



TELLING[®]

BUILDSTRONG[™]

INTERIOR FRAMING

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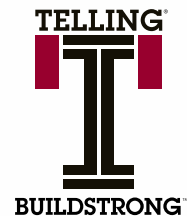
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PRODUCT CATALOG



By providing a lighter, stronger, more efficient framing system, ViperStud® has earned the trust of industry leaders nationwide. Made from high-strength steel and formed with exclusive ViperRib technology, ViperStud® is the flat steel system that will be here for the long term, you can count on that.

The Proprietary Steel Framing System That Has Withstood The Test Of Time...



Standing Strong.™

A Track Record You Can Count On, Verified Code Compliant

Code Information

ViperStud Drywall Framing has been verified by the following IAS Accredited Test Agencies and/or certified by the Product Evaluation Agencies listed here.



**IBC/IRC 2003, 2006, 2009,
2012 Compliant**

Patents

ViperStud Patent #D621,964
ViperTrack Patent #D621,963

The Viper25 & Viper20 values for composite limiting heights in this catalog have been submitted for recognition in our ICC-ES ESR2620 & ATI ES CCRR-0154 reports. The updated physical properties of ViperStud in this catalog are greater than the minimums listed in our evaluation reports. Please see the full versions of these reports on www.BUILDSTRONG.com

U.S. Patent Nos. D621,964 and D621,963 are assigned to Ware Industries, Inc. and used by Telling Industries under license from Ware Industries, Inc.

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ViperStud Drywall Framing System is tested or conforms to these standards:

- **ASTM A1003** Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members
- **ASTM C645** Standard Specification for Nonstructural Steel Framing Members
- **ASTM C754** Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
- **ASTM E90** Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- **ASTM E119** Standard Test Methods for Fire Tests of Building construction and Materials. Fire rated for 1, 2, 3, and 4 hour rated walls.
- **ASTM E72** Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- **ASTM C1629** Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels

ViperStud is listed in the following:

- ATI CCRR-0154
- ICC-ES ESR #2620
- NYC Department of Buildings MEA 56-08-M, MEA 56-08-M Vol 2, MEA 235-08-M

Architectural Testing Approved & ICC ES Code Compliant

Viper25 & Viper20 manufactured by Telling® Industries received an evaluation report (CCRR-0154) from ATI Evaluation Services and an evaluation report (ESR# 2620) from ICC Evaluation Service (ICC-ES), providing evidence that the ViperStud Drywall Framing System meets code requirements. Building officials, architects, contractors, specifiers, designers and others utilize these Evaluation Reports to provide a basis for using or approving metal framing in construction projects following the International Building Code.

LEED® v3 Information

Available LEED® points in the following categories:

- MR Credit 2 - Construction Waste Management (1-2 points)
- MR Credit 4 Recycled Content (1-2 points)
- MR Credit 5 - Regional Materials (1-2 points)

Recycled Content

- Total Recycled Content: 34.9%
- Post Consumer Content: 24.3%
- Pre Consumer (Post Industrial) Content: 9.4%

A High Strength, Flat Steel Drywall Framing System

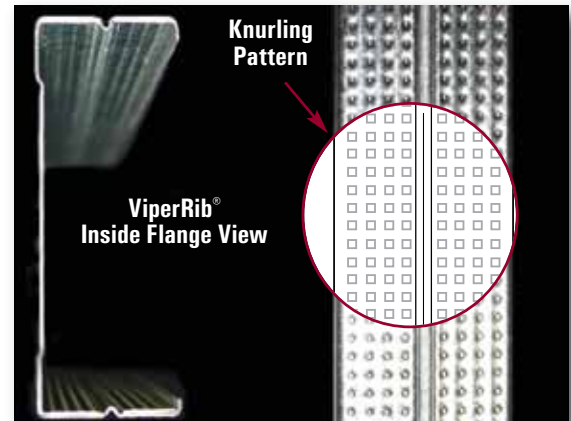
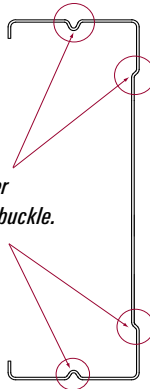
The ViperStud Drywall Framing System offers all the benefits of conventional flat steel studs with a design that performs even better. The ViperStud drywall framing system is interchangeable with conventional framing components. Since ViperStud is flat steel, it is easy to plumb and mark, make minor adjustments and use laser levels. This makes installation the same as conventional studs. No extra training or special fasteners are required for installation.

Knurl & Rib Technology

The stud and track system utilizes a knurled flange and reinforcing ribs along with a flat stud design. Knurling is the pattern of small ridges formed on the flange to prevent screws from walking. Since knurling is only formed on one side of the steel, the stud stays flat, never compromising the strength or thickness of the steel.

ViperRib® Technology applies a reinforced ribbing over the web and flange of ViperStud. The ribs provide added strength, is less prone to twist and create "high-shoulders" when finishing gypsum board.

ViperRib® Technology
makes ViperStud stronger
& less prone to twist or buckle.

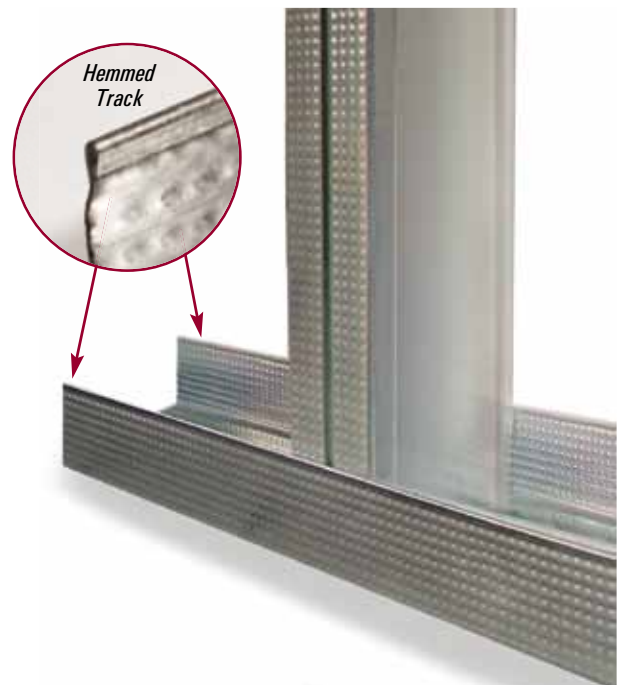


The One-Track System

We've tested ViperTrack25 extensively with Viper25 and Viper20 studs. Our third-party testing proves that it is not necessary to use the same thickness track as the stud. Now you can submit a lighter gauge track with your Viper20 studs and reduce your cost.

- Saves money
- Fewer items to inventory
- Safer, ViperTrack25 is fully hemmed
- Supported by testing

Not applicable for Impact or Abuse Rated walls. Fire rated walls should be built per specific assembly requirements.





PHYSICAL PROPERTIES

ViperStud®

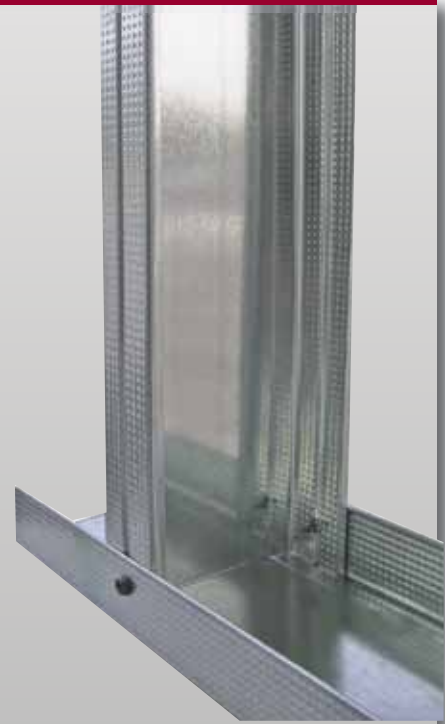
MODEL NO.	DESIGN THICKNESS (in)	MINIMUM THICKNESS (in)	YIELD (ksi)	WEB SIZES (in)	COATING 1,2	FLANGE (in)	RETURN LIP
VIPER25	0.0155	0.0147	50	1-5/8, 2-1/2, 3-5/8, 4, 6	G40	1-1/4	1/4
VIPER20	0.0205	0.0195	57	1-5/8, 2-1/2, 3-5/8	G40	1-1/4	1/4
VIPER20	0.0220	0.0209	57	4, 6	G40	1-1/4	1/4
VIPER 30mil	0.0312	0.0296	33	1-5/8, 2-1/2, 3-5/8, 4, 6	G40	1-1/4	1/4
VIPER 33mil	0.0346	0.0329	33	1-5/8, 2-1/2, 3-5/8, 4, 6	G40	1-1/4	1/4

ViperTrack®

MODEL NO.	DESIGN THICKNESS (in)	MINIMUM THICKNESS (in)	YIELD (ksi)	WEB SIZES (in)	COATING 1,2	FLANGE (in)
VIPERTRACK25	0.0155	0.0147	50	1-5/8, 2-1/2, 3-5/8, 4, 6	G40	1-1/4
VIPERTRACK20	0.0205	0.0195	50	1-5/8, 2-1/2, 3-5/8	G40	1-1/4
VIPERTRACK20	0.0220	0.0209	50	4, 6	G40	1-1/4
VIPERTRACK 30mil	0.0312	0.0296	33	1-5/8, 2-1/2, 3-5/8, 4, 6	G40	1-1/4
VIPERTRACK 33mil	0.0346	0.0329	33	1-5/8, 2-1/2, 3-5/8, 4, 6	G40	1-1/4

Notes:

1. Per ASTM C645 & ASTM A 1003, Table 1
2. G60 and G90 available upon request.
3. Knockout size for 1-5/8" & 2-1/2" Stud is 3/4" x 2-1/2". Knockout size for 3-5/8", 4", & 6" Stud is 1-1/2" x 2-1/2"



DEEP LEG DEFLECTION TRACK

Deflection track can be required at the top of a wall to allow for anticipated downward movement of the primary structure. A gap is provided between the end of the stud and track to accommodate this movement. The studs are not fastened to the track to allow movement up or down. The bridging is required within 12" from the top to keep the stud in place and provide rotational restraint. The leg of the track must be long enough to provide the required gap, bearing surface for the studs and allow for construction tolerances.

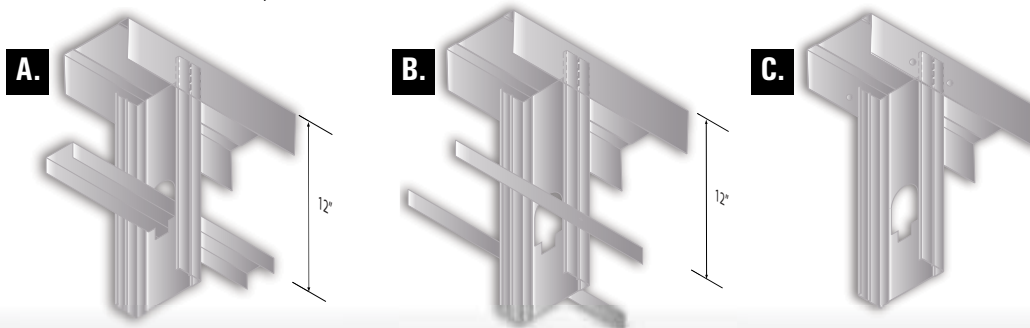
Studs are secured by one of the following methods:

- A. CR channel and BRC Clip. 12" down from the stud end.
- B. Attaching flat strap at each side of the stud flange. 12" down from the stud end.
- C. Attaching 2 screws at each leg of the deep leg track, near the stud flanges. (Total 4 screws)

MODEL NO.	DESIGN THICKNESS (in)	MINIMUM THICKNESS (in)	YIELD (ksi)	COATING 4,5	WEB SIZES (in)	LEG SIZE (in)	GAP (in)	LOAD (lb.)	MAX HEIGHT 5 psf, 16" o.c.
VIPERTRACK25	0.0155	0.0147	50	G40	1-5/8, 2-1/2, 3-5/8, 4, 6	2"	1/2"	34	10'-4"
VIPERTRACK20	0.0205	0.0195	57	G40	1-5/8, 2-1/2, 3-5/8	2"	1/2"	60	20'-6"
					2-1/2, 3-5/8	2-1/2"	3/4"	40	13'-8"
VIPERTRACK20	0.0220	0.0209	57	G40	2-1/2, 3-5/8	3"	1"	30	10'-3"
					4, 6	2"	1/2"	69	23'-8"
					4, 6	2-1/2"	3/4"	46	15'-9"
VIPERTRACK 30mil	0.0312	0.0296	33	G40	4, 6	3"	1"	35	11'-10"
					1-5/8, 2-1/2, 3-5/8, 4, 6	2"	1/2"	92	27'-6"
					2-1/2, 3-5/8, 4, 6	2-1/2"	3/4"	61	18'-4"
VIPERTRACK 33mil	0.0346	0.0329	33	G40	2-1/2, 3-5/8, 4, 6	3"	1"	46	13'-9"
					1-5/8, 2-1/2, 3-5/8, 4, 6	2"	1/2"	113	33'-10"
					2-1/2, 3-5/8, 4, 6	2-1/2"	3/4"	75	22'-7"
					2-1/2, 3-5/8, 4, 6	3"	1"	56	16'-11"

Notes:

1. Max wall height based on stud spacing of 16" o.c. & 5 PSF lateral load
2. 1-5/8" deep leg track available with max 2" leg
3. Wall studs are not fastened to deep leg track.
4. G60, G90 available upon request.
5. Per ASTM C 645 & ASTM A 1003, Table 1



For more information, please contact Telling® Industries at 1-866-372-6384

This technical information reflects the most current information available and supersedes any and all previous publications effective November 12, 2012. #TEL3 11/2012.





