.46	0.61				
	16	54	50	0.0566	0.0538	0.711	21290	0.632	21936	0.535	16019	0.683	20464	0.492	17084	0.429	12844	1.449	0.990	0.921	82	3.38	1.02	5.77	1.02	1.38				
	14	68	50	0.0713	0.0677	0.958	28672	0.770	27606	0.733	21944	0.939	28127	0.603	21607	0.572	17117	1.829	1.211	1.194	82	4.37	1.00	7.06	1.51	2.08				
4	12	97	50	0.1017	0.0966	1.390	45805	1.039	39444	1.039	33711	1.375	45285	0.820	31127	0.820	26602	2.520	1.645	1.645	81	6.05	0.92	9.71	1.97	4.00				
	20	33	33	0.0346	0.0329	0.456	9011	0.406	8025	0.296	5854	0.415	8199	0.344	6805	0.246	4853	1.074	0.656	0.542	100	0.97	0.60	2.05	0.29	0.38				
	18	43	33	0.0451	0.0428	0.648	12805	0.523	11874	0.430	8490	0.613	12113	0.440	9985	0.347	6866	1.463	0.838	0.750	99	1.74	0.81	3.09	0.45	0.61				
	16	54	50	0.0566	0.0538	0.816	24420	0.641	22263	0.541	16198	0.776	23240	0.542	18805	0.437	13079	1.827	1.031	0.933	80	3.38	1.22	5.77	1.01	1.38				
5-1/2	14	68	50	0.0713	0.0677	1.096	32820	0.782	28027	0.745	22312	1.069	31998	0.664	23811	0.588	17616	2.307	1.261	1.216	79	4.87	1.36	7.06	1.50	2.08				
	12	97	50	0.1017	0.0966	1.592	52437	1.056	40069	1.053	31517	1.577	51966	0.905	34366	0.505	29163	3.183	1.714	1.714	79	6.76	1.26	9.71	1.96	4.00				
	20	33	33	0.0346	0.0329	0.706	13945	0.509	10058	0.374	7383	0.706	13945	0.488	9639	0.315	6226	2.429	1.048	0.784	103	0.69	0.69	2.05	0.28	0.37				
	18	43	33	0.0451	0.0428	1.041	20578	0.661	15129	0.543	10728	1.041	20578	0.632	14459	0.448	8851	3.299	1.340	1.093	102	1.54	1.20	3.47	0.44	0.60				
6	16	54	50	0.0566	0.0538	1.312	39290	0.813	28442	0.685	20501	1.312	39290	0.776	27163	0.564	16900	4.129	1.652	1.362	83	3.10	1.88	6.75	0.98	1.36				
	14	68	50	0.0713	0.0677	1.768	52942	0.994	35968	0.918	27476	1.768	52942	0.949	34319	0.770	23051	5.356	2.027	1.808	82	5.34	2.53	8.40	1.46	2.06				
	12	97	50	0.1017	0.0966	2.724	88601	1.350	51846	1.310	39234	2.724	88601	1.286	49393	1.224	36641	7.490	2.768	2.753	81	9.62	3.11	11.62	1.91	3.96				
	20	33	33	0.0346	0.0329	0.769	15192	0.532	10508	0.329	6505	0.769	15192	0.514	10153	0.275	5434	2.823	0.954	0.694	125	0.63	0.63	2.05	0.27	0.38				
8	18	43	33	0.0451	0.0428	1.150	22733	0.762	16155	0.483	9535	1.150	22733	0.697	14768	0.394	7792	3.797	1.273	0.982	124	1.41	1.24	3.09	0.43	0.61				
	16	54	50	0.0566	0.0538	1.449	43377	0.927	29898	0.610	18261	1.449	43377	0.865	27897	0.498	14913	4.753	1.573	1.229	100	2.83	1.95	5.77	0.97	1.38				
	14	68	50	0.0713	0.0677	1.925	57642	1.226	40261	0.854	25573	1.925	57642	1.078	35400	0.686	20533	6.023	1.938	1.645	100	5.34	2.88	7.06	1.44	2.08				
	12	97	50	0.1017	0.0966	2.793	92027	1.707	57870	1.429	42793	2.793	92027	1.484	50318	1.122	33607	8.380	2.662	2.522	98	10.58	3.90	9.71	1.89	4.00				
8	20*	33	33	0.0346	0.0329	1.084	21420	0.548	10829	0.333	6570	—	—	—	—	—	—	5.805	1.076	0.703	113	0.47	—	2.05	—	0.38				
	18	43	33	0.0451	0.0428	1.729	34161	0.787	16681	0.490	9679	1.729	34161	0.770	16307	0.400	7896	7.723	1.439	1.001	112	1.05	1.05	3.09	0.27	0.61				
	16	54	50	0.0566	0.0538	2.208	66094	0.956	30850	0.620	18549	2.208	66094	0.935	30174	0.505	15122	9.662	1.779	1.254	90	2.09	2.09	5.77	0.62	1.38				
	14	68	50	0.0713	0.0677	2.946	88217	1.265	41554	0.874	26153	2.946	88217	1.237	40635	0.700	20957	12.230	2.193	1.690	90	4.21	3.36	7.06	0.94	2.08				
12	97	50	0.1017	0.0966	4.269	140636	1.766	59876	1.486	44481	4.269	140636	1.724	58451	1.164	34855	17.075	3.013	2.631	89	10.88	5.99	9.71	1.84	4.00					

Notes:

- 1 Sxe = Effective Section Modulus about x-axis.
- 2 Mxa = Allowable Moment about x-axis.
- 3 Syx = Effective Section Modulus about y-axis.
- 4 Myx = Allowable Moment about y-axis.
- 5 Ixe = Effective Moment of Inertia about x-axis for deflection calculations.
- 6 Iye = Effective Moment of Inertia about y-axis for deflection calculations.
- 7 Lu = Maximum unbraced length to attain Mxa.
- 8 Vx = Allowable Shear for bending about x-axis.
- 9 Vy = Allowable Shear for bending about y-axis.
- 10 Px and Py are the allowable reactions based on web crippling with Py being for members bent about the y-axis.
- 11 Px = For members having a web depth of less than 8" and also having a thickness less than 97mil, allowable web crippling has been

determined in accordance with AISI Standard for CFS Framing Wall Stud Design - 2004. This value assumes the web resists web crippling and the HDS is nested in track having the same or greater thickness. For other members, allowable End One Flange Web Crippling is calculated in accordance with AISI NASPEC-2001 with 2004 supplement. Both calculation procedures use a bearing length of 1-1/4."

- 12 Py = Allowable End One Flange Web Crippling per AISI NASPEC-2001 with 2004 supplement. This value assumes two flanges resist web crippling for a bearing length of 1-1/4."
- 13 Unless otherwise noted, properties are computed according to the AISI-NASPEC, 2001 with 2004 supplement.
- 14 Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- 15 Stiffening Lip = 3/4" for all web sizes.
- 16 "*" Indicates that h/t exceeds 200. Web stiffeners are required at bearing points. No holes in the web are permitted.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

ALLOWABLE HDS LIMITING HEIGHTS (FT-IN)

Member size (in)	Ga	Mils	Fy (ksi)	Spacing (in)	5psf			15psf			20psf			25psf			30psf			35psf			40psf		
					120	240	360	240	360	600	240	360	600	240	360	600	240	360	600	240	360	600	240	360	600
3-5/8	20	33	33	12	28' 2"	22' 4"	19' 6"	17' 5"	15' 3"	12' 10"	15' 7" f	13' 10"	11' 8"	13' 11" f	12' 10"	10' 10"	12' 8" f	12' 1"	10' 2"	11' 9" f	11' 6"	9' 8"	11' 0" f	11' 0" f	9' 3"
				16	25' 7"	20' 4"	17' 9"	15' 7" f	13' 10"	11' 8"	13' 6" f	12' 7"	10' 7"	12' 0" f	11' 8"	9' 10"	11' 0" f	11' 0" f	9' 3"	10' 2" f	10' 2" f	8' 10"	9' 6" f	9' 6" f	8' 5"
				24	22' 0" f	17' 9"	15' 6"	12' 8" f	12' 1"	10' 2"	11' 0" f	11' 0" f	9' 3"	9' 10" f	9' 10" f	8' 7"	9' 0" f	9' 0" f	8' 1"	8' 4" f	8' 4" f	7' 8"	7' 9" f	7' 9" f	7' 4"
	18	43	33	12	31' 3"	24' 9"	21' 8"	19' 4"	16' 11"	14' 3"	17' 7"	15' 4"	12' 11"	16' 4"	14' 3"	12' 0"	15' 4"	13' 5"	11' 4"	14' 3" f	12' 9"	10' 9"	13' 4" f	12' 2"	10' 3"
				16	28' 4"	22' 6"	19' 8"	17' 7"	15' 4"	12' 11"	16' 0"	13' 11"	11' 9"	14' 7" f	12' 11"	10' 11"	13' 4" f	12' 2"	10' 3"	12' 4" f	11' 7"	9' 9"	11' 7" f	11' 1"	9' 4"
				24	24' 9"	19' 8"	17' 2"	15' 4"	13' 5"	11' 4"	13' 4" f	12' 2"	10' 3"	11' 11" f	11' 4"	9' 7"	10' 11" f	10' 8"	9' 0"	10' 1" f	10' 1" f	8' 6"	9' 5" f	9' 5" f	8' 2"
	16	54	50	12	33' 7"	26' 8"	23' 4"	20' 10"	18' 2"	15' 4"	18' 11"	16' 6"	13' 11"	17' 7"	15' 4"	12' 11"	16' 6"	14' 5"	12' 2"	15' 9"	13' 9"	11' 7"	15' 0"	13' 2"	11' 1"
				16	30' 7"	24' 3"	21' 2"	18' 11"	16' 6"	13' 11"	17' 2"	15' 0"	12' 8"	16' 0"	13' 11"	11' 9"	15' 0"	13' 2"	11' 1"	14' 3"	12' 6"	10' 6"	13' 8"	11' 11"	10' 1"
				24	26' 8"	21' 2"	18' 6"	16' 6"	14' 5"	12' 2"	15' 0"	13' 2"	11' 1"	13' 11"	12' 2"	10' 3"	13' 2"	11' 6"	9' 8"	12' 6"	10' 11"	9' 2"	11' 11"	10' 5"	8' 9"
	14	68	50	12	36' 4"	28' 10"	25' 2"	22' 6"	19' 8"	16' 7"	20' 6"	17' 10"	15' 1"	19' 0"	16' 7"	14' 0"	17' 10"	15' 7"	13' 2"	17' 0"	14' 10"	12' 6"	16' 3"	14' 2"	12' 0"
				16	33' 0"	26' 2"	22' 11"	20' 6"	17' 10"	15' 1"	18' 7"	16' 3"	13' 8"	17' 3"	15' 1"	12' 9"	16' 3"	14' 2"	12' 0"	15' 5"	13' 6"	11' 4"	14' 9"	12' 11"	10' 10"
				24	28' 10"	22' 11"	20' 0"	17' 10"	15' 7"	13' 2"	16' 3"	14' 2"	12' 0"	15' 1"	13' 2"	11' 1"	14' 2"	12' 5"	10' 5"	13' 6"	11' 9"	9' 11"	12' 11"	11' 3"	9' 6"
12	97	50	12	40' 5"	32' 1"	28' 0"	25' 1"	21' 11"	18' 6"	22' 9"	19' 11"	16' 9"	21' 2"	18' 6"	15' 7"	19' 11"	17' 4"	14' 8"	18' 11"	16' 6"	13' 11"	18' 1"	15' 9"	13' 4"	
			16	36' 9"	29' 2"	25' 6"	22' 9"	19' 11"	16' 9"	20' 8"	18' 1"	15' 3"	19' 2"	16' 9"	14' 2"	18' 1"	15' 9"	13' 4"	17' 2"	15' 0"	12' 8"	16' 5"	14' 4"	12' 1"	
			24	32' 1"	25' 6"	22' 3"	19' 11"	17' 4"	14' 8"	18' 1"	15' 9"	13' 4"	16' 9"	14' 8"	12' 4"	15' 9"	13' 9"	11' 8"	15' 0"	13' 1"	11' 1"	14' 4"	12' 6"	10' 7"	
4	20	33	33	12	30' 5"	24' 2"	21' 1"	18' 10"	16' 6"	13' 11"	16' 6" f	15' 0"	12' 8"	14' 9" f	13' 11"	11' 9"	13' 6" f	13' 1"	11' 0"	12' 6" f	12' 5"	10' 6"	11' 8" f	11' 8" f	10' 0"
				16	27' 8"	21' 11"	19' 2"	16' 6" f	15' 0"	12' 8"	14' 4" f	13' 7"	11' 6"	12' 10" f	12' 8"	10' 8"	11' 8" f	11' 8" f	10' 0"	10' 10" f	10' 10" f	9' 6"	10' 1" f	10' 1" f	9' 1"
				24	23' 5" f	19' 2"	16' 9"	13' 6" f	13' 1"	11' 0"	11' 8" f	11' 8" f	10' 0"	10' 5" f	10' 5" f	9' 4"	9' 7" f	9' 7" f	8' 9"	8' 10" f	8' 10" f	8' 4"	8' 3" f	8' 3" f	7' 11"
	18	43	33	12	33' 9"	26' 9"	23' 5"	20' 11"	18' 3"	15' 5"	19' 0"	16' 7"	14' 0"	17' 8"	15' 5"	13' 0"	16' 5" f	14' 6"	12' 3"	15' 2" f	13' 9"	11' 7"	14' 3" f	13' 2"	11' 1"
				16	30' 8"	24' 4"	21' 3"	19' 0"	16' 7"	14' 0"	17' 3"	15' 1"	12' 9"	15' 7" f	14' 0"	11' 10"	14' 3" f	13' 2"	11' 1"	13' 2" f	12' 6"	10' 7"	12' 4" f	12' 0"	10' 1"
				24	26' 9"	21' 3"	18' 7"	16' 5" f	14' 6"	12' 3"	14' 3" f	13' 2"	11' 1"	12' 9" f	12' 3"	10' 4"	11' 7" f	11' 6"	9' 8"	10' 9" f	10' 9" f	9' 3"	10' 1" f	10' 1" f	8' 10"
	16	54	50	12	36' 4"	28' 10"	25' 2"	22' 6"	19' 8"	16' 7"	20' 5"	17' 10"	15' 1"	19' 0"	16' 7"	14' 0"	17' 10"	15' 7"	13' 2"	17' 0"	14' 10"	12' 6"	16' 3"	14' 2"	12' 0"
				16	33' 0"	26' 2"	22' 11"	20' 5"	17' 10"	15' 1"	18' 7"	16' 3"	13' 8"	17' 3"	15' 1"	12' 9"	16' 3"	14' 2"	12' 0"	15' 5"	13' 6"	11' 4"	14' 9"	12' 11"	10' 10"
				24	28' 10"	22' 11"	20' 0"	17' 10"	15' 7"	13' 2"	16' 3"	14' 2"	12' 0"	15' 1"	13' 2"	11' 1"	14' 2"	12' 5"	10' 5"	13' 6"	11' 9"	9' 11"	12' 11"	11' 3"	9' 6"
	14	68	50	12	39' 3"	31' 2"	27' 3"	24' 4"	21' 3"	17' 11"	22' 1"	19' 4"	16' 3"	20' 6"	17' 11"	15' 1"	19' 4"	16' 10"	14' 3"	18' 4"	16' 0"	13' 6"	17' 7"	15' 4"	12' 11"
				16	35' 8"	28' 4"	24' 9"	22' 1"	19' 4"	16' 3"	20' 1"	17' 7"	14' 10"	18' 8"	16' 3"	13' 9"	17' 7"	15' 4"	12' 11"	16' 8"	14' 7"	12' 3"	15' 11"	13' 11"	11' 9"
				24	31' 2"	24' 9"	21' 7"	19' 4"	16' 10"	14' 3"	17' 7"	15' 4"	12' 11"	16' 3"	14' 3"	12' 0"	15' 4"	13' 5"	11' 4"	14' 7"	12' 9"	10' 9"	13' 11"	12' 2"	10' 3"
12	97	50	12	43' 8"	34' 8"	30' 4"	27' 1"	23' 8"	19' 11"	24' 7"	21' 6"	18' 2"	22' 10"	19' 11"	16' 10"	21' 6"	18' 9"	15' 10"	20' 5"	17' 10"	15' 1"	19' 6"	17' 1"	14' 5"	
			16	39' 8"	31' 6"	27' 6"	24' 7"	21' 6"	18' 2"	22' 4"	19' 6"	16' 6"	20' 9"	18' 2"	15' 4"	19' 6"	17' 1"	14' 5"	18' 7"	16' 3"	13' 8"	17' 9"	15' 6"	13' 1"	
			24	34' 8"	27' 6"	24' 1"	21' 6"	18' 9"	15' 10"	19' 6"	17' 1"	14' 5"	18' 2"	15' 10"	13' 4"	17' 1"	14' 11"	12' 7"	16' 3"	14' 2"	11' 11"	15' 6"	13' 7"	11' 5"	

Notes:

- Table values of 120, 240, 360 and 600 represent the allowable deflection limit.
- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud for lateral bracing.
- Heights are based on steel properties only. Composite effects of sheathing were not used.
- Check end reactions for web crippling.
- Cells having an "f" indicate the limiting height is controlled by stress. Cells having an "*" have h/t > 200 and thus require bearing stiffeners designed in accordance with the AISI-NASPEC, 2001 with the 2004 supplement.
- Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

ALLOWABLE HDS LIMITING HEIGHTS (FT-IN)