SECTION PROPERTIES

VIPERSTUD®

MODEL NO.	GAUGE	MEMBER	DESIGN (in)	MIN (in)	YIELD (ksi)	WEIGHT (lb/ft)	GROSS PROPERTIES					EFFECTIVE PROPERTIES		MOMENTS				
							AREA (in²)	I _x (in⁴)	r _x (in)	I _y (in⁴)	r _y (in)	I _{xd} (in⁴)	S _x (in³)	Allowable Moment (in-k)	Local Buckling Nominal Moment ^{1,3} Viper (in-k)	Distortional Buckling Nominal Moment ^{1,3} Viper (in-k)	Nominal Moment for Conventional Stud ² (in-k)	Critical Unbraced Length ⁵ (in)
VIPER25	25EQ	162VS125-15	0.0155	0.0147	50	0.24	0.071	0.032	0.671	0.015	0.461	0.032	0.024	0.66	1.42	1.20	1.02 (18 mil)	25.1
		250VS125-15	0.0155	0.0147	50	0.29	0.085	0.084	0.998	0.017	0.452	0.090	0.042	1.17	2.72	2.12	1.72 (18 mil)	24.8
		362VS125-15 ⁴	0.0155	0.0147	50	0.35	0.102	0.199	1.390	0.019	0.435	0.205	0.058	1.60	3.48	2.90	2.47 (18 mil)	24.5
		400VS125-15 ⁴	0.0155	0.0147	50	0.37	0.108	0.250	1.520	0.020	0.429	0.255	0.061	1.69	3.99	3.06	2.74 (18 mil)	24.4
		600VS125-15 ⁵	0.0155	0.0147	50	0.47	0.139	0.659	2.180	0.022	0.397	0.628	0.085	2.36	5.90	4.27	4.13 (18 mil)	23.7
VIPER20	20EQ	162VS125-20	0.0205	0.0195	57	0.32	0.093	0.042	0.673	0.020	0.459	0.050	0.038	1.18	2.74	2.14	1.99 (30 mil)	23.4
		250VS125-20	0.0205	0.0195	57	0.38	0.111	0.111	1.000	0.023	0.451	0.129	0.065	2.05	4.50	3.71	3.49 (30 mil)	23.1
		362VS125-20	0.0205	0.0195	57	0.45	0.134	0.261	1.400	0.025	0.433	0.298	0.090	2.85	6.10	5.15	5.14 (30 mil)	22.8
		400VS125-21	0.0220	0.0209	57	0.52	0.152	0.352	1.520	0.028	0.426	0.377	0.117	3.69	8.02	6.67	5.74 (30 mil)	22.7
		600VS125-21 ⁵	0.0220	0.0209	57	0.67	0.196	0.929	2.180	0.030	0.394	0.869	0.161	5.06	11.20	9.16	9.00 (30 mil)	22.0
VIPER 30mil	20DW	162VS125-30	0.0312	0.0296	33	0.46	0.135	0.062	0.680	0.028	0.455	0.062	0.067	1.32	2.21	2.38	1.99 (30 mil)	30.8
		250VS125-30	0.0312	0.0296	33	0.55	0.161	0.166	1.020	0.032	0.448	0.163	0.120	2.31	3.96	3.86	3.49 (30 mil)	30.1
		362VS125-30	0.0312	0.0296	33	0.67	0.197	0.391	1.410	0.037	0.431	0.385	0.172	3.39	5.67	5.85	5.14 (30 mil)	29.7
		400VS125-30	0.0312	0.0296	33	0.71	0.209	0.493	1.540	0.038	0.425	0.486	0.191	3.78	6.31	6.52	5.74 (30 mil)	29.6
		600VS125-30	0.0312	0.0296	33	0.29	0.271	1.310	2.190	0.042	0.392	1.230	0.341	5.95	11.30	9.93	9.00 (30 mil)	28.7
VIPER 33mil	20STR	162VS125-33	0.0346	0.0329	33	0.50	0.147	0.069	0.683	0.030	0.453	0.068	0.077	1.53	2.55	2.71	2.29 (33 mil)	30.8
		250VS125-33	0.0346	0.0329	33	0.61	0.178	0.183	1.010	0.036	0.447	0.181	0.137	2.65	4.53	4.42	4.02 (33 mil)	30.1
		362VS125-33	0.0346	0.0329	33	0.75	0.220	0.432	1.400	0.040	0.429	0.428	0.201	3.96	6.62	6.75	6.00 (33 mil)	29.7
		400VS125-33	0.0346	0.0329	33	0.78	0.230	0.544	1.540	0.041	0.424	0.539	0.224	4.42	7.38	7.53	6.70 (33 mil)	29.5
		600VS125-33	0.0346	0.0329	33	0.02	0.301	1.440	2.190	0.046	0.391	1.390	0.400	6.93	13.20	11.60	10.55 (33 mil)	28.6

- Notes:
- Viper25 and Viper20 nominal moments are based on testing. Allowable moment (Ma) is calculated with safety factor of 1.81 in accordance with chapter F of AISI S100-07 specification.
 - Nominal moment for Viper 30mil, Viper 33mil and conventional studs are based on calculations per AISI S100-07. Allowable moments (Ma) can be calculated with a 1.67 safety factor.
 - Section properties are in accordance with AISI S100-07. Viper25 and Viper20 section properties are based on testing.
 - Web depth-to-thickness ratio exceeds 200.
 - Web depth-to-thickness ratio exceeds 260.
 - ViperStud is considered fully braced when the unbraced length is less than listed Lu.
 - K Φ assumed to be zero for distortional buckling moments.

VIPERTRACK®

MEMBER	LEG SIZE (in)	WEIGHT (lb/ft)	DESIGN (in)	MIN (in)	YIELD (ksi)	GROSS PROPERTIES						EFFECTIVE PROPERTIES			TORSIONAL PROPERTIES					
						AREA (in²)	I _x (in⁴)	S _x (in³)	r _x (in)	I _y (in⁴)	S _y (in³)	r _y (in)	I _{xd} (in⁴)	S _{xe} (in³)	M _a (in-k)	X ₀ (in)	Jx10 ³ (in⁴)	C _w (in⁶)	r ₀ (in)	β
VIPERTRACK 1.25" LEG																				
162VT125-15	1.25	0.22	0.0155	0.0147	50	0.064	0.035	0.040	0.736	0.011	0.0125	0.412	0.022	0.018	0.53	-0.877	0.0051	0.006	1.22	0.480
250VT125-15	1.25	0.26	0.0155	0.0147	50	0.078	0.086	0.066	1.050	0.012	0.0133	0.400	0.054	0.027	0.80	-0.768	0.0062	0.015	1.36	0.683
362VT125-15 ⁵	1.25	0.32	0.0155	0.0147	50	0.095	0.197	0.105	1.440	0.014	0.0139	0.381	0.115	0.039	1.15	-0.665	0.0076	0.035	1.63	0.833
400VT125-15 ⁵	1.25	0.34	0.0155	0.0147	50	0.101	0.247	0.120	1.560	0.014	0.0141	0.374	0.141	0.043	1.27	-0.638	0.0081	0.043	1.73	0.864
600VT125-15 ⁶	1.25	0.45	0.0155	0.0147	50	0.132	0.642	0.210	2.210	0.015	0.0146	0.342	0.325	0.063	1.90	-0.523	0.0106	0.109	2.29	0.948
162VT125-20	1.25	0.29	0.0205	0.0195	50	0.085	0.046	0.052	0.737	0.014	0.0165	0.411	0.031	0.027	0.79	-0.874	0.0119	0.008	1.22	0.483
250VT125-20	1.25	0.35	0.0205	0.0195	50	0.103	0.114	0.087	1.060	0.016	0.0175	0.399	0.081	0.045	1.33	-0.766	0.0144	0.020	1.36	0.685
362VT125-20	1.25	0.43	0.0205	0.0195	50	0.126	0.261	0.139	1.440	0.018	0.0183	0.380	0.179	0.064	1.92	-0.663	0.0176	0.046	1.63	0.835
400VT125-21	1.25	0.49	0.0220	0.0209	50	0.143	0.351	0.170	1.570	0.020	0.0199	0.373	0.246	0.081	2.41	-0.635	0.0231	0.061	1.73	0.865
600VT125-21 ⁶	1.25	0.64	0.0220	0.0209	50	0.187	0.910	0.297	2.210	0.022	0.0206	0.341	0.557	0.117	3.49	-0.520	0.0302	0.154	2.29	0.949
162VT125-30	1.25	0.44	0.0312	0.0296	33	0.129	0.071	0.080	0.741	0.022	0.0249	0.409	0.056	0.051	1.00	-0.868	0.0419	0.012	1.21	0.488
250VT125-30	1.25	0.53	0.0312	0.0296	33	0.156	0.175	0.132	1.060	0.025	0.0265	0.397	0.142	0.090	1.77	-0.760	0.0508	0.030	1.36	0.689
362VT125-30	1.25	0.65	0.0312	0.0296	33	0.192	0.399	0.211	1.440	0.027	0.0277	0.378	0.331	0.152	3.00	-0.658	0.0621	0.069	1.63	0.837
400VT125-30	1.25	0.69	0.0312	0.0296	33	0.203	0.499	0.240	1.570	0.028	0.0280	0.371	0.417	0.176	3.47	-0.631	0.0659	0.086	1.73	0.867
600VT125-30	1.25	0.90	0.0312	0.0296	33	0.266	1.300	0.421	2.210	0.031	0.0290	0.339	1.030	0.250	4.94	-0.517	0.0862	0.216	2.29	0.949
162VT125-33	1.25	0.49	0.0346	0.0329	33	0.143	0.079	0.088	0.742	0.024	0.0276	0.408	0.064	0.059	1.16	-0.866	0.0571	0.013	1.21	0.489
250VT125-33	1.25	0.59	0.0346	0.0329	33	0.174	0.195	0.146	1.060	0.027	0.0293	0.396	0.162	0.103	2.04	-0.758	0.0692	0.033	1.36	0.690
362VT125-33	1.25	0.72	0.0346	0.0329	33	0.212	0.443	0.234	1.440	0.030	0.0306	0.377	0.375	0.173	3.43	-0.657	0.0848	0.077	1.63	0.838
400VT125-33	1.25	0.77	0.0346	0.0329	33	0.225	0.554	0.266	1.570	0.031	0.0309	0.370	0.473	0.200	3.95	-0.629	0.0899	0.096	1.73	0.868
600VT125-33	1.25	1.00	0.0346	0.0329	33	0.295	1.440	0.467	2.210	0.034	0.0321	0.339	1.190	0.298	5.89	-0.516	0.1180	0.239	2.29	0.949

- Notes:
- See page 6 for ViperTrack notes.



For more information, please contact Telling® Industries at 1-866-372-6384

This technical information reflects the most current information available and supersedes any and all previous publications effective November 12, 2012. #TEL3 11/2012.