Member size (in)	Ga	Mils	Fy (ksi)	Spacing (in)	5psf			15psf			20psf			25psf			30psf			35psf			40psf		
					120	240	360	240	360	600	240	360	600	240	360	600	240	360	600	240	360	600	240	360	600
6	20	33	33	12	42' 0"	33' 4"	29' 1"	26' 0" f	22' 9"	19' 2"	22' 6" f	20' 8"	17' 5"	20' 2" f	19' 2"	16' 2"	18' 4" f	18' 1"	15' 3"	17' 0" f	17' 0" f	14' 5"	15' 11" f	15' 11" f	13' 10"
				16	38' 2"	30' 3"	26' 5"	22' 6" f	20' 8"	17' 5"	19' 6" f	18' 9"	15' 10"	17' 5" f	17' 5"	14' 8"	15' 11" f	15' 11" f	13' 10"	14' 9" f	14' 9" f	13' 2"	13' 9" f	13' 9" f	12' 7"
				24	31' 10" f	26' 5"	23' 1"	18' 4" f	18' 1"	15' 3"	15' 11" f	15' 11" f	13' 10"	14' 3" f	14' 3" f	12' 10"	13' 0" f	13' 0" f	12' 1"	12' 0" f	12' 0" f	11' 6"	11' 3" f	11' 3" f	11' 0"
	18	43	33	12	46' 4"	36' 9"	32' 2"	28' 9"	25' 1"	21' 2"	26' 1"	22' 10"	19' 3"	24' 3"	21' 2"	17' 10"	22' 6" f	19' 11"	16' 10"	20' 10" f	18' 11"	16' 0"	19' 6" f	18' 1"	15' 3"
				16	42' 1"	33' 5"	29' 2"	26' 1"	22' 10"	19' 3"	23' 9"	20' 9"	17' 6"	21' 4" f	19' 3"	16' 3"	19' 6" f	18' 1"	15' 3"	18' 0" f	17' 2"	14' 6"	16' 10" f	16' 5"	13' 10"
				24	36' 9"	29' 2"	25' 6"	22' 6" f	19' 11"	16' 10"	19' 6" f	18' 1"	15' 3"	17' 5" f	16' 10"	14' 2"	15' 11" f	15' 10"	13' 4"	14' 9" f	14' 9" f	12' 8"	13' 9" f	13' 9" f	12' 1"
	16	54	50	12	49' 11"	39' 8"	34' 8"	31' 0"	27' 1"	22' 10"	28' 2"	24' 7"	20' 9"	26' 1"	22' 10"	19' 3"	24' 7"	21' 6"	18' 1"	23' 4"	20' 5"	17' 2"	22' 4"	19' 6"	16' 5"
				16	45' 5"	36' 0"	31' 6"	28' 2"	24' 7"	20' 9"	25' 7"	22' 4"	18' 10"	23' 9"	20' 9"	17' 6"	22' 4"	19' 6"	16' 5"	21' 2"	18' 6"	15' 8"	20' 3"	17' 9"	14' 11"
				24	39' 8"	31' 6"	27' 6"	24' 7"	21' 6"	18' 1"	22' 4"	19' 6"	16' 5"	20' 9"	18' 1"	15' 3"	19' 6"	17' 0"	14' 4"	18' 6"	16' 2"	13' 8"	17' 9"	15' 6"	13' 1"
	14	68	50	12	54' 1"	42' 11"	37' 6"	33' 6"	29' 3"	24' 8"	30' 5"	26' 7"	22' 5"	28' 3"	24' 8"	20' 10"	26' 7"	23' 3"	19' 7"	25' 3"	22' 1"	18' 7"	24' 2"	21' 1"	17' 10"
				16	49' 1"	39' 0"	34' 1"	30' 5"	26' 7"	22' 5"	27' 8"	24' 2"	20' 5"	25' 8"	22' 5"	18' 11"	24' 2"	21' 1"	17' 10"	22' 11"	20' 1"	16' 11"	21' 11"	19' 2"	16' 2"
				24	42' 11"	34' 1"	29' 9"	26' 7"	23' 3"	19' 7"	24' 2"	21' 1"	17' 10"	22' 5"	19' 7"	16' 6"	21' 1"	18' 5"	15' 7"	20' 1"	17' 6"	14' 9"	19' 2"	16' 9"	14' 2"
12	97	50	12	60' 4"	47' 11"	41' 10"	37' 5"	32' 8"	27' 7"	34' 0"	29' 8"	25' 0"	31' 7"	27' 7"	23' 3"	29' 8"	25' 11"	21' 10"	28' 2"	24' 8"	20' 9"	27' 0"	23' 7"	19' 10"	
			16	54' 10"	43' 6"	38' 0"	34' 0"	29' 8"	25' 0"	30' 10"	27' 0"	22' 9"	28' 8"	25' 0"	21' 1"	27' 0"	23' 7"	19' 10"	25' 7"	22' 5"	18' 11"	24' 6"	21' 5"	18' 1"	
			24	47' 11"	38' 0"	33' 3"	29' 8"	25' 11"	21' 10"	27' 0"	23' 7"	19' 10"	25' 0"	21' 10"	18' 5"	23' 7"	20' 7"	17' 4"	22' 5"	19' 7"	16' 6"	21' 5"	18' 8"	15' 9"	
8	20	33	33	12	53' 5" *	42' 5" *	37' 0" *	30' 10" f	28' 11" *	24' 5" *	26' 9" f	26' 3" *	22' 2" *	23' 11" f	23' 11" f	20' 7" *	21' 10" f	21' 10" f	19' 4" *	20' 2" f	20' 2" f	18' 5" *	18' 11" f	18' 11" f	17' 7" *
				16	46' 3" f	38' 6" *	33' 8" *	26' 9" f	26' 3" *	22' 2" *	23' 2" f	23' 2" f	20' 2" *	20' 8" f	20' 8" f	18' 8" *	18' 11" f	18' 11" f	17' 7" *	17' 6" f	17' 6" f	16' 8" *	16' 4" f	16' 4" f	16' 0" *
				24	37' 9" f	33' 8" *	29' 5" *	21' 10" f	21' 10" f	19' 4" *	18' 11" f	18' 11" f	17' 7" *	16' 11" f	16' 11" f	16' 4" *	15' 5" f	15' 5" f	15' 4" *	13' 6" f	13' 6" f	13' 6" f	11' 10" f	11' 10" f	11' 10" f
	18	43	33	12	58' 9"	46' 7"	40' 9"	36' 5"	31' 10"	26' 10"	33' 1"	28' 11"	24' 4"	30' 2" f	26' 10"	22' 7"	27' 7" f	25' 3"	21' 3"	25' 6" f	24' 0"	20' 3"	23' 10" f	22' 11"	19' 4"
				16	53' 4"	42' 4"	37' 0"	33' 1"	28' 11"	24' 4"	29' 3" f	26' 3"	22' 2"	26' 2" f	24' 4"	20' 7"	23' 10" f	22' 11"	19' 4"	22' 1" f	21' 9"	18' 4"	20' 8" f	20' 8" f	17' 7"
				24	46' 7"	37' 0"	32' 4"	27' 7" f	25' 3"	21' 3"	23' 10" f	22' 11"	19' 4"	21' 4" f	21' 3"	17' 11"	19' 6" f	19' 6" f	16' 11"	18' 0" f	18' 0" f	16' 1"	16' 10" f	16' 10" f	15' 4"
	16	54	50	12	63' 3"	50' 3"	43' 10"	39' 3"	34' 3"	28' 11"	35' 8"	31' 2"	26' 3"	33' 1"	28' 11"	24' 4"	31' 2"	27' 2"	22' 11"	29' 7"	25' 10"	21' 9"	28' 3"	24' 8"	20' 10"
				16	57' 6"	45' 8"	39' 10"	35' 8"	31' 2"	26' 3"	32' 4"	28' 3"	23' 10"	30' 1"	26' 3"	22' 2"	28' 3"	24' 8"	20' 10"	26' 10"	23' 6"	19' 10"	25' 8"	22' 5"	18' 11"
				24	50' 3"	39' 10"	34' 10"	31' 2"	27' 2"	22' 11"	28' 3"	24' 8"	20' 10"	26' 3"	22' 11"	19' 4"	24' 8"	21' 3"	18' 2"	23' 6"	20' 6"	17' 4"	22' 5"	19' 7"	16' 6"
	14	68	50	12	68' 5"	54' 4"	47' 6"	42' 5"	37' 1"	31' 3"	38' 7"	33' 8"	28' 5"	35' 9"	31' 3"	26' 4"	33' 8"	29' 5"	24' 10"	32' 0"	27' 11"	23' 7"	30' 7"	26' 9"	22' 6"
				16	62' 2"	49' 4"	43' 1"	38' 7"	33' 8"	28' 5"	35' 0"	30' 7"	25' 10"	32' 6"	28' 5"	23' 11"	30' 7"	26' 9"	22' 6"	29' 1"	25' 5"	21' 5"	27' 10"	24' 3"	20' 6"
				24	54' 4"	43' 1"	37' 8"	33' 8"	29' 5"	24' 10"	30' 7"	26' 9"	22' 6"	28' 5"	24' 10"	20' 11"	26' 9"	23' 4"	19' 8"	25' 5"	22' 2"	18' 8"	24' 3"	21' 3"	17' 11"
12	97	50	12	76' 6"	60' 9"	53' 1"	47' 5"	41' 5"	34' 11"	43' 1"	37' 8"	31' 9"	40' 0"	34' 11"	29' 6"	37' 8"	32' 11"	27' 9"	35' 9"	31' 3"	26' 4"	34' 2"	29' 10"	25' 2"	
			16	69' 6"	55' 2"	48' 2"	43' 1"	37' 8"	31' 9"	39' 2"	34' 2"	28' 10"	36' 4"	31' 9"	26' 9"	34' 2"	29' 10"	25' 2"	32' 6"	28' 4"	23' 11"	31' 1"	27' 2"	22' 11"	
			24	60' 9"	48' 2"	42' 1"	37' 8"	32' 11"	27' 9"	34' 2"	29' 10"	25' 2"	31' 9"	27' 9"	23' 5"	29' 10"	26' 1"	22' 0"	28' 4"	24' 9"	20' 11"	27' 2"	23' 8"	20' 0"	

Notes:

- Table values of 120, 240 and 360 represent the allowable deflection limit.
- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud for lateral bracing.
- Heights are based on steel properties only. Composite effects of sheathing were not used.
- Check end reactions for web crippling.
- Cells having an "f" indicate the limiting height is controlled by stress. Cells having an "*" have h/t > 200 and thus require bearing stiffeners designed in accordance with the AISI-NASPEC, 2001 with the 2004 supplement.
- Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

ALLOWABLE HDS AXIAL LOADS (KIPS)

Member length (ft)	Spacing (in)	5psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	3.34 a	5.06 a	8.20 a	10.45 a	14.35 a	3.55 a	5.39 a	8.96 a	11.81 a	16.42 a
	16	3.24 a	4.96 a	8.10 a	10.36 a	14.27 a	3.46 a	5.30 a	8.87 a	11.72 a	16.34 a
	24	3.05 a	4.75 a	7.92 a	10.19 a	14.11 a	3.29 a	5.11 a	8.70 a	11.55 a	16.18 a
9	12	3.12 a	4.75 a	7.58 a	9.56 a	13.16 a	3.36 a	5.13 a	8.43 a	11.03 a	15.31 a
	16	3.00 a	4.62 a	7.46 a	9.45 a	13.06 a	3.25 a	5.01 a	8.32 a	10.92 a	15.21 a
	24	2.76 a	4.36 a	7.23 a	9.23 a	12.85 a	3.03 a	4.78 a	8.10 a	10.71 a	15.01 a
10	12	2.88 a	4.41 a	6.93 a	8.63 a	11.92 a	3.15 a	4.83 a	7.84 a	10.19 a	14.14 a
	16	2.73 a	4.25 a	6.78 a	8.50 a	11.79 a	3.01 a	4.69 a	7.71 a	10.06 a	14.01 a
	24	2.45 a	3.94 a	6.50 a	8.24 a	11.55 a	2.75 a	4.40 a	7.44 a	9.80 a	13.77 a
11	12	2.63 a	4.05 a	6.17 a	7.68 a	10.64 a	2.92 a	4.51 a	7.23 a	9.30 a	12.92 a
	16	2.46 a	3.86 a	6.00 a	7.53 a	10.49 a	2.76 a	4.34 a	7.07 a	9.14 a	12.77 a
	24	2.14 a	3.51 a	5.69 a	7.25 a	10.22 a	2.46 a	4.01 a	6.76 a	8.84 a	12.48 a
12	12	2.37 a	3.67 a	5.42 a	6.79 a	9.46 a	2.68 a	4.17 a	6.56 a	8.38 a	11.68 a
	16	2.18 a	3.46 a	5.24 a	6.63 a	9.30 a	2.5 a	3.97 a	6.38 a	8.21 a	11.52 a
	24	1.83 a	3.08 a	4.91 a	6.32 a	9.00 a	2.16 a	3.60 a	6.03 a	7.87 a	11.19 a
14	12	1.85 a	2.93 a	4.17 a	5.31 a	7.49 a	2.19 a	3.47 a	5.19 a	6.64 a	9.35 a
	16	1.64 a	2.69 a	3.98 a	5.13 a	7.31 a	1.98 a	3.23 a	4.99 a	6.44 a	9.16 a
	24	1.26 c	2.27 b	3.64 a	4.79 a	6.97 a	1.59 b	2.79 a	4.61 a	6.07 a	8.79 a
16	12	1.38 b	2.22 a	3.23 a	4.17 a	5.96 a	1.72 a	2.78 a	4.11 a	5.27 a	7.52 a
	16	1.17 c	1.99 b	3.04 a	3.98 a	5.77 a	1.49 b	2.52 a	3.89 a	5.06 a	7.30 a
	24	0.79 e	1.57 d	2.70 c	3.65 b	5.42 a	1.08 d	2.07 c	3.50 b	4.68 a	6.91 a

Member length (ft)	Spacing (in)	15psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	2.77 a	4.46 a	7.64 a	9.93 a	13.86 a	3.03 a	4.85 a	8.45 a	11.31 a	15.94 a
	16	2.51 a	4.17 a	7.38 a	9.67 a	13.62 a	2.78 a	4.58 a	8.21 a	11.07 a	15.71 a
	24	2.00 a	3.62 a	6.87 a	9.18 a	13.15 a	2.31 a	4.08 a	7.73 a	10.59 a	15.26 a
9	12	2.42 a	4.00 a	6.89 a	8.91 a	12.55 a	2.72 a	4.44 a	7.78 a	10.40 a	14.72 a
	16	2.10 a	3.65 a	6.57 a	8.61 a	12.25 a	2.41 a	4.12 a	7.48 a	10.10 a	14.43 a
	24	1.51 a	3.01 a	5.96 a	8.03 a	11.69 a	1.85 a	3.51 a	6.89 a	9.510 a	13.86 a
10	12	2.06 a	3.52 a	6.11 a	7.87 a	11.19 a	2.38 a	4.00 a	7.06 a	9.43 a	13.41 a
	16	1.70 a	3.12 a	5.74 a	7.53 a	10.85 a	2.03 a	3.62 a	6.70 a	9.07 a	13.06 a
	24	1.04 b	2.40 a	5.06 a	6.87 a	10.2 a	1.38 a	2.92 a	6.02 a	8.40 a	12.40 a
11	12	1.71 a	3.03 a	5.26 a	6.84 a	9.82 a	2.04 a	3.55 a	6.32 a	8.42 a	12.07 a
	16	1.31 b	2.60 a	4.87 a	6.46 a	9.44 a	1.65 a	3.12 a	5.91 a	8.01 a	11.67 a
	24	0.61 d	1.82 b	4.15 a	5.77 a	8.74 a	0.94 b	2.34 a	5.16 a	7.27 a	10.93 a
12	12	1.37 a	2.56 a	4.46 a	5.89 a	8.57 a	1.70 a	3.09 a	5.55 a	7.41 a	10.74 a
	16	0.95 c	2.10 a	4.06 a	5.50 a	8.17 a	1.28 b	2.62 a	5.11 a	6.97 a	10.30 a
	24	0.23 d	1.30 c	3.34 b	4.79 a	7.44 a	0.53 d	1.79 b	4.32 a	6.19 a	9.50 a
14	12	0.77 d	1.73 b	3.18 a	4.35 a	6.51 a	1.08 c	2.22 a	4.10 a	5.57 a	8.28 a
	16	0.35 e	1.25 d	2.78 c	3.95 a	6.09 a	0.63 d	1.72 c	3.65 a	5.12 a	7.81 a
	24	—	0.45 e	2.08 d	3.24 c	5.34 b	—	0.84 d	2.86 c	4.32 b	6.97 a
16	12	0.32 e	1.05 d	2.26 c	3.20 b	4.95 a	0.56 d	1.48 c	3.00 b	4.18 a	6.39 a
	16	—	0.60 e	1.88 d	2.82 c	4.53 b	0.11 e	0.98 d	2.56 c	3.73 b	5.92 a
	24	—	—	1.22 e	2.14 e	3.80 d	—	0.12 e	1.80 e	2.96 d	5.08 c

Member length (ft)	Spacing (in)	20psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	2.51 a	4.17 a	7.38 a	9.67 a	13.62 a	2.78 a	4.58 a	8.21 a	11.07 a	15.71 a
	16	2.16 a	3.80 a	7.03 a	9.34 a	13.31 a	2.46 a	4.24 a	7.88 a	10.75 a	15.41 a
	24	1.52 a	3.11 a	6.38 a	8.71 a	12.70 a	1.85 a	3.59 a	7.26 a	10.13 a	14.81 a
9	12	2.10 a	3.65 a	6.57 a	8.61 a	12.25 a	2.41 a	4.12 a	7.48 a	10.10 a	14.43 a
	16	1.70 a	3.22 a	6.16 a	8.22 a	11.87 a	2.03 a	3.71 a	7.08 a	9.71 a	14.05 a
	24	0.97 b	2.41 a	5.40 a	7.48 a	11.14 a	1.32 a	2.93 a	6.34 a	8.96 a	13.32 a
10	12	1.70 a	3.12 a	5.74 a	7.53 a	10.85 a	2.03 a	3.62 a	6.70 a	9.07 a	13.06 a
	16	1.25 b	2.63 a	5.28 a	7.08 a	10.41 a	1.59 a	3.14 a	6.24 a	8.62 a	12.62 a
	24	0.45 d	1.74 b	4.44 a	6.27 a	9.59 a	0.79 b	2.27 a	5.40 a	7.76 a	11.77 a
11	12	1.31 b	2.60 a	4.87 a	6.46 a	9.44 a	1.65 a	3.12 a	5.91 a	8.01 a	11.67 a
	16	0.84 c	2.07 a	4.38 a	5.99 a	8.97 a	1.17 b	2.59 a	5.40 a	7.51 a	11.17 a
	24	—	1.13 c	3.51 b	5.14 a	8.09 a	0.31 d	1.63 b	4.48 a	6.58 a	10.23 a
12	12	0.95 c	2.10 a	4.06 a	5.50 a	8.17 a	1.28 b	2.62 a	5.11 a	6.97 a	10.30 a
	16	0.46 d	1.55 c	3.57 b	5.01 a	7.67 a	0.77 c	2.05 b	4.58 a	6.44 a	9.76 a
	24	—	0.60 d	2.70 d	4.15 c	6.77 a	—	1.05 d	3.62 c	5.47 a	8.76 a
14	12	0.35 e	1.25 d	2.78 c	3.95 a	6.09 a	0.63 d	1.72 c	3.65 a	5.12 a	7.81 a
	16	—	0.70 e	2.30 d	3.46 c	5.58 a	0.09 e	1.12 d	3.11 c	4.57 b	7.24 a
	24	—	—	1.48 e	2.62 d	4.67 c	—	0.08 e	2.17 d	3.62 d	6.22 b
16	12	—	0.60 e	1.88 d	2.82 c	4.53 b	0.11 e	0.98 d	2.56 c	3.73 b	5.92 a
	16	—	0.08 f	1.43 e	2.36 d	4.03 c	—	0.39 e	2.04 d	3.20 d	5.35 b
	24	—	—	0.66 f	1.56 e	3.16 e	—	—	1.14 e	2.29 e	4.35 d

Notes:	TL Defl.
a	L/720
b	L/600
c	L/480
d	L/360
e	L/240
f	L/120

Blank cells do not meet L/120.