DEEP LEG VIPERTRACK SECTION PROPERTIES



MEMBER	LEG SIZE (in)	WEIGHT (lb/ft)	DESIGN (in)	MIN (in)	YIELD (ksi)	GROSS PROPERTIES						EFFECTIVE PROPERTIES			TORSIONAL PROPERTIES					
						AREA (in ²)	I _x (in ⁴)	S _x (in ³)	r _x (in)	I _y (in ⁴)	S _y (in ³)	r _y (in)	I _{xd} (in ⁴)	S _{xe} (in ³)	M _a (in-k)	X ₀ (in)	Jx10 ³ (in ⁴)	C _w (in ⁶)	r ₀ (in)	β
VIPERTRACK 2.00" LEG																				
162VT200-15	2.00	0.30	0.0155	0.0147	50	0.087	0.052	0.060	0.773	0.038	0.030	0.663	0.025	0.017	0.50	-1.57	0.00700	0.0212	1.87	0.295
250VT200-15	2.00	0.34	0.0155	0.0147	50	0.101	0.126	0.096	1.117	0.044	0.032	0.662	0.060	0.026	0.79	-1.43	0.00808	0.0535	1.93	0.453
362VT200-15 ⁵	2.00	0.40	0.0155	0.0147	50	0.118	0.278	0.148	1.533	0.050	0.034	0.648	0.127	0.039	1.16	-1.28	0.00948	0.122	2.10	0.629
400VT200-15 ⁵	2.00	0.42	0.0155	0.0147	50	0.124	0.345	0.167	1.667	0.051	0.034	0.642	0.155	0.043	1.28	-1.24	0.00995	0.152	2.17	0.676
600VT200-15 ⁶	2.00	0.53	0.0155	0.0147	50	0.155	0.859	0.281	2.353	0.057	0.036	0.608	0.357	0.065	1.93	-1.06	0.0124	0.384	2.65	0.841
162VT200-20	2.00	0.39	0.0205	0.0195	57	0.116	0.069	0.079	0.775	0.051	0.039	0.662	0.036	0.027	0.91	-1.57	0.0162	0.028	1.87	0.296
250VT200-20	2.00	0.45	0.0205	0.0195	57	0.134	0.167	0.127	1.118	0.058	0.042	0.661	0.091	0.041	1.41	-1.42	0.0187	0.071	1.93	0.454
362VT200-20	2.00	0.53	0.0205	0.0195	57	0.157	0.369	0.196	1.534	0.066	0.045	0.647	0.190	0.060	2.06	-1.28	0.0219	0.161	2.10	0.630
400VT200-21	2.00	0.60	0.0220	0.0209	57	0.176	0.491	0.237	1.670	0.072	0.048	0.641	0.261	0.076	2.59	-1.23	0.0284	0.216	2.17	0.677
600VT200-21 ⁶	2.00	0.75	0.0220	0.0209	57	0.220	1.221	0.398	2.350	0.081	0.051	0.606	0.602	0.115	3.91	-1.05	0.0355	0.544	2.65	0.842
162VT200-30	2.00	0.60	0.0312	0.0296	33	0.176	0.107	0.120	0.779	0.077	0.059	0.660	0.069	0.055	1.09	-1.56	0.0571	0.0431	1.87	0.299
250VT200-30	2.00	0.69	0.0312	0.0296	33	0.203	0.256	0.193	1.120	0.088	0.064	0.659	0.174	0.098	1.94	-1.42	0.0659	0.108	1.92	0.457
362VT200-30	2.00	0.81	0.0312	0.0296	33	0.238	0.563	0.298	1.540	0.099	0.075	0.645	0.400	0.167	3.29	-1.27	0.0773	0.246	2.10	0.633
400VT200-30	2.00	0.85	0.0312	0.0296	33	0.250	0.698	0.336	1.670	0.102	0.068	0.639	0.502	0.188	3.71	-1.23	0.0811	0.306	2.17	0.680
600VT200-30	2.00	1.06	0.0312	0.0296	33	0.312	1.735	0.564	2.360	0.114	0.072	0.605	1.270	0.276	5.45	-1.05	0.1010	0.769	2.65	0.843
162VT200-33	2.00	0.66	0.0346	0.0329	33	0.195	0.119	0.133	0.780	0.085	0.066	0.660	0.080	0.064	1.27	-1.56	0.0779	0.048	1.87	0.300
250VT200-33	2.00	0.77	0.0346	0.0329	33	0.225	0.284	0.214	1.120	0.098	0.071	0.658	0.199	0.113	2.23	-1.42	0.0899	0.120	1.92	0.458
362VT200-33	2.00	0.90	0.0346	0.0329	33	0.264	0.626	0.330	1.540	0.110	0.075	0.644	0.455	0.191	3.76	-1.27	0.1050	0.272	2.10	0.634
400VT200-33	2.00	0.94	0.0346	0.0329	33	0.277	0.775	0.373	1.670	0.113	0.076	0.638	0.570	0.220	4.34	-1.23	0.1110	0.340	2.17	0.680
600VT200-33	2.00	1.18	0.0346	0.0329	33	0.347	1.930	0.625	2.360	0.126	0.080	0.604	1.480	0.338	6.69	-1.05	0.1380	0.852	2.65	0.844
VIPERTRACK 2.50" LEG																				
162VT250-20	2.50	0.46	0.0205	0.0195	57	0.136	0.085	0.097	0.790	0.092	0.059	0.823	0.039	0.026	0.88	-2.05	0.0191	0.052	2.35	0.237
250VT250-20	2.50	0.52	0.0205	0.0195	57	0.154	0.202	0.153	1.150	0.106	0.064	0.830	0.094	0.041	1.40	-1.89	0.0216	0.130	2.36	0.360
362VT250-20	2.50	0.60	0.0205	0.0195	57	0.177	0.440	0.234	1.580	0.120	0.068	0.822	0.200	0.060	2.06	-1.71	0.0248	0.295	2.47	0.519
400VT250-21	2.50	0.68	0.0220	0.0209	57	0.198	0.584	0.282	1.720	0.132	0.074	0.817	0.274	0.076	2.58	-1.66	0.0320	0.395	2.53	0.566
600VT250-21 ⁶	2.50	0.82	0.0220	0.0209	57	0.242	1.430	0.465	2.430	0.150	0.078	0.785	0.630	0.115	3.92	-1.45	0.0391	0.989	2.93	0.757
162VT250-30	2.50	0.71	0.0312	0.0296	33	0.207	0.131	0.147	0.794	0.140	0.090	0.822	0.076	0.057	1.13	-2.04	0.0672	0.080	2.34	0.239
250VT250-30	2.50	0.80	0.0312	0.0296	33	0.234	0.310	0.233	1.150	0.161	0.097	0.828	0.190	0.102	2.01	-1.88	0.0761	0.199	2.35	0.363
362VT250-30	2.50	0.92	0.0312	0.0296	33	0.270	0.673	0.356	1.580	0.181	0.102	0.820	0.437	0.167	3.30	-1.71	0.0875	0.449	2.47	0.521
400VT250-30	2.50	0.96	0.0312	0.0296	33	0.281	0.831	0.400	1.720	0.187	0.104	0.816	0.548	0.185	3.66	-1.66	0.0913	0.560	2.52	0.568
600VT250-30	2.50	1.17	0.0312	0.0296	33	0.344	2.030	0.659	2.430	0.211	0.110	0.784	1.330	0.275	5.43	-1.44	0.1120	1.400	2.93	0.758
162VT250-33	2.50	0.78	0.0346	0.0329	33	0.230	0.145	0.163	0.796	0.155	0.100	0.821	0.088	0.066	1.31	-2.04	0.0917	0.089	2.34	0.239
250VT250-33	2.50	0.89	0.0346	0.0329	33	0.260	0.344	0.258	1.150	0.178	0.107	0.827	0.218	0.117	2.32	-1.88	0.1040	0.221	2.35	0.363
362VT250-33	2.50	1.02	0.0346	0.0329	33	0.299	0.748	0.395	1.580	0.201	0.114	0.820	0.498	0.198	3.92	-1.71	0.1190	0.498	2.47	0.522
400VT250-33	2.50	1.06	0.0346	0.0329	33	0.312	0.923	0.443	1.720	0.207	0.115	0.815	0.623	0.226	4.46	-1.66	0.1240	0.621	2.52	0.569
600VT250-33	2.50	1.30	0.0346	0.0329	33	0.381	2.250	0.730	2.430	0.234	0.122	0.783	1.580	0.336	6.64	-1.44	0.1520	1.550	2.93	0.759
VIPERTRACK 3.00" LEG																				
162VT300-20	3.00	0.53	0.0205	0.0195	57	0.157	0.100	0.114	0.801	0.151	0.083	0.981	0.041	0.028	0.95	-2.53	0.0219	0.087	2.83	0.200
250VT300-20	3.00	0.59	0.0205	0.0195	57	0.175	0.237	0.180	1.170	0.173	0.089	0.995	0.098	0.041	1.39	-2.36	0.0245	0.216	2.81	0.298
362VT300-20	3.00	0.67	0.0205	0.0195	57	0.198	0.512	0.272	1.610	0.195	0.095	0.994	0.207	0.060	2.05	-2.17	0.0277	0.484	2.87	0.433
400VT300-21	3.00	0.75	0.0220	0.0209	57	0.220	0.677	0.327	1.750	0.216	0.103	0.991	0.284	0.076	2.58	-2.11	0.0355	0.647	2.92	0.477
600VT300-21 ⁶	3.00	0.90	0.0220	0.0209	57	0.264	1.630	0.532	2.490	0.245	0.109	0.964	0.653	0.115	3.92	-1.86	0.0426	1.610	3.25	0.673
162VT300-30	3.00	0.81	0.0312	0.0296	33	0.238	0.155	0.174	0.805	0.229	0.126	0.980	0.081	0.058	1.15	-2.53	0.0773	0.134	2.83	0.201
250VT300-30	3.00	0.90	0.0312	0.0296	33	0.266	0.363	0.274	1.170	0.262	0.135	0.993	0.204	0.104	2.06	-2.35	0.0862	0.329	2.80	0.299
362VT300-30	3.00	1.02	0.0312	0.0296	33	0.301	0.783	0.414	1.610	0.296	0.144	0.992	0.469	0.165	3.25	-2.16	0.0976	0.738	2.87	0.435
400VT300-30	3.00	1.06	0.0312	0.0296	33	0.312	0.964	0.464	1.760	0.306	0.146	0.989	0.587	0.183	3.61	-2.10	0.1010	0.918	2.91	0.479
600VT300-30	3.00	1.28	0.0312	0.0296	33	0.375	2.320	0.754	2.490	0.347	0.155	0.962	1.380	0.274	5.41	-1.85	0.1220	2.290	3.25	0.674
162VT300-33	3.00	0.90	0.0346	0.0329	33	0.264	0.172	0.192	0.807	0.254	0.139	0.979	0.094	0.068	1.34	-2.52	0.1050	0.149	2.82	0.202
250VT300-33	3.00	1.00	0.0346	0.0329	33	0.295	0.404	0.303	1.170	0.290	0.150	0.993	0.234	0.120	2.38	-2.35	0.1180	0.366	2.80	0.300
362VT300-33	3.00	1.14	0.0346	0.0329	33	0.334	0.869	0.459	1.620	0.328	0.159	0.992	0.535	0.200	3.96	-2.16	0.1330	0.819	2.87	0.436
400VT300-33	3.00	1.18	0.0346	0.0329	33	0.347	1.070	0.514	1.760	0.339	0.162	0.988	0.669	0.223	4.40	-2.10	0.1380	1.020	2.91	0.480
600VT300-33	3.00	1.41	0.0346	0.0329	33	0.416	2.580	0.836	2.490	0.384	0.171	0.961	1.640	0.334	6.60	-1.85	0.1660	2.540	3.25	0.675

- Notes:
1. Section properties are in accordance with AISI S100-07.
 2. Cold-work of forming is not included.
 3. The effective moment of inertia for deflection is calculated based on AISI S100-07 procedure 1 for serviceability determination.
 4. The center line bend radius is greater of 2 times the design thickness or 3/32.
 5. Web depth-to-thickness ratio exceeds 200.
 6. Web depth-to-thickness ratio exceeds 260.



For more information, please contact Telling® Industries at 1-866-372-6384

This technical information reflects the most current information available and supersedes any and all previous publications effective November 12, 2012. #TEL3 11/2012.

COMPOSITE LIMITING HEIGHTS - 5/8" TYPE X³



MODEL NO.	DEPTH	GAUGE	MEMBER DESIGNATION	DESIGN (in)	MIN (in)	YIELD (ksi)	SPACING O.C. (in)	5 PSF			7.5 PSF			10 PSF		
								L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
VIPER25	1-5/8"	25EQ	162VS125-15	0.0155	0.0147	50	12	13'-9"	11'-4"	9'-10"	12'-0"	9'-11"	8'-3"	10'-11"	8'-10"	--
			162VS125-15	0.0155	0.0147	50	16	12'-6"	10'-4"	8'-8"	10'-11"	8'-10"	--	9'-11"	7'-11"	--
			162VS125-15	0.0155	0.0147	50	24	10'-11"	8'-10"	--	9'-5"	--	--	8'-2"	--	--
	2-1/2"	25EQ	250VS125-15	0.0155	0.0147	50	12	17'-3"	14'-5"	12'-9"	15'-0"	12'-7"	11'-1"	13'-8"	11'-6"	10'-1"
			250VS125-15	0.0155	0.0147	50	16	15'-8"	13'-1"	11'-7"	13'-8"	11'-6"	10'-1"	12'-3"	10'-5"	8'-9"
			250VS125-15	0.0155	0.0147	50	24	13'-8"	11'-6"	10'-1"	11'-6"	10'-0"	8'-2"	10'-0"	8'-8"	--
	3-5/8"	25EQ	362VS125-15	0.0155	0.0147	50	12	20'-10"	17'-3"	15'-2"	18'-2"	15'-1"	13'-3"	15'-10"	13'-9"	12'-0"
			362VS125-15	0.0155	0.0147	50	16	18'-11"	15'-9"	13'-9"	15'-10"	13'-9"	12'-0"	13'-9"	12'-6"	10'-11"
			362VS125-15	0.0155	0.0147	50	24	15'-10"	13'-9"	12'-0"	12'-11"	12'-0"	10'-6"	11'-3"	10'-11"	9'-6"
	4"	25EQ	400VS125-15	0.0155	0.0147	50	12	22'-1"	18'-3"	16'-3"	19'-3"	15'-11"	14'-2"	16'-8"	14'-6"	12'-11"
			400VS125-15	0.0155	0.0147	50	16	20'-1"	16'-7"	14'-9"	16'-8"	14'-6"	12'-11"	14'-5"	13'-2"	11'-9"
			400VS125-15	0.0155	0.0147	50	24	16'-8"	14'-6"	12'-11"	13'-7"	12'-8"	11'-3"	11'-9"	11'-6"	10'-1"
6"	25EQ	600VS125-15	0.0155	0.0147	50	12	24'-8"	23'-9"	21'-1"	22'-3"	20'-9"	18'-5"	20'-0"	18'-10"	16'-9"	
		600VS125-15	0.0155	0.0147	50	16	22'-11"	21'-7"	19'-2"	20'-0"	18'-10"	16'-9"	17'-5"	17'-2"	15'-3"	
		600VS125-15	0.0155	0.0147	50	24	20'-1"	18'-10"	16'-9"	16'-5"	16'-5"	14'-8"	14'-2"	14'-2"	13'-0"	
VIPER20	1-5/8"	20EQ	162VS125-20	0.0205	0.0195	57	12	14'-3"	11'-3"	9'-10"	12'-5"	9'-10"	8'-5"	11'-3"	8'-10"	--
			162VS125-20	0.0205	0.0195	57	16	12'-11"	10'-3"	8'-10"	11'-3"	8'-10"	--	10'-3"	7'-11"	--
			162VS125-20	0.0205	0.0195	57	24	11'-3"	8'-10"	--	9'-10"	--	--	8'-10"	--	--
	2-1/2"	20EQ	250VS125-20	0.0205	0.0195	57	12	17'-11"	14'-10"	13'-2"	15'-8"	13'-0"	11'-6"	14'-3"	11'-10"	10'-5"
			250VS125-20	0.0205	0.0195	57	16	16'-4"	13'-6"	12'-0"	14'-3"	11'-10"	10'-5"	12'-11"	10'-9"	9'-4"
			250VS125-20	0.0205	0.0195	57	24	14'-3"	11'-10"	10'-5"	12'-5"	10'-4"	8'-9"	11'-3"	9'-2"	--
	3-5/8"	20EQ	362VS125-20	0.0205	0.0195	57	12	21'-10"	17'-11"	15'-9"	19'-1"	15'-8"	13'-9"	17'-4"	14'-3"	12'-6"
			362VS125-20	0.0205	0.0195	57	16	19'-10"	16'-4"	14'-4"	17'-4"	14'-3"	12'-6"	15'-4"	12'-11"	11'-4"
			362VS125-20	0.0205	0.0195	57	24	17'-4"	14'-3"	12'-6"	14'-6"	12'-5"	10'-11"	12'-7"	11'-4"	9'-11"
	4"	20EQ	400VS125-21	0.0220	0.0209	57	12	24'-0"	19'-1"	16'-8"	21'-0"	16'-8"	14'-7"	19'-1"	15'-2"	13'-3"
			400VS125-21	0.0220	0.0209	57	16	21'-10"	17'-4"	15'-2"	19'-1"	15'-2"	13'-3"	17'-4"	13'-9"	12'-0"
			400VS125-21	0.0220	0.0209	57	24	19'-1"	15'-2"	13'-3"	16'-8"	13'-3"	11'-7"	14'-11"	12'-0"	10'-5"
6"	20EQ	600VS125-21	0.0220	0.0209	57	12	29'-1"	25'-7"	22'-6"	25'-10"	22'-4"	19'-8"	23'-8"	20'-4"	17'-11"	
		600VS125-21	0.0220	0.0209	57	16	26'-9"	23'-3"	20'-6"	23'-8"	20'-4"	17'-11"	21'-9"	18'-6"	16'-3"	
		600VS125-21	0.0220	0.0209	57	24	23'-8"	20'-4"	17'-11"	20'-11"	17'-9"	15'-7"	18'-2"	16'-2"	14'-2"	
VIPER 30mil	1-5/8"	20DW	162VS125-30	0.0312	0.0296	33	12	14'-7"	11'-6"	10'-0"	12'-9"	10'-0"	8'-6"	11'-7"	8'-11"	--
			162VS125-30	0.0312	0.0296	33	16	13'-3"	10'-5"	8'-11"	11'-7"	8'-11"	--	10'-6"	7'-10"	--
			162VS125-30	0.0312	0.0296	33	24	11'-7"	8'-11"	--	10'-1"	--	--	8'-10"	--	--
	2-1/2"	20DW	250VS125-30	0.0312	0.0296	33	12	18'-9"	14'-10"	13'-0"	16'-4"	13'-0"	11'-4"	14'-10"	11'-10"	10'-4"
			250VS125-30	0.0312	0.0296	33	16	17'-0"	13'-6"	11'-10"	14'-10"	11'-10"	10'-4"	13'-6"	10'-9"	9'-3"
			250VS125-30	0.0312	0.0296	33	24	14'-10"	11'-10"	10'-4"	12'-9"	10'-4"	8'-10"	11'-0"	9'-3"	--
	3-5/8"	20DW	362VS125-30	0.0312	0.0296	33	12	23'-3"	18'-6"	16'-2"	20'-4"	16'-2"	14'-1"	18'-6"	14'-8"	12'-10"
			362VS125-30	0.0312	0.0296	33	16	21'-2"	16'-9"	14'-8"	18'-6"	14'-8"	12'-10"	16'-4"	13'-4"	11'-6"
			362VS125-30	0.0312	0.0296	33	24	18'-6"	14'-8"	12'-10"	15'-4"	12'-10"	11'-0"	13'-4"	11'-6"	9'-11"
	4"	20DW	400VS125-30	0.0312	0.0296	33	12	25'-2"	20'-0"	17'-6"	22'-0"	17'-6"	15'-3"	19'-5"	15'-11"	13'-10"
			400VS125-30	0.0312	0.0296	33	16	22'-11"	18'-2"	15'-11"	19'-5"	15'-11"	13'-10"	16'-10"	14'-5"	12'-7"
			400VS125-30	0.0312	0.0296	33	24	19'-5"	15'-11"	13'-10"	15'-10"	13'-10"	12'-1"	13'-9"	12'-7"	10'-11"
6"	20DW	600VS125-30	0.0312	0.0296	33	12	31'-10"	26'-9"	23'-4"	26'-0"	23'-4"	20'-5"	22'-6"	21'-3"	18'-6"	
		600VS125-30	0.0312	0.0296	33	16	27'-7"	24'-3"	21'-3"	22'-6"	21'-3"	18'-6"	19'-6"	19'-3"	16'-10"	
		600VS125-30	0.0312	0.0296	33	24	22'-6"	21'-3"	18'-6"	18'-5"	18'-5"	16'-2"	15'-11"	15'-11"	14'-8"	
VIPER 33mil	1-5/8"	20STR	162VS125-33	0.0346	0.0329	33	12	14'-11"	11'-10"	10'-4"	13'-0"	10'-4"	8'-10"	11'-10"	9'-4"	--
			162VS125-33	0.0346	0.0329	33	16	13'-6"	10'-9"	9'-4"	11'-10"	9'-4"	--	10'-9"	8'-4"	--
			162VS125-33	0.0346	0.0329	33	24	11'-10"	9'-4"	--	10'-4"	--	--	9'-4"	--	--
	2-1/2"	20STR	250VS125-33	0.0346	0.0329	33	12	19'-4"	15'-4"	13'-5"	16'-10"	13'-5"	11'-8"	15'-4"	12'-2"	10'-8"
			250VS125-33	0.0346	0.0329	33	16	17'-7"	13'-11"	12'-2"	15'-4"	12'-2"	10'-8"	13'-11"	11'-0"	9'-8"
			250VS125-33	0.0346	0.0329	33	24	15'-4"	12'-2"	10'-8"	13'-5"	10'-8"	9'-2"	12'-0"	9'-8"	--
	3-5/8"	20STR	362VS125-33	0.0346	0.0329	33	12	23'-10"	18'-11"	16'-6"	20'-10"	16'-6"	14'-5"	18'-11"	15'-0"	13'-1"
			362VS125-33	0.0346	0.0329	33	16	21'-8"	17'-2"	15'-0"	18'-11"	15'-0"	13'-1"	17'-2"	13'-8"	11'-10"
			362VS125-33	0.0346	0.0329	33	24	18'-11"	15'-0"	13'-1"	16'-6"	13'-1"	11'-4"	14'-4"	11'-10"	10'-3"
	4"	20STR	400VS125-33	0.0346	0.0329	33	12	25'-8"	20'-4"	17'-10"	22'-5"	17'-10"	15'-7"	20'-4"	16'-2"	14'-1"
			400VS125-33	0.0346	0.0329	33	16	23'-4"	18'-6"	16'-2"	20'-4"	16'-2"	14'-1"	18'-4"	14'-8"	12'-10"
			400VS125-33	0.0346	0.0329	33	24	20'-4"	16'-2"	14'-1"	17'-3"	14'-2"	12'-4"	15'-0"	12'-10"	11'-2"
6"	20STR	600VS125-33	0.0346	0.0329	33	12	34'-5"	27'-7"	24'-1"	28'-1"	24'-1"	21'-1"	24'-4"	21'-11"	19'-2"	
		600VS125-33	0.0346	0.0329	33	16	29'-10"	25'-1"	21'-11"	24'-4"	21'-11"	19'-2"	21'-1"	19'-11"	17'-5"	
		600VS125-33	0.0346	0.0329	33	24	24'-4"	21'-11"	19'-2"	19'-11"	19'-2"	16'-9"	17'-2"	17'-2"	15'-2"	

Notes:

1. Viper composite limiting heights are based on testing in accordance with ICC-ES acceptance criteria AC86-2010.
2. No screws are required between stud and track, except as required by ASTM C754.
3. Viper composite limiting heights based on a single layer of 5/8" type X gypsum board applied to both sides of the wall over full height. 5/8" Type X wallboard from the following manufacturers are acceptable: USG, National, Georgia Pacific, Temple Inland, CertainTeed, American and Lafarge.

For more information, please contact Telling® Industries at 1-866-372-6384

This technical information reflects the most current information available and supersedes any and all previous publications effective November 12, 2012. #TEL3 11/2012.