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Allowable axial loads when combined with 5psf lateral load are applicable for interior use only (no lateral wind loading).
- 4 Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 5' o.c. maximum. Allowable loads are based on weak axis and torsional bracing at 5' o.c. maximum for axial load, and continuous support of each flange for moment.
- 7 Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- 8 Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.
- 9 Cells marked with an "*" have h/t > 200 and thus require bearing stiffeners designed in accordance with AISI-NASPEC, 2001 with the 2004 supplement.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

ALLOWABLE HDS AXIAL LOADS (KIPS)

Member length (ft)	Spacing (in)	25psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	2.25 a	3.89 a	7.12 a	9.43 a	13.39 a	2.54 a	4.33 a	7.96 a	10.83 a	15.48 a
	16	1.83 a	3.45 a	6.70 a	9.02 a	13.00 a	2.15 a	3.91 a	7.57 a	10.44 a	15.11 a
	24	1.06 a	2.62 a	5.91 a	8.26 a	12.25 a	1.42 a	3.12 a	6.82 a	9.68 a	14.38 a
9	12	1.80 a	3.32 a	6.26 a	8.31 a	11.97 a	2.13 a	3.81 a	7.18 a	9.80 a	14.14 a
	16	1.32 a	2.80 a	5.77 a	7.84 a	11.50 a	1.67 a	3.31 a	6.70 a	9.33 a	13.68 a
	24	0.46 c	1.85 b	4.86 a	6.96 a	10.62 a	0.81 b	2.38 a	5.81 a	8.43 a	12.79 a
10	12	1.36 a	2.75 a	5.39 a	7.19 a	10.52 a	1.70 a	3.26 a	6.36 a	8.73 a	12.73 a
	16	0.84 c	2.17 a	4.84 a	6.67 a	9.99 a	1.18 a	2.69 a	5.81 a	8.18 a	12.19 a
	24	—	1.14 c	3.86 b	5.71 a	9.01 a	0.24 c	1.66 b	4.81 a	7.17 a	11.17 a
11	12	0.95 c	2.20 a	4.50 a	6.11 a	9.09 a	1.28 a	2.72 a	5.53 a	7.63 a	11.29 a
	16	0.40 d	1.58 c	3.93 a	5.55 a	8.52 a	0.72 c	2.09 a	4.93 a	7.03 a	10.69 a
	24	—	0.51 d	2.93 c	4.56 b	7.49 a	—	0.98 c	3.86 b	5.95 a	9.57 a
12	12	0.58 d	1.69 b	3.68 a	5.13 a	7.79 a	0.89 c	2.19 a	4.71 a	6.57 a	9.89 a
	16	0.01 e	1.06 d	3.12 c	4.57 b	7.21 a	0.3 d	1.53 c	4.08 b	5.94 a	9.24 a
	24	—	—	2.12 d	3.57 d	6.15 b	—	0.38 d	2.98 d	4.82 b	8.07 a
14	12	—	0.83 d	2.42 d	3.58 c	5.70 a	0.22 e	1.26 d	3.24 c	4.71 a	7.38 a
	16	—	0.21 e	1.87 e	3.03 d	5.11 b	—	0.58 e	2.62 d	4.08 c	6.71 a
	24	—	—	0.94 f	2.07 e	4.07 d	—	—	1.54 e	2.98 d	5.53 c
16	12	—	0.21 e	1.53 e	2.47 d	4.15 c	—	0.53 e	2.16 d	3.33 c	5.48 b
	16	—	—	1.02 f	1.94 e	3.58 d	—	—	1.57 e	2.73 d	4.83 c
	24	—	—	0.15 f	1.05 f	2.59 e	—	—	0.56 f	1.69 e	3.69 e

Member length (ft)	Spacing (in)	35psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	1.75 a	3.36 a	6.62 a	8.95 a	12.92 a	2.08 a	3.83 a	7.49 a	10.36 a	15.03 a
	16	1.21 a	2.78 a	6.07 a	8.41 a	12.40 a	1.56 a	3.28 a	6.96 a	9.83 a	14.52 a
	24	0.22 c	1.70 a	5.03 a	7.39 a	11.39 a	0.60 b	2.24 a	5.96 a	8.82 a	13.53 a
9	12	1.23 a	2.70 a	5.67 a	7.75 a	11.41 a	1.58 a	3.21 a	6.61 a	9.23 a	13.59 a
	16	0.62 c	2.04 a	5.04 a	7.13 a	10.79 a	0.98 b	2.56 a	5.98 a	8.60 a	12.96 a
	24	—	0.83 c	3.88 b	5.98 a	9.63 a	—	1.37 b	4.82 a	7.43 a	11.78 a
10	12	0.74 c	2.06 a	4.74 a	6.57 a	9.89 a	1.08 b	2.58 a	5.71 a	8.07 a	12.08 a
	16	0.09 d	1.34 c	4.05 b	5.89 a	9.20 a	0.42 c	1.86 b	5.00 a	7.36 a	11.36 a
	24	—	0.06 d	2.82 d	4.68 c	7.94 a	—	0.55 d	3.73 c	6.06 a	10.03 a
11	12	0.30 d	1.47 c	3.82 b	5.45 a	8.41 a	0.62 c	1.98 b	4.82 a	6.92 a	10.57 a
	16	—	0.71 d	3.12 c	4.75 b	7.69 a	—	1.19 c	4.06 b	6.15 a	9.79 a
	24	—	—	1.88 e	3.51 d	6.38 b	—	—	2.72 d	4.78 c	8.36 a
12	12	—	0.94 d	3.01 c	4.46 b	7.10 a	0.19 d	1.41 c	3.96 b	5.82 a	9.12 a
	16	—	0.17 e	2.31 d	3.76 c	6.35 b	—	0.60 d	3.19 c	5.03 b	8.30 a
	24	—	—	1.10 e	2.54 e	5.04 d	—	—	1.83 e	3.65 d	6.82 c
14	12	—	0.09 e	1.77 e	2.92 d	4.99 c	—	0.45 e	2.50 d	3.96 c	6.58 a
	16	—	—	1.11 e	2.25 e	4.26 d	—	—	1.75 e	3.18 d	5.75 c
	24	—	—	—	1.09 f	2.99 e	—	—	0.45 f	1.85 e	4.30 d
16	12	—	—	0.93 f	1.84 e	3.47 d	—	—	1.46 e	2.61 d	4.70 c
	16	—	—	0.32 f	1.21 f	2.78 e	—	—	0.75 f	1.88 e	3.90 d
	24	—	—	—	0.14 f	1.58 f	—	—	—	0.63 f	2.52 e

Member length (ft)	Spacing (in)	30psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	2.00 a	3.62 a	6.87 a	9.18 a	13.15 a	2.31 a	4.08 a	7.73 a	10.59 a	15.26 a
	16	1.52 a	3.11 a	6.38 a	8.71 a	12.70 a	1.85 a	3.59 a	7.26 a	10.13 a	14.81 a
	24	0.63 b	2.15 a	5.46 a	7.82 a	11.82 a	1.00 a	2.67 a	6.38 a	9.25 a	13.95 a
9	12	1.51 a	3.01 a	5.96 a	8.03 a	11.69 a	1.85 a	3.51 a	6.89 a	9.51 a	13.86 a
	16	0.97 b	2.41 a	5.40 a	7.48 a	11.14 a	1.32 a	2.93 a	6.34 a	8.96 a	13.32 a
	24	—	1.33 c	4.36 a	6.46 a	10.12 a	0.34 c	1.86 a	5.31 a	7.92 a	12.28 a
10	12	1.04 b	2.40 a	5.06 a	6.87 a	10.20 a	1.38 a	2.92 a	6.02 a	8.40 a	12.40 a
	16	0.45 d	1.74 b	4.44 a	6.27 a	9.59 a	0.79 b	2.27 a	5.40 a	7.76 a	11.77 a
	24	—	0.58 d	3.33 c	5.18 b	8.46 a	—	1.09 c	4.25 b	6.60 a	10.59 a
11	12	0.61 d	1.82 b	4.15 a	5.77 a	8.74 a	0.94 b	2.34 a	5.16 a	7.27 a	10.93 a
	16	—	1.13 c	3.51 b	5.14 a	8.09 a	0.31 d	1.63 b	4.48 a	6.58 a	10.23 a
	24	—	—	2.39 d	4.02 c	6.92 b	—	0.38 d	3.27 c	5.35 b	8.95 a
12	12	0.23 d	1.30 c	3.34 b	4.79 a	7.44 a	0.53 d	1.79 b	4.32 a	6.19 a	9.50 a
	16	—	0.60 d	2.70 d	4.15 c	6.77 a	—	1.05 d	3.62 c	5.47 a	8.76 a
	24	—	—	1.60 e	3.04 d	5.58 c	—	—	2.39 d	4.21 c	7.43 b
14	12	—	0.45 e	2.08 d	3.24 c	5.34 b	—	0.84 d	2.86 c	4.32 b	6.97 a
	16	—	—	1.48 e	2.62 d	4.67 c	—	0.08 e	2.17 d	3.62 d	6.22 b
	24	—	—	0.44 f	1.56 e	3.51 e	—	—	0.98 e	2.39 d	4.89 d
16	12	—	—	1.22 e	2.14 e	3.80 d	—	0.12 e	1.80 e	2.96 d	5.08 c
	16	—	—	0.66 f	1.56 e	3.16 e	—	—	1.14 e	2.29 e	4.35 d
	24	—	—	—	0.57 f	2.07 f	—	—	0.03 f	1.14 f	3.08 e