NON-COMPOSITE LIMITING HEIGHTS - FULLY BRACED



MODEL NO.	DEPTH	GAUGE	MEMBER	DESIGN (in)	MIN (in)	YIELD (ksi)	SPACING O.C. (in)	5 PSF			7.5 PSF			10 PSF		
								L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
VIPER25	1-5/8"	25EQ	162VS125-15	0.0155	0.0147	50	12	9'-5" f	7'-6" f	6'-7" f	7'-8" f	6'-7" f	--	6'-7" f	6'-0" f	--
			162VS125-15	0.0155	0.0147	50	16	8'-1" f	6'-10" f	6'-0" f	6'-7" f	6'-0" f	--	--	--	--
			162VS125-15	0.0155	0.0147	50	24	6'-7" f	6'-0" f	--	--	--	--	--	--	--
	2-1/2"	25EQ	250VS125-15	0.0155	0.0147	50	12	12'-6" f	10'-7" f	9'-2" f	10'-2" f	9'-2" f	8'-1" f	8'-10" f	8'-5" f	7'-4" f
			250VS125-15	0.0155	0.0147	50	16	10'-10" f	9'-7" f	8'-5" f	8'-10" f	8'-5" f	7'-4" f	7'-8" f	7'-7" f	6'-8" f
			250VS125-15	0.0155	0.0147	50	24	8'-10" f	8'-5" f	7'-4" f	7'-1" w	7'-1" w	6'-5" f	--	--	--
	3-5/8"	25EQ	362VS125-15	0.0155	0.0147	50	12	14'-7" f	13'-11" f	12'-1" f	11'-11" f	11'-11" f	10'-7" f	10'-4" f	10'-4" f	9'-7" f
			362VS125-15	0.0155	0.0147	50	16	12'-8" f	12'-7" f	11'-0" f	10'-4" f	10'-4" f	9'-7" f	9'-0" f	9'-0" f	8'-10" f
			362VS125-15	0.0155	0.0147	50	24	10'-4" f	10'-4" f	9'-7" f	8'-5" f	8'-5" f	8'-5" f	6'-7" w	6'-7" w	6'-7" w
	4"	25EQ	400VS125-15	0.0155	0.0147	50	12	15'-0" f	15'-0" f	13'-1" f	12'-4" f	12'-4" f	11'-5" f	10'-7" f	10'-7" f	10'-5" f
			400VS125-15	0.0155	0.0147	50	16	13'-0" f	13'-0" f	11'-11" f	10'-7" f	10'-7" f	10'-5" f	9'-2" f	9'-2" f	9'-2" f
			400VS125-15	0.0155	0.0147	50	24	10'-7" f	10'-7" f	10'-5" f	8'-6" w	8'-6" w	8'-6" w	6'-5" w	6'-5" w	6'-5" w
	6"	25EQ	600VS125-15	0.0155	0.0147	50	12	17'-8" f	17'-8" f	17'-7" f	14'-1" w	14'-1" w	14'-1" w	10'-7" w	10'-7" w	10'-7" w
			600VS125-15	0.0155	0.0147	50	16	15'-5" f	15'-5" f	15'-5" f	10'-7" w	10'-7" w	10'-7" w	7'-11" w	7'-11" w	7'-11" w
			600VS125-15	0.0155	0.0147	50	24	10'-7" w	10'-7" w	10'-7" w	7'-0" w	7'-0" w	7'-0" w	--	--	--
VIPER20	1-5/8"	20EQ	162VS125-20	0.0205	0.0195	57	12	10'-11" f	8'-8" f	7'-7" f	9'-6" f	7'-7" f	6'-7" f	8'-8" f	6'-11" f	6'-0" f
			162VS125-20	0.0205	0.0195	57	16	9'-11" f	7'-11" f	6'-11" f	8'-8" f	6'-11" f	6'-0" f	7'-8" f	6'-4" f	--
			162VS125-20	0.0205	0.0195	57	24	8'-8" f	6'-11" f	6'-0" f	7'-2" f	6'-0" f	--	6'-4" f	--	--
	2-1/2"	20EQ	250VS125-20	0.0205	0.0195	57	12	15'-0" f	11'-11" f	10'-5" f	13'-1" f	10'-5" f	9'-1" f	11'-8" f	9'-6" f	8'-4" f
			250VS125-20	0.0205	0.0195	57	16	13'-7" f	10'-10" f	9'-6" f	11'-8" f	9'-6" f	8'-4" f	10'-1" f	8'-7" f	7'-6" f
			250VS125-20	0.0205	0.0195	57	24	11'-8" f	9'-6" f	8'-4" f	9'-6" f	8'-4" f	7'-2" f	8'-4" f	7'-6" f	6'-7" f
	3-5/8"	20EQ	362VS125-20	0.0205	0.0195	57	12	19'-6" f	15'-10" f	13'-10" f	15'-11" f	13'-10" f	12'-6" f	13'-10" f	12'-6" f	10'-11" f
			362VS125-20	0.0205	0.0195	57	16	16'-11" f	14'-4" f	12'-6" f	13'-10" f	12'-6" f	10'-11" f	11'-11" f	11'-5" f	9'-11" f
			362VS125-20	0.0205	0.0195	57	24	13'-10" f	12'-6" f	10'-11" f	11'-2" f	10'-11" f	9'-6" f	9'-8" f	9'-8" f	8'-8" f
	4"	20EQ	400VS125-21	0.0220	0.0209	57	12	21'-6" f	17'-0" f	14'-11" f	18'-1" f	14'-11" f	13'-0" f	15'-8" f	13'-6" f	11'-10" f
			400VS125-21	0.0220	0.0209	57	16	19'-2" f	15'-6" f	13'-6" f	15'-8" f	13'-6" f	11'-10" f	13'-7" f	12'-4" f	10'-8" f
			400VS125-21	0.0220	0.0209	57	24	15'-8" f	13'-6" f	11'-10" f	12'-10" f	11'-10" f	10'-4" f	11'-1" f	10'-8" f	9'-5" f
	6"	20EQ	600VS125-21	0.0220	0.0209	57	12	26'-0" f	22'-6" f	19'-8" f	21'-2" f	19'-8" f	17'-2" f	18'-5" f	17'-11" f	15'-7" f
			600VS125-21	0.0220	0.0209	57	16	22'-6" f	20'-5" f	17'-11" f	18'-5" f	17'-11" f	15'-7" f	15'-11" f	15'-11" f	14'-2" f
			600VS125-21	0.0220	0.0209	57	24	18'-5" f	17'-11" f	15'-7" f	15'-0" f	15'-0" f	13'-7" f	12'-1" w	12'-1" w	12'-1" w
VIPER 30mil	1-5/8"	20DW	162VS125-30	0.0312	0.0296	33	12	11'-8" f	9'-4" f	8'-1" f	10'-2" f	8'-1" f	7'-1" f	9'-4" f	7'-5" f	6'-6" f
			162VS125-30	0.0312	0.0296	33	16	10'-8" f	8'-6" f	7'-5" f	9'-4" f	7'-5" f	6'-6" f	8'-1" f	6'-8" f	--
			162VS125-30	0.0312	0.0296	33	24	9'-4" f	7'-5" f	6'-6" f	7'-8" f	6'-6" f	--	6'-7" f	--	--
	2-1/2"	20DW	250VS125-30	0.0312	0.0296	33	12	16'-2" f	12'-11" f	11'-4" f	14'-2" f	11'-4" f	9'-10" f	12'-5" f	10'-2" f	8'-11" f
			250VS125-30	0.0312	0.0296	33	16	14'-8" f	11'-8" f	10'-2" f	12'-5" f	10'-2" f	8'-11" f	10'-8" f	9'-4" f	8'-1" f
			250VS125-30	0.0312	0.0296	33	24	12'-5" f	10'-2" f	8'-11" f	10'-1" f	8'-11" f	7'-10" f	8'-10" f	8'-1" f	7'-1" f
	3-5/8"	20DW	362VS125-30	0.0312	0.0296	33	12	21'-4" f	17'-2" f	15'-0" f	17'-5" f	15'-0" f	13'-1" f	15'-0" f	13'-7" f	11'-11" f
			362VS125-30	0.0312	0.0296	33	16	18'-5" f	15'-7" f	13'-7" f	15'-0" f	13'-7" f	11'-11" f	13'-0" f	12'-5" f	10'-10" f
			362VS125-30	0.0312	0.0296	33	24	15'-0" f	13'-7" f	11'-11" f	12'-4" f	11'-11" f	10'-5" f	10'-7" f	10'-7" f	9'-5" f
	4"	20DW	400VS125-30	0.0312	0.0296	33	12	22'-6" f	18'-6" f	16'-2" f	18'-4" f	16'-2" f	14'-1" f	15'-11" f	14'-8" f	12'-11" f
			400VS125-30	0.0312	0.0296	33	16	19'-5" f	16'-10" f	14'-8" f	15'-11" f	14'-8" f	12'-11" f	13'-8" f	13'-5" f	11'-8" f
			400VS125-30	0.0312	0.0296	33	24	15'-11" f	14'-8" f	12'-11" f	13'-0" f	12'-11" f	11'-2" f	11'-2" f	11'-2" f	10'-2" f
	6"	20DW	600VS125-30	0.0312	0.0296	33	12	28'-2" f	25'-4" f	22'-1" f	23'-0" f	22'-1" f	19'-4" f	19'-11" f	19'-11" f	17'-6" f
			600VS125-30	0.0312	0.0296	33	16	24'-5" f	23'-0" f	20'-1" f	19'-11" f	19'-11" f	17'-6" f	17'-2" f	17'-2" f	15'-11" f
			600VS125-30	0.0312	0.0296	33	24	19'-11" f	19'-11" f	17'-6" f	16'-4" f	16'-4" f	15'-4" f	12'-5" w	12'-5" w	12'-5" w
VIPER 33mil	1-5/8"	20STR	162VS125-33	0.0346	0.0329	33	12	12'-1" f	9'-7" f	8'-5" f	10'-7" f	8'-5" f	7'-4" f	9'-7" f	7'-7" f	6'-8" f
			162VS125-33	0.0346	0.0329	33	16	11'-0" f	8'-8" f	7'-7" f	9'-7" f	7'-7" f	6'-8" f	8'-8" f	6'-11" f	6'-1" f
			162VS125-33	0.0346	0.0329	33	24	9'-7" f	7'-7" f	6'-8" f	8'-2" f	6'-8" f	--	7'-1" f	6'-1" f	--
	2-1/2"	20STR	250VS125-33	0.0346	0.0329	33	12	16'-10" f	13'-4" f	11'-7" f	14'-8" f	11'-7" f	10'-2" f	13'-4" f	10'-7" f	9'-2" f
			250VS125-33	0.0346	0.0329	33	16	15'-4" f	12'-1" f	10'-7" f	13'-4" f	10'-7" f	9'-2" f	11'-6" f	9'-7" f	8'-5" f
			250VS125-33	0.0346	0.0329	33	24	13'-4" f	10'-7" f	9'-2" f	10'-10" f	9'-2" f	8'-1" f	9'-5" f	8'-5" f	7'-4" f
	3-5/8"	20STR	362VS125-33	0.0346	0.0329	33	12	22'-5" f	17'-10" f	15'-6" f	18'-10" f	15'-6" f	13'-7" f	16'-4" f	14'-1" f	12'-4" f
			362VS125-33	0.0346	0.0329	33	16	19'-11" f	16'-1" f	14'-1" f	16'-4" f	14'-1" f	12'-4" f	14'-1" f	12'-10" f	11'-2" f
			362VS125-33	0.0346	0.0329	33	24	16'-4" f	14'-1" f	12'-4" f	13'-4" f	12'-4" f	10'-10" f	11'-6" f	11'-2" f	9'-10" f
	4"	20STR	400VS125-33	0.0346	0.0329	33	12	24'-2" f	19'-2" f	16'-10" f	19'-10" f	16'-10" f	14'-7" f	17'-2" f	15'-2" f	13'-4" f
			400VS125-33	0.0346	0.0329	33	16	21'-0" f	17'-5" f	15'-2" f	17'-2" f	15'-2" f	13'-4" f	14'-11" f	13'-10" f	12'-1" f
			400VS125-33	0.0346	0.0329	33	24	17'-2" f	15'-2" f	13'-4" f	14'-0" f	13'-4" f	11'-7" f	12'-1" f	12'-1" f	10'-7" f
	6"	20STR	600VS125-33	0.0346	0.0329	33	12	30'-5" f	26'-4" f	23'-0" f	24'-10" f	23'-0" f	20'-1" f	21'-6" f	20'-11" f	18'-2" f
			600VS125-33	0.0346	0.0329	33	16	26'-4" f	23'-11" f	20'-11" f	21'-6" f	20'-11" f	18'-2" f	18'-7" f	18'-7" f	16'-7" f
			600VS125-33	0.0346	0.0329	33	24	21'-6" f	20'-11" f	18'-2" f	17'-6" f	17'-6" f	15'-11" f	15'-2" f	15'-2" f	14'-6" f

"f" - flexure controls; "s" - shear controls; "w" - web crippling controls. No letter next to the number means deflection controls.

- Notes:
- Limiting heights are in accordance with AISI S100-07 using all steel non-composite design.
 - Limiting heights are established by considering flexure, shear, web crippling and deflection.
 - For bending, studs are assumed to be adequately braced to develop full allowable moment. Studs are considered fully braced when unbraced length is less than Lu. See section properties table on page 5 for Lu values.
 - For web crippling, when h/t ≤ 200, the web crippling values are computed based on section C3.4.2 of AISI S100-07, when h/t > 200, the web crippling values are based on testing with a bearing length of 1".
 - No web stiffeners are required for studs with h/t > 200, web crippling and shear values have been confirmed by testing.
 - The factory punchouts are in accordance with section C5 of AISI S201-07. The distance from the center of last punchout to the end of the stud is 12".

NON-COMPOSITE LIMITING HEIGHTS - BRACED 48" O.C.