Member length (ft)	Spacing (in)	40psf									
		3-5/8" HDS Members					4" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	1.52 a	3.11 a	6.38 a	8.71 a	12.70 a	1.85 a	3.59 a	7.26 a	10.13 a	14.81 a
	16	0.92 b	2.46 a	5.76 a	8.11 a	12.11 a	1.28 a	2.97 a	6.67 a	9.54 a	14.23 a
	24	—	1.26 b	4.62 a	6.98 a	10.98 a	0.21 c	1.81 a	5.55 a	8.41 a	13.12 a
9	12	0.97 b	2.41 a	5.40 a	7.48 a	11.14 a	1.32 a	2.93 a	6.34 a	8.96 a	13.32 a
	16	0.30 c	1.68 b	4.69 a	6.79 a	10.45 a	0.65 b	2.21 a	5.64 a	8.26 a	12.62 a
	24	—	0.36 d	3.42 c	5.53 b	9.16 a	—	0.89 c	4.36 b	6.95 a	11.30 a
10	12	0.45 d	1.74 b	4.44 a	6.27 a	9.59 a	0.79 b	2.27 a	5.40 a	7.76 a	11.77 a
	16	—	0.95 c	3.68 b	5.53 a	8.83 a	0.07 d	1.47 b	4.62 a	6.97 a	10.97 a
	24	—	—	2.35 d	4.20 c	7.44 b	—	0.04 d	3.22 c	5.54 b	9.5 a
11	12	—	1.13 c	3.51 b	5.14 a	8.09 a	0.31 d	1.63 b	4.48 a	6.58 a	10.23 a
	16	—	0.31 d	2.74 d	4.38 c	7.30 a	—	0.78 d	3.66 c	5.74 a	9.36 a
	24	—	—	1.41 e	3.03 d	5.87 c	—	—	2.20 d	4.25 c	7.79 b
12	12	—	0.60 d	2.70 d	4.15 c	6.77 a	—	1.05 d	3.62 c	5.47 a	8.76 a
	16	—	—	1.94 e	3.39 d	5.96 b	—	0.17 e	2.78 d	4.61 c	7.85 a
	24	—	—	0.64 f	2.06 e	4.53 d	—	—	1.31 e	3.11 d	6.24 c
14	12	—	—	1.48 e	2.62 d	4.67 c	—	0.08 e	2.17 d	3.62 d	6.22 b
	16	—	—	0.77 f	1.90 e	3.88 d	—	—	1.35 e	2.78 e	5.31 c
	24	—	—	—	0.65 f	2.50 e	—	—	—	1.33 f	3.73 e
16	12	—	—	0.66 f	1.56 e	3.16 e	—	—	1.14 e	2.29 e	4.35 d
	16	—	—	—	0.88 f	2.41 e	—	—	0.38 f	1.50 f	3.48 e
	24	—	—	—	—	1.12 f	—	—	—	0.15 f	1.99 f

See table notes on page 66.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

ALLOWABLE HDS AXIAL LOADS (KIPS)

Member length (ft)	Spacing (in)	5psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	5.09 a	8.10 a	14.77 a	20.74 a	30.98 a	5.31 a*	8.47 a	15.60 a	22.27 a	33.77 a
	16	5.03 a	8.04 a	14.71 a	20.67 a	30.90 a	5.27 a*	8.43 a	15.56 a	22.23 a	33.72 a
	24	4.90 a	7.90 a	14.57 a	20.53 a	30.75 a	5.19 a*	8.34 a	15.47 a	22.14 a	33.63 a
9	12	4.96 a	7.92 a	14.49 a	20.11 a	29.97 a	5.24 a*	8.38 a	15.40 a	21.95 a	33.25 a
	16	4.89 a	7.84 a	14.40 a	20.02 a	29.87 a	5.19 a*	8.32 a	15.35 a	21.89 a	33.19 a
	24	4.73 a	7.67 a	14.23 a	19.83 a	29.67 a	5.08 a*	8.21 a	15.24 a	21.78 a	33.07 a
10	12	4.82 a	7.72 a	14.09 a	19.40 a	28.84 a	5.16 a*	8.27 a	15.18 a	21.58 a	32.65 a
	16	4.73 a	7.61 a	13.98 a	19.29 a	28.72 a	5.10 a*	8.20 a	15.11 a	21.50 a	32.57 a
	24	4.54 a	7.40 a	13.76 a	19.05 a	28.47 a	4.96 a*	8.06 a	14.97 a	21.36 a	32.42 a
11	12	4.67 a	7.49 a	13.57 a	18.62 a	27.62 a	5.07 a*	8.14 a	14.92 a	21.15 a	31.97 a
	16	4.55 a	7.36 a	13.43 a	18.47 a	27.47 a	4.99 a*	8.06 a	14.84 a	21.06 a	31.88 a
	24	4.32 a	7.11 a	13.16 a	18.18 a	27.16 a	4.83 a*	7.89 a	14.67 a	20.88 a	31.69 a
12	12	4.50 a	7.24 a	13.00 a	17.71 a	26.32 a	4.97 a*	8.00 a	14.69 a	20.68 a	31.22 a
	16	4.36 a	7.08 a	12.84 a	17.53 a	26.13 a	4.87 a*	7.90 a	14.59 a	20.57 a	31.10 a
	24	4.08 a	6.78 a	12.51 a	17.18 a	25.75 a	4.68 a*	7.71 a	14.39 a	20.35 a	30.87 a
14	12	4.12 a	6.67 a	11.67 a	15.75 a	23.51 a	4.74 a*	7.68 a	14.14 a	19.60 a	29.51 a
	16	3.93 a	6.45 a	11.44 a	15.51 a	23.25 a	4.60 a*	7.54 a	14.00 a	19.45 a	29.34 a
	24	3.57 a	6.04 a	11.00 a	15.03 a	22.73 a	4.34 a*	7.27 a	13.72 a	19.15 a	29.02 a
16	12	3.69 a	6.02 a	10.24 a	13.70 a	20.56 a	4.47 a*	7.30 a	13.31 a	18.33 a	27.57 a
	16	3.46 a	5.75 a	9.95 a	13.40 a	20.21 a	4.29 a*	7.12 a	13.12 a	18.13 a	27.35 a
	24	3.01 a	5.24 a	9.42 a	12.82 a	19.56 a	3.95 a*	6.77 a	12.75 a	17.73 a	26.92 a

Member length (ft)	Spacing (in)	15psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	4.72 a	7.71 a	14.38 a	20.31 a	30.53 a	5.06 a*	8.22 a	15.35 a	22.00 a	33.48 a
	16	4.54 a	7.51 a	14.18 a	20.10 a	30.30 a	4.93 a*	8.09 a	15.22 a	21.87 a	33.34 a
	24	4.19 a	7.13 a	13.79 a	19.67 a	29.86 a	4.68 a*	7.83 a	14.97 a	21.60 a	33.06 a
9	12	4.50 a	7.42 a	13.97 a	19.55 a	29.38 a	4.92 a*	8.05 a	15.08 a	21.60 a	32.88 a
	16	4.27 a	7.17 a	13.71 a	19.28 a	29.09 a	4.76 a*	7.89 a	14.92 a	21.43 a	32.70 a
	24	3.83 a	6.68 a	13.21 a	18.73 a	28.51 a	4.44 a*	7.56 a	14.60 a	21.08 a	32.33 a
10	12	4.25 a	7.09 a	13.43 a	18.70 a	28.10 a	4.76 a*	7.86 a	14.77 a	21.14 a	32.19 a
	16	3.97 a	6.79 a	13.11 a	18.35 a	27.74 a	4.56 a*	7.66 a	14.57 a	20.92 a	31.96 a
	24	3.43 a	6.19 a	12.48 a	17.68 a	27.02 a	4.17 a*	7.26 a	14.18 a	20.49 a	31.50 a
11	12	3.98 a	6.73 a	12.76 a	17.75 a	26.70 a	4.58 a*	7.65 a	14.42 a	20.61 a	31.40 a
	16	3.65 a	6.36 a	12.37 a	17.33 a	26.26 a	4.34 a*	7.40 a	14.18 a	20.35 a	31.12 a
	24	3.01 a	5.65 a	11.62 a	16.52 a	25.38 a	3.87 a*	6.92 a	13.70 a	19.82 a	30.56 a
12	12	3.69 a	6.33 a	12.04 a	16.67 a	25.21 a	4.39 a*	7.41 a	14.10 a	20.03 a	30.53 a
	16	3.30 a	5.90 a	11.58 a	16.17 a	24.67 a	4.10 a*	7.12 a	13.80 a	19.71 a	30.19 a
	24	2.57 a	5.08 a	10.70 a	15.22 a	23.64 a	3.55 a*	6.54 a	13.22 a	19.08 a	29.51 a
14	12	3.05 a	5.46 a	10.38 a	14.36 a	21.99 a	3.95 a*	6.87 a	13.30 a	18.70 a	28.54 a
	16	2.57 a	4.91 a	9.80 a	13.73 a	21.28 a	3.57 a*	6.47 a	12.89 a	18.26 a	28.07 a
	24	1.68 a	3.89 a	8.72 a	12.55 a	19.96 a	2.84 a*	5.71 a	12.10 a	17.40 a	27.14 a
16	12	2.40 a	4.54 a	8.68 a	12.02 a	18.66 a	3.46 a*	6.25 a	12.20 a	17.14 a	26.28 a
	16	1.85 a	3.90 a	8.01 a	11.30 a	17.82 a	2.99 a*	5.75 a	11.68 a	16.57 a	25.66 a
	24	0.85 c	2.75 b	6.82 a	9.99 a	16.32 a	2.09 a*	4.79 a	10.67 a	15.48 a	24.46 a

Member length (ft)	Spacing (in)	20psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	4.54 a	7.51 a	14.18 a	20.10 a	30.30 a	4.93 a*	8.09 a	15.22 a	21.87 a	33.34 a
	16	4.31 a	7.25 a	13.92 a	19.81 a	30.00 a	4.76 a*	7.92 a	15.06 a	21.69 a	33.15 a
	24	3.84 a	6.75 a	13.40 a	19.25 a	29.41 a	4.42 a*	7.58 a	14.73 a	21.33 a	32.77 a
9	12	4.27 a	7.17 a	13.71 a	19.28 a	29.09 a	4.76 a*	7.89 a	14.92 a	21.43 a	32.70 a
	16	3.98 a	6.84 a	13.38 a	18.91 a	28.71 a	4.54 a*	7.67 a	14.71 a	21.2 a	32.45 a
	24	3.39 a	6.20 a	12.71 a	18.19 a	27.95 a	4.12 a*	7.24 a	14.29 a	20.74 a	31.97 a
10	12	3.97 a	6.79 a	13.11 a	18.35 a	27.74 a	4.56 a*	7.66 a	14.57 a	20.92 a	31.96 a
	16	3.61 a	6.39 a	12.69 a	17.90 a	27.26 a	4.30 a*	7.39 a	14.31 a	20.63 a	31.65 a
	24	2.91 a	5.61 a	11.87 a	17.02 a	26.31 a	3.78 a*	6.86 a	13.78 a	20.06 a	31.04 a
11	12	3.65 a	6.36 a	12.37 a	17.33 a	26.26 a	4.34 a*	7.40 a	14.18 a	20.35 a	31.12 a
	16	3.22 a	5.89 a	11.87 a	16.78 a	25.67 a	4.03 a*	7.08 a	13.86 a	20.00 a	30.74 a
	24	2.40 a	4.97 a	10.90 a	15.73 a	24.53 a	3.40 a*	6.44 a	13.22 a	19.30 a	30.00 a
12	12	3.30 a	5.90 a	11.58 a	16.17 a	24.67 a	4.10 a*	7.12 a	13.80 a	19.71 a	30.19 a
	16	2.81 a	5.35 a	10.99 a	15.53 a	23.98 a	3.73 a*	6.73 a	13.41 a	19.29 a	29.74 a
	24	1.88 a	4.30 a	9.87 a	14.32 a	22.65 a	3.00 a*	5.98 a	12.65 a	18.46 a	28.84 a
14	12	2.57 a	4.91 a	9.80 a	13.73 a	21.28 a	3.57 a*	6.47 a	12.89 a	18.26 a	28.07 a
	16	1.97 a	4.22 a	9.07 a	12.93 a	20.39 a	3.08 a*	5.96 a	12.36 a	17.68 a	27.44 a
	24	0.87 c	2.96 a	7.74 a	11.48 a	18.74 a	2.14 a*	4.97 a	11.33 a	16.56 a	26.23 a
16	12	1.85 a	3.90 a	8.01 a	11.30 a	17.82 a	2.99 a*	5.75 a	11.68 a	16.57 a	25.66 a
	16	1.17 c	3.11 a	7.20 a	10.41 a	16.80 a	2.38 a*	5.10 a	11.00 a	15.84 a	24.86 a
	24	—	1.72 c	5.76 b	8.83 a	14.97 a	1.24 a*	3.88 a	9.72 a	14.44 a	23.32 a

Notes:

	TL Defl.
a	L/720
b	L/600
c	L/480
d	L/360
e	L/240
f	L/120

Blank cells do not meet L/120.

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Allowable axial loads when combined with 5psf lateral load are applicable for interior use only (no lateral wind loading).
- 4 Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 5' o.c. maximum. Allowable loads are based on weak axis and torsional bracing at 5' o.c. maximum for axial load, and continuous support of each flange for moment.
- 7 Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- 8 Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.
- 9 Cells marked with an "*" have h/t > 200 and thus require bearing stiffeners designed in accordance with AISI-NASPEC, 2001 with the 2004 supplement.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

ALLOWABLE HDS AXIAL LOADS (KIPS)

Member length (ft)	Spacing (in)	25psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	4.36 a	7.32 a	13.98 a	19.88 a	30.08 a	4.80 a*	7.96 a	15.10 a	21.73 a	33.20 a
	16	4.07 a	7.00 a	13.66 a	19.53 a	29.71 a	4.59 a*	7.75 a	14.89 a	21.51 a	32.96 a
	24	3.49 a	6.37 a	13.02 a	18.83 a	28.97 a	4.17 a*	7.33 a	14.48 a	21.06 a	32.49 a
9	12	4.05 a	6.93 a	13.46 a	19.00 a	28.80 a	4.6 a*	7.72 a	14.76 a	21.25 a	32.52 a
	16	3.68 a	6.52 a	13.04 a	18.55 a	28.32 a	4.33 a*	7.46 a	14.50 a	20.97 a	32.21 a
	24	2.96 a	5.73 a	12.23 a	17.67 a	27.39 a	3.80 a*	6.92 a	13.97 a	20.39 a	31.6 a
10	12	3.70 a	6.49 a	12.79 a	18.01 a	27.37 a	4.36 a*	7.46 a	14.38 a	20.70 a	31.73 a
	16	3.26 a	5.99 a	12.28 a	17.45 a	26.78 a	4.04 a*	7.12 a	14.05 a	20.35 a	31.35 a
	24	2.40 a	5.04 a	11.28 a	16.37 a	25.62 a	3.39 a*	6.47 a	13.39 a	19.63 a	30.59 a
11	12	3.33 a	6.00 a	11.99 a	16.92 a	25.82 a	4.10 a*	7.16 a	13.94 a	20.08 a	30.84 a
	16	2.80 a	5.42 a	11.38 a	16.25 a	25.10 a	3.71 a*	6.76 a	13.54 a	19.65 a	30.37 a
	24	1.82 a	4.32 a	10.20 a	14.97 a	23.71 a	2.94 a*	5.97 a	12.75 a	18.78 a	29.45 a
12	12	2.93 a	5.48 a	11.13 a	15.69 a	24.15 a	3.82 a*	6.83 a	13.51 a	19.39 a	29.85 a
	16	2.34 a	4.82 a	10.42 a	14.92 a	23.30 a	3.36 a*	6.35 a	13.03 a	18.87 a	29.29 a
	24	1.23 a	3.57 a	9.09 a	13.46 a	21.70 a	2.47 a*	5.43 a	12.09 a	17.84 a	28.18 a
14	12	2.12 a	4.39 a	9.24 a	13.13 a	20.61 a	3.20 a*	6.09 a	12.49 a	17.82 a	27.6 a
	16	1.41 b	3.58 a	8.38 a	12.18 a	19.54 a	2.60 a*	5.46 a	11.84 a	17.12 a	26.83 a
	24	0.12 d	2.10 b	6.83 a	10.48 a	17.60 a	1.46 a*	4.25 a	10.58 a	15.75 a	25.35 a
16	12	1.33 b	3.30 a	7.40 a	10.62 a	17.05 a	2.53 a*	5.26 a	11.17 a	16.02 a	25.06 a
	16	0.54 d	2.39 b	6.45 a	9.59 a	15.85 a	1.80 a*	4.48 a	10.35 a	15.13 a	24.08 a
	24	—	0.79 d	4.80 c	7.77 b	13.74 a	0.44 b*	3.02 a	8.82 a	13.45 a	22.21 a