MODEL NO.	DEPTH	GAUGE	MEMBER DESIGNATION	DESIGN (in)	MIN (in)	YIELD (ksi)	SPACING O.C. (in)	5 PSF			7.5 PSF			10 PSF		
								L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
VIPER25	1-5/8"	25EQ	162VS125-15	0.0155	0.0147	50	12	8'-8" f	7'-6"	6'-7"	7'-1" f	6'-7"	--	6'-1" f	6'-0"	--
			162VS125-15	0.0155	0.0147	50	16	7'-6" f	6'-10"	6'-0"	6'-1" f	6'-0"	--	--	--	--
			162VS125-15	0.0155	0.0147	50	24	6'-1" f	6'-0"	--	--	--	--	--	--	--
	2-1/2"	25EQ	250VS125-15	0.0155	0.0147	50	12	11'-10" f	10'-7"	9'-2"	9'-7" f	9'-2"	8'-1"	8'-5" f	8'-5" f	7'-4"
			250VS125-15	0.0155	0.0147	50	16	10'-2" f	9'-7"	8'-5"	8'-5" f	8'-5" f	7'-4"	7'-2" f	7'-2" f	6'-8"
			250VS125-15	0.0155	0.0147	50	24	8'-5" f	8'-5" f	7'-4"	6'-8" w	6'-8" w	6'-5"	--	--	--
	3-5/8"	25EQ	362VS125-15	0.0155	0.0147	50	12	13'-2" f	13'-2" f	12'-1"	10'-10" f	10'-10" f	10'-7"	9'-4" f	9'-4" f	9'-4" f
			362VS125-15	0.0155	0.0147	50	16	11'-5" f	11'-5" f	11'-0"	9'-4" f	9'-4" f	9'-4" f	7'-10" w	7'-10" w	7'-10" w
			362VS125-15	0.0155	0.0147	50	24	9'-4" f	9'-4" f	9'-4" f	6'-11" w	6'-11" w	6'-11" w	--	--	--
	4"	25EQ	400VS125-15	0.0155	0.0147	50	12	13'-10" f	13'-10" f	13'-1"	11'-4" f	11'-4" f	11'-4" f	9'-10" f	9'-10" f	9'-10" f
			400VS125-15	0.0155	0.0147	50	16	12'-0" f	12'-0" f	11'-11"	9'-10" f	9'-10" f	9'-10" f	7'-5" w	7'-5" w	7'-5" w
			400VS125-15	0.0155	0.0147	50	24	9'-10" f	9'-10" f	9'-10" f	6'-6" w	6'-6" w	6'-6" w	--	--	--
6"	25EQ	600VS125-15	0.0155	0.0147	50	12	14'-1" w	14'-1" w	14'-1" w	9'-5" w	9'-5" w	9'-5" w	7'-1" w	7'-1" w	7'-1" w	
		600VS125-15	0.0155	0.0147	50	16	10'-7" w	10'-7" w	10'-7" w	7'-1" w	7'-1" w	7'-1" w	--	--	--	
		600VS125-15	0.0155	0.0147	50	24	7'-1" w	7'-1" w	7'-1" w	--	--	--	--	--	--	
VIPER20	1-5/8"	20EQ	162VS125-20	0.0205	0.0195	57	12	10'-7" f	8'-8"	7'-7"	8'-7" f	7'-7"	6'-7"	7'-6" f	6'-11"	6'-0"
			162VS125-20	0.0205	0.0195	57	16	9'-2" f	7'-11"	6'-11"	7'-6" f	6'-11"	6'-0"	6'-6" f	6'-4"	--
			162VS125-20	0.0205	0.0195	57	24	7'-6" f	6'-11"	6'-0"	6'-1" f	6'-0"	--	--	--	--
	2-1/2"	20EQ	250VS125-20	0.0205	0.0195	57	12	14'-4" f	11'-11"	10'-5"	11'-8" f	10'-5"	9'-1"	10'-1" f	9'-6"	8'-4"
			250VS125-20	0.0205	0.0195	57	16	12'-5" f	10'-10"	9'-6"	10'-1" f	9'-6"	8'-4"	8'-10" f	8'-7"	7'-6"
			250VS125-20	0.0205	0.0195	57	24	10'-1" f	9'-6"	8'-4"	8'-4" f	8'-4"	7'-2"	7'-2" f	7'-2" f	6'-7"
	3-5/8"	20EQ	362VS125-20	0.0205	0.0195	57	12	16'-2" f	15'-10"	13'-10"	13'-2" f	13'-2" f	12'-0"	11'-5" f	11'-5" f	10'-11"
			362VS125-20	0.0205	0.0195	57	16	14'-0" f	14'-0" f	12'-6"	11'-5" f	11'-5" f	10'-11"	9'-11" f	9'-11" f	9'-11" f
			362VS125-20	0.0205	0.0195	57	24	11'-5" f	11'-5" f	10'-11"	9'-4" f	9'-4" f	9'-4" f	8'-1" f	8'-1" f	8'-1" f
	4"	20EQ	400VS125-21	0.0220	0.0209	57	12	17'-10" f	17'-0"	14'-11"	14'-7" f	14'-7" f	13'-0"	12'-7" f	12'-7" f	11'-10"
			400VS125-21	0.0220	0.0209	57	16	15'-6" f	15'-6" f	13'-6"	12'-7" f	12'-7" f	11'-10"	10'-11" f	10'-11" f	10'-8"
			400VS125-21	0.0220	0.0209	57	24	12'-7" f	12'-7" f	11'-10"	10'-4" f	10'-4" f	10'-4" f	8'-11" f	8'-11" f	8'-11" f
6"	20EQ	600VS125-21	0.0220	0.0209	57	12	23'-1" f	22'-6"	19'-8"	18'-11" f	18'-11" f	17'-2"	16'-5" f	16'-5" f	15'-7"	
		600VS125-21	0.0220	0.0209	57	16	20'-0" f	20'-0" f	17'-11"	16'-5" f	16'-5" f	15'-7"	12'-10" w	12'-10" w	12'-10" w	
		600VS125-21	0.0220	0.0209	57	24	16'-5" f	16'-5" f	15'-7"	11'-5" w	11'-5" w	11'-5" w	8'-7" w	8'-7" w	8'-7" w	
VIPER 30mil	1-5/8"	20DW	162VS125-30	0.0312	0.0296	33	12	11'-10"	9'-4"	8'-2"	10'-4"	8'-2"	7'-1"	8'-11" f	7'-5"	6'-6"
			162VS125-30	0.0312	0.0296	33	16	10'-8"	8'-6"	7'-5"	8'-11" f	7'-5"	6'-6"	7'-8" f	6'-8"	--
			162VS125-30	0.0312	0.0296	33	24	8'-11" f	7'-5"	6'-6"	7'-4" f	6'-6"	--	6'-4" f	--	--
	2-1/2"	20DW	250VS125-30	0.0312	0.0296	33	12	16'-4"	12'-11"	11'-4"	13'-7" f	11'-4"	9'-11"	11'-10" f	10'-4"	9'-0"
			250VS125-30	0.0312	0.0296	33	16	14'-5" f	11'-8"	10'-4"	11'-10" f	10'-4"	9'-0"	10'-2" f	9'-4"	8'-1"
			250VS125-30	0.0312	0.0296	33	24	11'-10" f	10'-4"	9'-0"	9'-7" f	9'-0"	7'-10"	8'-4" f	8'-1"	7'-1"
	3-5/8"	20DW	362VS125-30	0.0312	0.0296	33	12	20'-0" f	17'-2"	15'-0"	16'-4" f	15'-0"	13'-1"	14'-2" f	13'-8"	11'-11"
			362VS125-30	0.0312	0.0296	33	16	17'-4" f	15'-7"	13'-8"	14'-2" f	13'-8"	11'-11"	12'-4" f	12'-4" f	10'-10"
			362VS125-30	0.0312	0.0296	33	24	14'-2" f	13'-8"	11'-11"	11'-7" f	11'-7" f	10'-5"	10'-0" f	10'-0" f	9'-6"
	4"	20DW	400VS125-30	0.0312	0.0296	33	12	21'-1" f	18'-7"	16'-4"	17'-2" f	16'-4"	14'-2"	14'-11" f	14'-10"	12'-11"
			400VS125-30	0.0312	0.0296	33	16	18'-4" f	16'-11"	14'-10"	14'-11" f	14'-10"	12'-11"	12'-11" f	12'-11" f	11'-8"
			400VS125-30	0.0312	0.0296	33	24	14'-11" f	14'-10"	12'-11"	12'-2" f	12'-2" f	11'-4"	10'-7" f	10'-7" f	10'-2"
6"	20DW	600VS125-30	0.0312	0.0296	33	12	28'-0" f	25'-6"	22'-4"	22'-10" f	22'-4"	19'-6"	19'-10" f	19'-10" f	17'-8"	
		600VS125-30	0.0312	0.0296	33	16	24'-2" f	23'-2"	20'-2"	19'-10" f	19'-10" f	17'-8"	17'-1" f	17'-1" f	16'-1"	
		600VS125-30	0.0312	0.0296	33	24	19'-10" f	19'-10" f	17'-8"	15'-7" w	15'-7" w	15'-6"	11'-8" w	11'-8" w	11'-8" w	
VIPER 33mil	1-5/8"	20STR	162VS125-33	0.0346	0.0329	33	12	12'-2"	9'-8"	8'-5"	10'-7"	8'-5"	7'-5"	9'-6" f	7'-8"	6'-8"
			162VS125-33	0.0346	0.0329	33	16	11'-1"	8'-10"	7'-8"	9'-6" f	7'-8"	6'-8"	8'-2" f	7'-0"	6'-1"
			162VS125-33	0.0346	0.0329	33	24	9'-6" f	7'-8"	6'-8"	7'-8" f	6'-8"	--	6'-8" f	6'-1"	--
	2-1/2"	20STR	250VS125-33	0.0346	0.0329	33	12	16'-11"	13'-5"	11'-8"	14'-5" f	11'-8"	10'-2"	12'-6" f	10'-7"	9'-4"
			250VS125-33	0.0346	0.0329	33	16	15'-4" f	12'-2"	10'-7"	12'-6" f	10'-7"	9'-4"	10'-10" f	9'-7"	8'-5"
			250VS125-33	0.0346	0.0329	33	24	12'-6" f	10'-7"	9'-4"	10'-2" f	9'-4"	8'-1"	8'-10" f	8'-5"	7'-5"
	3-5/8"	20STR	362VS125-33	0.0346	0.0329	33	12	21'-4" f	17'-10"	15'-7"	17'-5" f	15'-7"	13'-7"	15'-1" f	14'-1"	12'-5"
			362VS125-33	0.0346	0.0329	33	16	18'-5" f	16'-2"	14'-1"	15'-1" f	14'-1"	12'-5"	13'-0" f	12'-11"	11'-2"
			362VS125-33	0.0346	0.0329	33	24	15'-1" f	14'-1"	12'-5"	12'-4" f	12'-4" f	10'-10"	10'-8" f	10'-8" f	9'-10"
	4"	20STR	400VS125-33	0.0346	0.0329	33	12	22'-6" f	19'-4"	16'-10"	18'-4" f	16'-10"	14'-8"	15'-11" f	15'-4"	13'-4"
			400VS125-33	0.0346	0.0329	33	16	19'-5" f	17'-6"	15'-4"	15'-11" f	15'-4"	13'-4"	13'-10" f	13'-10" f	12'-1"
			400VS125-33	0.0346	0.0329	33	24	15'-11" f	15'-4"	13'-4"	13'-0" f	13'-0" f	11'-8"	11'-2" f	11'-2" f	10'-7"
6"	20STR	600VS125-33	0.0346	0.0329	33	12	29'-10" f	26'-6"	23'-1"	24'-4" f	23'-1"	20'-2"	21'-1" f	21'-0"	18'-5"	
		600VS125-33	0.0346	0.0329	33	16	25'-10" f	24'-1"	21'-0"	21'-1" f	21'-0"	18'-5"	18'-4" f	18'-4" f	16'-8"	
		600VS125-33	0.0346	0.0329	33	24	21'-1" f	21'-0"	18'-5"	17'-2" f	17'-2" f	16'-0"	14'-6" w	14'-6" w	14'-6" w	

"f" - flexure controls; "s" - shear controls; "w" - web crippling controls. No letter next to the number means deflection controls.

Notes:

1. Limiting heights are in accordance with AISI S100-07 using all steel non-composite design.
2. Limiting heights are established by considering flexure, shear, web crippling and deflection.
3. Lateral-Torsional buckling moments are based on section C3.1.2.1 of AISI S100-07, with max discrete bracing of 48" o.c.
4. For web crippling, when h/t ≤ 200, the web crippling values are computed based on section C3.4.2 of AISI S100-07, when h/t > 200, the web crippling values are based on testing with a bearing length of 1".
5. No web stiffeners are required for studs with h/t > 200, web crippling and shear values have been confirmed by testing.
6. The factory punchouts are in accordance with section C5 of AISI S201-07. The distance from the center of last punchout to the end of the stud is 12".



ALLOWABLE CEILING SPANS

L/240			4 PSF Lateral Support of Compression Flange						6 PSF Lateral Support of Compression Flange					
MODEL NO.	MEMBER DESIGNATION	Fy ksi	Unsupported Joist Spacing (in) O.C.			Midspan Joist Spacing (in) O.C.			Unsupported Joist Spacing (in) O.C.			Midspan Joist Spacing (in) O.C.		
			12	16	24	12	16	24	12	16	24	12	16	24
Viper25	162VS125-15	50	7'-3" f	6'-9" f	6'-0" f	8'-1"	7'-4"	6'-5"	6'-6" f	6'-0" f	5'-5" f	7'-1"	6'-5"	5'-7"
	250VS125-15	50	8'-2" f	7'-7" f	6'-10" f	11'-3" f	10'-4"	9'-0" f	7'-4" f	6'-10" f	6'-2" f	10'-0"	9'-0" f	7'-8" f
	362VS125-15	50	9'-1" f	8'-6" f	7'-8" f	12'-0" f	11'-0" f	9'-9" f	8'-3" f	7'-8" f	6'-11" f	10'-8" f	9'-9" f	8'-5" f
	400VS125-15	50	9'-5" f	8'-9" f	7'-10" f	12'-5" f	11'-4" f	10'-0" f	8'-6" f	7'-10" f	7'-1" f	11'-0" f	10'-0" f	8'-9" f
	600VS125-15	50	10'-8" f	9'-11" f	8'-11" f	14'-4" f	13'-2" f	11'-8" f	9'-7" f	8'-11" f	8'-1" f	12'-9" f	11'-8" f	8'-10" w
Viper20	162VS125-20	57	7'-10" f	7'-3" f	6'-6" f	9'-4"	8'-6"	7'-5"	7'-1" f	6'-6" f	5'-10" f	8'-2"	7'-5"	6'-6"
	250VS125-20	57	8'-10" f	8'-2" f	7'-4" f	12'-4" f	11'-4" f	10'-2" f	7'-11" f	7'-4" f	6'-7" f	11'-0" f	10'-2" f	8'-11" f
	362VS125-20	57	9'-10" f	9'-1" f	8'-2" f	13'-6" f	12'-4" f	10'-11" f	8'-10" f	8'-2" f	7'-5" f	11'-11" f	10'-11" f	9'-8" f
	400VS125-21	57	10'-4" f	9'-7" f	8'-7" f	14'-4" f	13'-2" f	11'-7" f	9'-3" f	8'-7" f	7'-9" f	12'-8" f	11'-7" f	10'-3" f
	600VS125-21	57	11'-8" f	10'-10" f	9'-9" f	16'-6" f	15'-3" f	13'-7" f	10'-6" f	9'-9" f	8'-9" f	14'-9" f	13'-7" f	12'-0" f
Viper 30mil	162VS125-30	33	9'-4" f	8'-7" f	7'-8" f	10'-1"	9'-2"	8'-0"	8'-4" f	7'-8" f	6'-10" f	8'-10"	8'-0"	7'-0"
	250VS125-30	33	10'-4" f	9'-6" f	8'-6" f	13'-11"	12'-8"	11'-1"	9'-2" f	8'-6" f	7'-7" f	12'-2"	11'-1"	9'-8"
	362VS125-30	33	11'-4" f	10'-6" f	9'-5" f	16'-0" f	14'-10" f	13'-3" f	10'-2" f	9'-5" f	8'-6" f	14'-4" f	13'-3" f	11'-9" f
	400VS125-30	33	11'-8" f	10'-10" f	9'-8" f	16'-5" f	15'-2" f	13'-7" f	10'-6" f	9'-8" f	8'-9" f	14'-9" f	13'-7" f	12'-1" f
	600VS125-30	33	13'-1" f	12'-2" f	10'-11" f	18'-10" f	17'-6" f	15'-8" f	11'-9" f	10'-11" f	9'-10" f	16'-11" f	15'-8" f	14'-1" f
Viper 33mil	162VS125-33	33	9'-9" f	8'-11" f	7'-11" f	10'-5"	9'-5"	8'-3"	8'-8" f	7'-11" f	7'-1" f	9'-1"	8'-3"	7'-3"
	250VS125-33	33	10'-9" f	9'-10" f	8'-10" f	14'-5"	13'-1"	11'-5"	9'-7" f	8'-10" f	7'-11" f	12'-7"	11'-5"	10'-0"
	362VS125-33	33	11'-9" f	10'-11" f	9'-9" f	16'-7" f	15'-4" f	13'-9" f	10'-7" f	9'-9" f	8'-9" f	14'-10" f	13'-9" f	12'-2" f
	400VS125-33	33	12'-1" f	11'-2" f	10'-0" f	17'-0" f	15'-8" f	14'-1" f	10'-10" f	10'-0" f	9'-0" f	15'-3" f	14'-1" f	12'-7" f
	600VS125-33	33	13'-6" f	12'-6" f	11'-3" f	19'-5" f	18'-0" f	16'-3" f	12'-2" f	11'-3" f	10'-1" f	17'-6" f	16'-3" f	14'-6" f

L/360			4 PSF Lateral Support of Compression Flange						6 PSF Lateral Support of Compression Flange					
MODEL NO.	MEMBER DESIGNATION	Fy ksi	Unsupported Joist Spacing (in) O.C.			Midspan Joist Spacing (in) O.C.			Unsupported Joist Spacing (in) O.C.			Midspan Joist Spacing (in) O.C.		
			12	16	24	12	16	24	12	16	24	12	16	24
Viper25	162VS125-15	50	7'-1"	6'-5"	5'-7"	7'-1"	6'-5"	5'-7"	6'-2"	5'-7"	4'-11"	6'-2"	5'-7"	4'-11"
	250VS125-15	50	8'-2" f	7'-7" f	6'-10" f	10'-0"	9'-0"	7'-11"	7'-4" f	6'-10" f	6'-2" f	8'-8"	7'-11"	6'-11"
	362VS125-15	50	9'-1" f	8'-6" f	7'-8" f	12'-0" f	11'-0" f	9'-9" f	8'-3" f	7'-8" f	6'-11" f	10'-7" f	9'-9" f	8'-5" f
	400VS125-15	50	9'-5" f	8'-9" f	7'-10" f	12'-5" f	11'-4" f	10'-0" f	8'-6" f	7'-10" f	7'-1" f	11'-0" f	10'-0" f	8'-9" f
	600VS125-15	50	10'-8" f	9'-11" f	8'-11" f	14'-4" f	13'-2" f	11'-8" f	9'-7" f	8'-11" f	8'-1" f	12'-9" f	11'-8" f	8'-10" w
Viper20	162VS125-20	57	7'-10" f	7'-3" f	6'-6" f	8'-2"	7'-5"	6'-6"	7'-1" f	6'-6" f	5'-8"	7'-2"	6'-6"	5'-8"
	250VS125-20	57	8'-10" f	8'-2" f	7'-4" f	11'-3"	10'-2"	8'-11"	7'-11" f	7'-4" f	6'-7" f	9'-9"	8'-11"	7'-9"
	362VS125-20	57	9'-10" f	9'-1" f	8'-2" f	13'-6" f	12'-4" f	10'-11" f	8'-10" f	8'-2" f	7'-5" f	11'-11" f	10'-11" f	9'-8" f
	400VS125-21	57	10'-4" f	9'-7" f	8'-7" f	14'-4" f	13'-2" f	11'-7" f	9'-3" f	8'-7" f	7'-9" f	12'-8" f	11'-7" f	10'-3" f
	600VS125-21	57	11'-8" f	10'-10" f	9'-9" f	16'-6" f	15'-3" f	13'-7" f	10'-6" f	9'-9" f	8'-9" f	14'-9" f	13'-7" f	12'-0" f
Viper 30mil	162VS125-30	33	8'-10"	8'-0"	7'-0"	8'-10"	8'-0"	7'-0"	7'-8"	7'-0"	6'-1"	7'-8"	7'-0"	6'-1"
	250VS125-30	33	10'-4" f	9'-6" f	8'-6" f	12'-2"	11'-1"	9'-8"	9'-2" f	8'-6" f	7'-7" f	10'-8"	9'-8"	8'-5"
	362VS125-30	33	11'-4" f	10'-6" f	9'-5" f	16'-0" f	14'-9" f	12'-11" f	10'-2" f	9'-5" f	8'-6" f	14'-2"	12'-11"	11'-3"
	400VS125-30	33	11'-8" f	10'-10" f	9'-8" f	16'-5" f	15'-2" f	13'-7" f	10'-6" f	9'-8" f	8'-9" f	14'-9" f	13'-7" f	12'-1" f
	600VS125-30	33	13'-1" f	12'-2" f	10'-11" f	18'-10" f	17'-6" f	15'-8" f	11'-9" f	10'-11" f	9'-10" f	16'-11" f	15'-8" f	14'-1" f
Viper 33mil	162VS125-33	33	9'-1"	8'-3"	7'-3"	9'-1"	8'-3"	7'-3"	7'-11"	7'-3"	6'-4"	7'-11"	7'-3"	6'-4"
	250VS125-33	33	10'-9" f	9'-10" f	8'-10" f	12'-7"	11'-5"	10'-0"	9'-7" f	8'-10" f	7'-11" f	11'-0"	10'-0"	8'-9"
	362VS125-33	33	11'-9" f	10'-11" f	9'-9" f	16'-7" f	15'-3" f	13'-4" f	10'-7" f	9'-9" f	8'-9" f	14'-8"	13'-4"	11'-8"
	400VS125-33	33	12'-1" f	11'-2" f	10'-0" f	17'-0" f	15'-8" f	14'-1" f	10'-10" f	10'-0" f	9'-0" f	15'-3" f	14'-1" f	12'-7" f
	600VS125-33	33	13'-6" f	12'-6" f	11'-3" f	19'-5" f	18'-0" f	16'-3" f	12'-2" f	11'-3" f	10'-1" f	17'-6" f	16'-3" f	14'-6" f

"f" - flexure controls; "s" - shear controls; "w" - web crippling controls. No letter next to the number means deflection controls.

Ceiling Span Notes:

1. Ceiling Spans are in accordance with AISI S100-07 using all steel non-composite design.
2. Ceiling Spans are established by considering flexure, shear, web crippling and deflection.
3. For web crippling, when h/t ≤ 200, the web crippling values are computed based on section C3.4.2 of AISI S100-07, when h/t > 200, the web crippling values are based on testing with a bearing length of 1".
4. No web stiffeners are required for studs with h/t > 200, web crippling and shear values have been confirmed by testing.
5. All values are for simple spans, with compression flange either unbraced or braced at midspan.
6. Ceiling spans are based on total load of assembly, not including storage or live load for accessible ceilings.
7. The factory punchouts are in accordance with section C5 of AISI S201-07. The distance from the center of last punchout to the end of the stud is 12".



SCREW ALLOWABLE LOADS (lbs.)

MEMBER NO.	DESIGN THICKNESS (in)	MIN THICKNESS (in)	Fy Yield (ksi)	Fu Tensile (ksi)	#6 SCREW (0.138" dia; 0.25" head)			#8 SCREW (0.164" dia; 0.3125" head)			#10 SCREW (0.190" dia; 0.34" head)			C645 SCREW PENETRATION TEST (P, F)
					Shear (lbs)	Pull Out (lbs)	Pull Over (lbs)	Shear (lbs)	Pull Out (lbs)	Pull Over (lbs)	Shear (lbs)	Pull Out (lbs)	Pull Over (lbs)	
Viper25	0.0155	0.0147	50	50	75 ^g	30	97	90 ^g	36	121	93 ^g	42	132	Pass
Viper20 (1-5/8" - 3-5/8")	0.0205	0.0195	57	57	106 ^g	46	146	124 ^g	54	183	130 ^g	63	199	Pass
Viper20 (4" - 6")	0.0220	0.0209	57	57	129 ^g	49	157	141 ^g	58	196	144 ^g	98	213	Pass
Conventional (25ga)	0.0188	0.0179	33	33	44	24	78	48	29	97	52	33	105	--
Conventional (20ga DW) OR Viper 30mil	0.0312	0.0296	33	33	95	40	129	103	48	161	111	55	175	--
Conventional (20ga STR) OR Viper 33mil	0.0346	0.0329	33	33	110	45	143	120	53	178	130	61	194	--

Notes:

1. Capacities are based on section E4 of the AISI S100-07 Specification.
2. Capacities are based on Allowable Strength Design (ASD).
3. Screw pull-out capacities are based on listed head diameter.
4. Two sheets of equal thickness and tensile strength are assumed in tabulated values.
5. When materials of different steel thickness and tensile strength are connected, use the lowest value for shear capacity (tilting and bearing), for pull-out capacity use sheet closest to screw tip and for pull-over capacity use sheet closest to screw head.
6. Where multiple fasteners are used, screws are assumed to have a center-to-center spacing of at least 3 times the nominal diameter.
7. Screws are assumed to have a center-of-screw to edge-of-steel dimension of at least 1.5 times the nominal diameter of the screw.
8. When screws are subjected to combination of shear and tension forces, interaction equation of AISI S100-2007 Specification section E4.5 shall be used.
9. Viper25 & Viper20 shear values are tested per AISI S100-07 and AISI S905, tests conducted by Structural Testing & Research, Inc.

SCREW PENETRATION TESTING (ASTM C 645, ASTM C 1002)

To pass screw penetration tests, studs must be capable of pulling the head of the screw below surface of gypsum board in less than 2 seconds without spin out.

HI-ABUSE/HI-IMPACT – VIPER20

SHEATHING TYPE AND THICKNESS	STEEL FRAMING	SCREW TYPE	DRILL SPEED (RPM)	PASS/FAIL ASTM C-1002
USG 5/8" VHI	3-5/8" Viper20	#6 x 1-1/4" Type S sharp pt	2500 4000	PASS PASS
National Gypsum 5/8" High Impact	3-5/8" Viper20	#6 x 1-1/4" Type S sharp pt	2500 4000	PASS PASS
National Gypsum 5/8" High Abuse	3-5/8" Viper20	#6 x 1-1/4" Type S sharp pt	2500 4000	PASS PASS

Notes:

- Rock-on is a registered trademark of ITW Buildex.
- Durock is a registered trademark of the United States Gypsum Co. (USG)
- Phillips is a registered trademark of the Phillips Screw Co.
- Hi-Abuse, Hi-Impact, and Permabase are registered trademarks of the National Gypsum Co.

CEMENT BOARD – VIPER20

SHEATHING TYPE AND THICKNESS	STEEL FRAMING	SCREW TYPE	DRILL SPEED (RPM)	PASS/FAIL ASTM C-645, SECTION 10
USG 1/2" Durock®	Viper20	#9 Buildex Rock-On	2500 4000	PASS PASS
		#9 Phillips Cement Board	2500 4000	PASS PASS
National Gypsum 5/8" Permabase	Viper20	#9 Buildex Rock-On	2500 4000	PASS PASS
		#9 Phillips Cement Board	2500 4000	PASS PASS

GYPSON BOARD – VIPER25 & VIPER20

SHEATHING TYPE AND THICKNESS	STEEL FRAMING	SCREW TYPE	DRILL SPEED (RPM)	PASS/FAIL
1/2" Type C	Viper25	#6 x 1-1/4"	2500	PASS
5/8" Type X	Viper25	Type S sharp pt	2500	PASS
5/8" Type X	Viper20	Type S sharp pt	2500	PASS



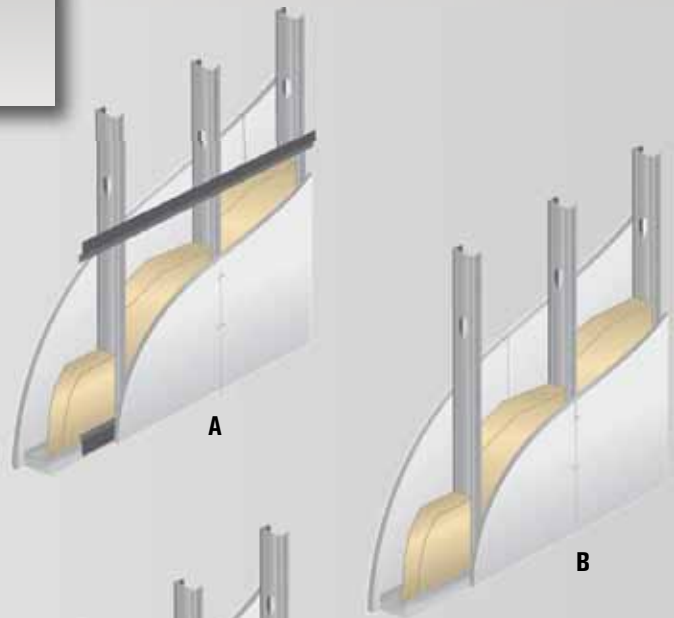
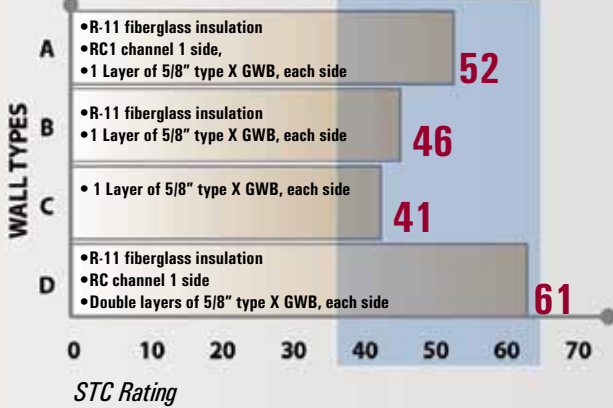


The ViperStud® drywall framing system has been tested to determine the transmission of sound through walls. Acoustic tests were performed using 3-5/8" ViperStud steel studs. The tests were performed according to ASTM E 90 in different configurations.