Member length (ft)	Spacing (in)	35psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	4.01 a	6.94 a	13.59 a	19.46 a	29.63 a	4.55 a*	7.71 a	14.85 a	21.46 a	32.91 a
	16	3.60 a	6.49 a	13.15 a	18.97 a	29.12 a	4.26 a*	7.41 a	14.56 a	21.15 a	32.58 a
	24	2.81 a	5.63 a	12.26 a	18.01 a	28.10 a	3.67 a*	6.82 a	13.98 a	20.52 a	31.92 a
9	12	3.61 a	6.44 a	12.96 a	18.46 a	28.23 a	4.28 a*	7.40 a	14.44 a	20.91 a	32.15 a
	16	3.10 a	5.89 a	12.39 a	17.84 a	27.57 a	3.91 a*	7.03 a	14.08 a	20.51 a	31.72 a
	24	2.13 a	4.82 a	11.28 a	16.64 a	26.29 a	3.18 a*	6.29 a	13.34 a	19.71 a	30.88 a
10	12	3.17 a	5.90 a	12.18 a	17.34 a	26.66 a	3.97 a*	7.06 a	13.98 a	20.27 a	31.27 a
	16	2.57 a	5.23 a	11.48 a	16.59 a	25.85 a	3.52 a*	6.60 a	13.52 a	19.78 a	30.74 a
	24	1.43 a	3.96 a	10.13 a	15.13 a	24.28 a	2.63 a*	5.69 a	12.62 a	18.79 a	29.69 a
11	12	2.70 a	5.31 a	11.26 a	16.12 a	24.96 a	3.63 a*	6.68 a	13.46 a	19.56 a	30.28 a
	16	2.01 a	4.53 a	10.43 a	15.22 a	23.98 a	3.09 a*	6.12 a	12.90 a	18.95 a	29.63 a
	24	0.71 b	3.07 a	8.88 a	13.53 a	22.13 a	2.05 a*	5.04 a	11.82 a	17.76 a	28.35 a
12	12	2.22 a	4.69 a	10.28 a	14.77 a	23.14 a	3.27 a*	6.26 a	12.93 a	18.77 a	29.18 a
	16	1.45 a	3.81 a	9.35 a	13.75 a	22.01 a	2.64 a*	5.61 a	12.28 a	18.05 a	28.40 a
	24	0.02 c	2.19 b	7.62 a	11.85 a	19.91 a	1.43 a*	4.35 a	10.99 a	16.65 a	26.89 a
14	12	1.27 b	3.42 a	8.22 a	12.00 a	19.34 a	2.49 a*	5.34 a	11.71 a	16.98 a	26.68 a
	16	0.37 c	2.38 b	7.12 a	10.80 a	17.97 a	1.68 a*	4.49 a	10.83 a	16.02 a	25.64 a
	24	—	0.53 d	5.17 c	8.65 b	15.50 a	0.18 b*	2.89 a	9.16 a	14.20 a	23.63 a
16	12	0.39 d	2.22 c	6.28 a	9.40 a	15.63 a	1.66 a*	4.33 a	10.19 a	14.95 a	23.88 a
	16	—	1.09 d	5.11 c	8.12 b	14.14 a	0.71 b*	3.30 a	9.12 a	13.78 a	22.58 a
	24	—	—	3.08 d	5.89 d	11.53 b	—	1.41 b	7.13 a	11.59 a	20.12 a

Member length (ft)	Spacing (in)	30psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	4.19 a	7.13 a	13.79 a	19.67 a	29.86 a	4.68 a*	7.83 a	14.97 a	21.60 a	33.06 a
	16	3.84 a	6.75 a	13.40 a	19.25 a	29.41 a	4.42 a*	7.58 a	14.73 a	21.33 a	32.77 a
	24	3.15 a	6.00 a	12.64 a	18.42 a	28.54 a	3.92 a*	7.07 a	14.23 a	20.79 a	32.20 a
9	12	3.83 a	6.68 a	13.21 a	18.73 a	28.51 a	4.44 a*	7.56 a	14.60 a	21.08 a	32.33 a
	16	3.39 a	6.20 a	12.71 a	18.19 a	27.95 a	4.12 a*	7.24 a	14.29 a	20.74 a	31.97 a
	24	2.54 a	5.27 a	11.75 a	17.15 a	26.83 a	3.49 a*	6.60 a	13.66 a	20.05 a	31.24 a
10	12	3.43 a	6.19 a	12.48 a	17.68 a	27.02 a	4.17 a*	7.26 a	14.18 a	20.49 a	31.50 a
	16	2.91 a	5.61 a	11.87 a	17.02 a	26.31 a	3.78 a*	6.86 a	13.78 a	20.06 a	31.04 a
	24	1.91 a	4.49 a	10.70 a	15.74 a	24.94 a	3.01 a*	6.08 a	13.01 a	19.21 a	30.14 a
11	12	3.01 a	5.65 a	11.62 a	16.52 a	25.38 a	3.87 a*	6.92 a	13.7 a	19.82 a	30.56 a
	16	2.40 a	4.97 a	10.9 a	15.73 a	24.53 a	3.40 a*	6.44 a	13.22 a	19.30 a	30.00 a
	24	1.26 a	3.68 a	9.53 a	14.24 a	22.91 a	2.49 a*	5.50 a	12.28 a	18.27 a	28.90 a
12	12	2.57 a	5.08 a	10.70 a	15.22 a	23.64 a	3.55 a*	6.54 a	13.22 a	19.08 a	29.51 a
	16	1.88 a	4.30 a	9.87 a	14.32 a	22.65 a	3.00 a*	5.98 a	12.65 a	18.46 a	28.84 a
	24	0.61 b	2.86 a	8.34 a	12.64 a	20.79 a	1.95 a*	4.88 a	11.54 a	17.24 a	27.53 a
14	12	1.68 a	3.89 a	8.72 a	12.55 a	19.96 a	2.84 a*	5.71 a	12.10 a	17.40 a	27.14 a
	16	0.87 c	2.96 a	7.74 a	11.48 a	18.74 a	2.14 a*	4.97 a	11.33 a	16.56 a	26.23 a
	24	—	1.30 c	5.97 b	9.54 a	16.52 a	0.81 a*	3.56 a	9.86 a	14.96 a	24.48 a
16	12	0.85 c	2.75 b	6.82 a	9.99 a	16.32 a	2.09 a*	4.79 a	10.67 a	15.48 a	24.46 a
	16	—	1.72 c	5.76 b	8.83 a	14.97 a	1.24 a*	3.88 a	9.72 a	14.44 a	23.32 a
	24	—	—	3.91 d	6.80 c	12.60 a	—	2.20 b	7.96 a	12.50 a	21.15 a

Member length (ft)	Spacing (in)	40psf									
		6" HDS Members					8" HDS Members				
		Gauge (Mils)									
		20 (33)	18 (43)	16 (54)	14 (68)	12 (97)	20 (33)	18 (43)	16 (54)	14 (68)	12 (97)
8	12	3.84 a	6.75 a	13.40 a	19.25 a	29.41 a	4.42 a*	7.58 a	14.73 a	21.33 a	32.77 a
	16	3.37 a	6.24 a	12.89 a	18.70 a	28.83 a	4.09 a*	7.24 a	14.40 a	20.97 a	32.39 a
	24	2.48 a	5.26 a	11.89 a	17.61 a	27.67 a	3.43 a*	6.57 a	13.74 a	20.26 a	31.64 a
9	12	3.39 a	6.20 a	12.71 a	18.19 a	27.95 a	4.12 a*	7.24 a	14.29 a	20.74 a	31.97 a
	16	2.82 a	5.58 a	12.07 a	17.49 a	27.20 a	3.70 a*	6.81 a	13.87 a	20.28 a	31.48 a
	24	1.73 a	4.37 a	10.81 a	16.13 a	25.74 a	2.87 a*	5.97 a	13.03 a	19.37 a	30.52 a
10	12	2.91 a	5.61 a	11.87 a	17.02 a	26.31 a	3.78 a*	6.86 a	13.78 a	20.06 a	31.04 a
	16	2.23 a	4.86 a	11.08 a	16.16 a	25.39 a	3.26 a*	6.34 a	13.26 a	19.49 a	30.44 a
	24	0.96 a	3.44 a	9.58 a	14.53 a	23.62 a	2.26 a*	5.31 a	12.24 a	18.37 a	29.24 a
11	12	2.40 a	4.97 a	10.90 a	15.73 a	24.53 a	3.40 a*	6.44 a	13.22 a	19.30 a	30.00 a
	16	1.63 a	4.10 a	9.98 a	14.72 a	23.44 a	2.79 a*	5.81 a	12.59 a	18.61 a	29.26 a
	24	0.19 c	2.48 a	8.25 a	12.84 a	21.37 a	1.61 a*	4.59 a	11.36 a	17.26 a	27.81 a
12	12	1.88 a	4.30 a	9.87 a	14.32 a	22.65 a	3.00 a*	5.98 a	12.65 a	18.46 a	28.84 a
	16	1.02 b	3.33 a	8.83 a	13.19 a	21.39 a	2.29 a*	5.24 a	11.90 a	17.64 a	27.97 a
	24	—	1.54 b	6.93 a	11.09 a	19.06 a	0.93 a*	3.83 a	10.46 a	16.06 a	26.25 a
14	12	0.87 c	2.96 a	7.74 a	11.48 a	18.74 a	2.14 a*	4.97 a	11.33 a	16.56 a	26.23 a
	16	—	1.83 c	6.54 a	10.16 a	17.23 a	1.24 a*	4.02 a	10.34 a	15.49 a	25.05 a
	24	—	—	4.41 c	7.81 b	14.53 a	—	2.23 a	8.47 a	13.45 a	22.80 a
16	12	—	1.72 c	5.76 b	8.83 a	14.97 a	1.24 a*	3.88 a	9.72 a	14.44 a	23.32 a
	16	—	0.50 d	4.49 c	7.44 b	13.35 a	0.19 c*	2.74 a	8.53 a	13.13 a	21.85 a
	24	—	—	2.30 e	5.03 d	10.53 c	—	0.66 c	6.33 b	10.71 a	19.13 a