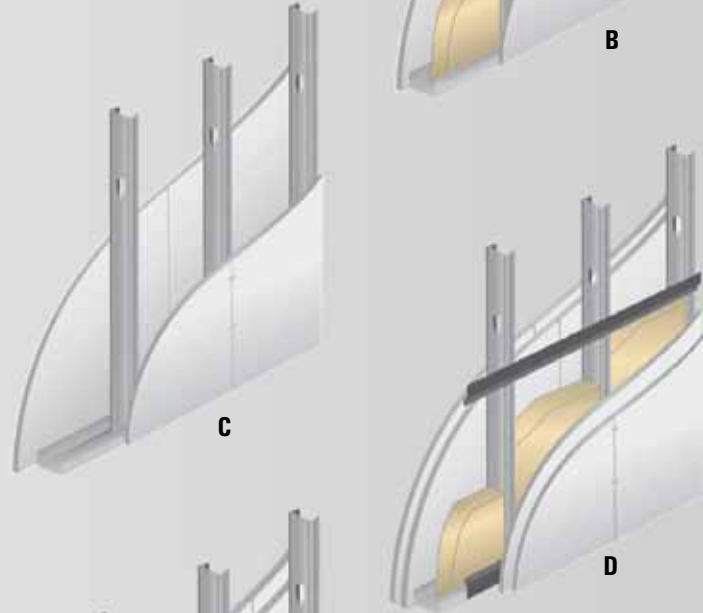
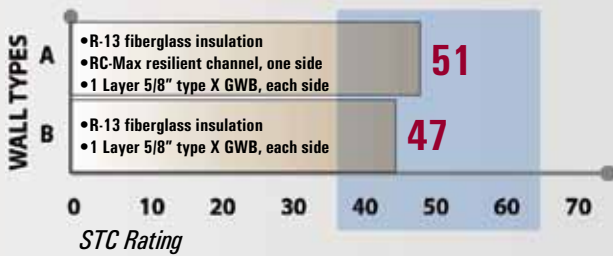
Sound testing performed by Western Electro-Acoustic Laboratory and Architectural Testing, Inc.

WALL TYPES

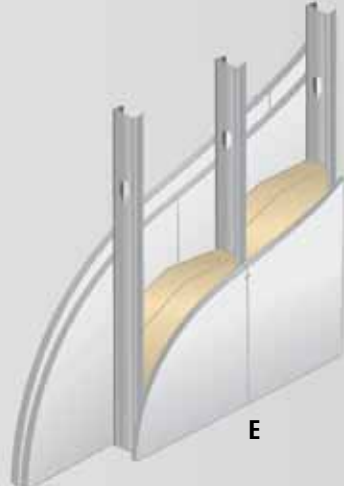
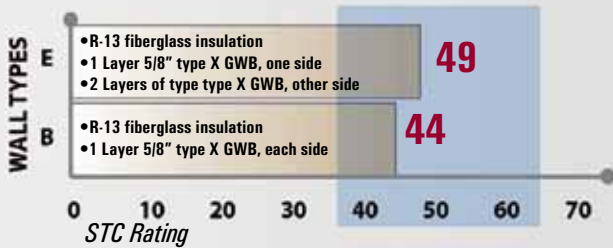
VIPER25 24" O.C.



VIPER25 16" O.C.



VIPER20 16" O.C.

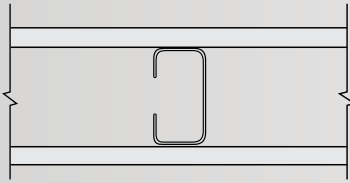




1 HOUR WALL ASSEMBLIES • NON-LOAD BEARING

Viper25 or Viper20- 3-5/8", 4", or 6"

1 Hour Wall Assembly



WALL ASSEMBLIES

- Studs spaced 24" o.c.
- One layer of generic 5/8" Type X gypsum wallboard¹
- No insulation required

Warnock-Hersey Design No. TI/WF 60-02

- The wallboard is oriented horizontally
- Warnock-Hersey Design No. TI/WF 60-04**
- The wallboard is oriented vertically

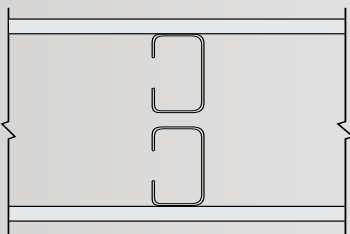
CHASE WALL ASSEMBLIES

- Two rows of ViperStud®
- Studs spaced 24" o.c.
- Can be aligned with a 1" minimum spacing between studs from each row, staggered or staggered and overlapped.
- One layer of generic 5/8" Type X gypsum wallboard¹
- No insulation required

Warnock-Hersey Design No. TI/WF 60-03

- The wallboard is oriented vertically
- Warnock-Hersey Design No. TI/WF 60-05**
- The wallboard is oriented horizontally

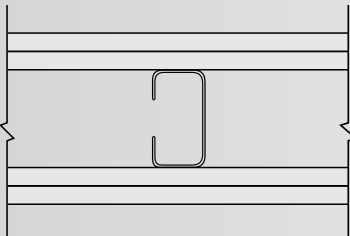
1 Hour Chase Wall Assembly



2 HOUR WALL ASSEMBLIES • NON-LOAD BEARING

Viper25 or Viper20- 1-5/8", 2-1/2", 3-5/8", 4", or 6"

2 Hour Wall Assembly



WALL ASSEMBLIES

- Studs spaced 24" o.c.
- Two layers of generic 5/8" Type X gypsum wallboard¹
- No insulation required

Warnock-Hersey Design No. TI/WF 120-04

- The wallboard is oriented vertically
- Warnock-Hersey Design No. TI/WF 120-05**
- The wallboard is oriented horizontally

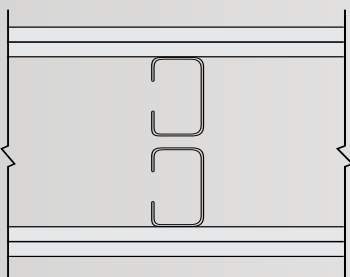
CHASE WALL ASSEMBLIES

- Two rows of ViperStud™ spaced 24" o.c.
- Can be aligned with a 1" minimum spacing between studs from each row, staggered or staggered and overlapped.
- Two layers of generic 5/8" Type X gypsum wallboard¹
- No insulation required

Warnock-Hersey Design No. TI/WF 120-06

- The wallboard is oriented vertically
- Warnock-Hersey Design No. TI/WF 120-07**
- The wallboard is oriented horizontally

2 Hour Chase Wall Assembly



VIPERSTUD® IS FIRE TESTED



FOR EXPANDED UL CLASSIFICATIONS

See these UL Design Assemblies

Viper25 Steel Framing Member
for use in Design Nos. U375, U407, U419, V417, V435, V448, V477, V486, V489, V498

Viper20 Steel Framing Member
for use in Design Nos. U403, U408, U411, U412, U419, U421, U431, U435, U436, U450, U451, U454, U463, U465, U466, U471, U475, U478, U491, U494, U495, U496, V410, V412, V416, V417, V418, V419, V425, V435, V437, V438, V443, V444, V448, V449, V452, V476, V477, V496, V498

¹ 5/8" Generic Type X gypsum wallboard denotes these manufacturers for Warnock Hersey designs: American Gypsum, CertainTeed Gypsum, CGC Inc., Federal Gypsum Company, GP Gypsum, Lafarge North America, National Gypsum Co., PABCO Gypsum, Temple-Inland and United States Gypsum.

IMPACT TESTING (ASTM C 1629)



Test Summary:

All tests were conducted to ASTM C 1629 standard using Test Method ASTM E 695 for Soft Body Impact Tests and ASTM C 1629 Annex 1 for Hard Body Impact Tests. Each test was repeated 3 times as required by the test method and results reported to the ASTM standard published values for Level Classification.

Test Materials:

Steel Studs – Viper20 Stud and track spaced 16” o.c., do not use ViperTrack25 on Viper20 studs for impact resistant walls.

Tests conducted using USG® & National Gypsum® boards.

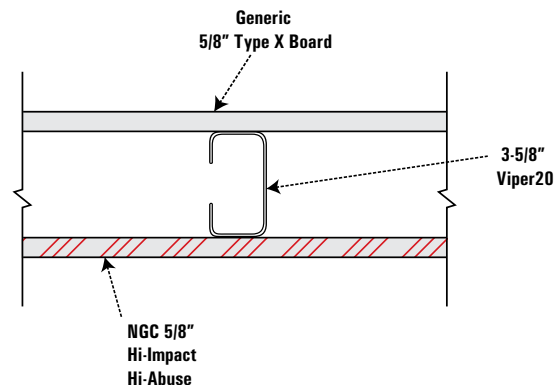
Testing conducted by IAS Certified 3rd party testing lab Intertek Testing Services.

Additional Approved Boards for Viper20

- Certainteed, ProRoc Abuse Resistant & ProRoc Extra Abuse
- Lafarge Gypsum, Protecta AR 100 Abuse Board
- Temple-Inland, ComfortGuard AR & ComfortGuard IR
- Georgia Pacific Dens Brand Panels

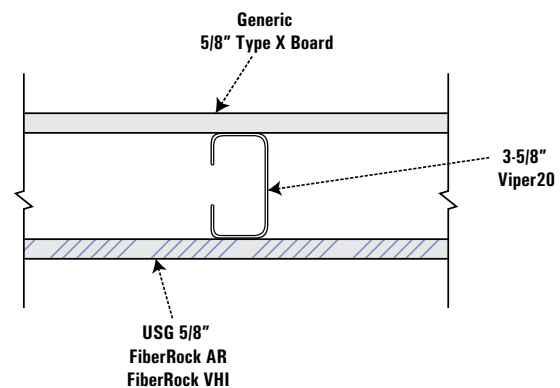
NATIONAL GYPSUM®

Soft Body Impact Test	Board Assembly	Classification
Single Drop	3-5/8” NGC Hi-Abuse	Level 2
Single Drop	3-5/8” NGC Hi-Impact	Level 3
Progressive Drop	3-5/8” NGC Hi-Abuse	Level 1
Progressive Drop	3-5/8” NGC Hi-Impact	Level 3
Single Drop	3-5/8” NGC Hi-Impact	Level 3



USG®

Soft Body Impact Test	Board Assembly	Classification
Single Drop	3-5/8” USG FiberRock AR	Level 2
Progressive Drop	3-5/8” USG FiberRock VHI	Level 3
Single Drop	3-5/8” USG FiberRock AR	Level 1
Single Drop	3-5/8” USG FiberRock VHI	Level 3



Soft body impact test using ViperStud.

- FiberRock VHI & FiberRock AR are registered trademarks of the United States Gypsum Co. (USG)
- Hi-Abuse, Hi-Impact, & Permabase are registered trademarks of the National Gypsum Co.
- ProRoc & ProRoc Extra are registered trademarks of Certainteed.
- Protecta AR 100 is a registered trademark of Lafarge Gypsum.
- ComfortGuard AR & ComfortGuard IR are registered trademarks of Temple-Inland.
- Dens Brand is a trademark of Georgia Pacific.

For more information, please contact Telling® Industries at 1-866-372-6384

This technical information reflects the most current information available and supersedes any and all previous publications effective November 12, 2012. #TEL3 11/2012.





Warranty & Limitations

All products presented herein are warranted to the buyer to be free from defects in material and workmanship. The foregoing warranty is non-assignable and in lieu of and excludes all other warranties not expressly set forth herein, whether express or implied by operation of law or otherwise, including but not limited to any implied warranties of merchantability or fitness for a particular purpose. All details and specifications presented herein are intended as a general guide for the use of Telling® Industries framing systems. These products should not be used without evaluation by a qualified engineer or architect to determine their suitability for a specific use.

Telling® Industries assumes no responsibility for failure resulting from use of its details or specifications, or for failure resulting from improper application or installation of these products.

Governing Law

All issues arising in connection with your order and all transactions associated with it shall be interpreted according to the laws of the State of Ohio, and all actions or other proceedings arising out of such issues shall be brought only in Court of Common Pleas, Lake County, Ohio or United States District Court for the Northern District of Ohio. No action may be brought more than one year after accrual of the cause of action therefore.

ViperStud® is a registered trademark of Ware Industries, Inc.

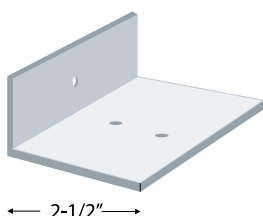


AREA SEPARATION WALL FRAMING

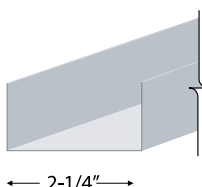
FIRE TESTING AND BUILDING CODE COMPLIANCE

The Georgia-Pacific Gypsum Area Separation Wall has been fire tested to ASTM E 119 and CAN/ULC S-101. The Georgia-Pacific Gypsum 2-hour fire-rated Area Separation Wall assembly, constructed using DensGlass Ultra Shaftliner panels, is listed by Underwriters Laboratory (UL), Underwriters Laboratories of Canada (ULC) and Warnock Hersey International (WHI/ITS) and meets the requirements of the 2006 International Building Code (IBC) Section 705 "Party Walls", and Section 705, "Fire Walls". The Georgia-Pacific Gypsum Area Separation Wall assembly is listed in the UL Fire Resistance Directory under UL Design U 373, the ULC Fire Resistance Directory ULC Design No. W 312 and the WHI Fire Resistance Directory under WHI GP/WA 120-04. For copies of these listings, please contact Georgia-Pacific Gypsum Technical Services at 1-800-225-6119.

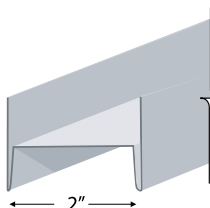
Aluminum Angle Clip



C-Track, Cap, Edge or End Closure



H-Stud, 25-Gauge



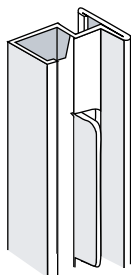
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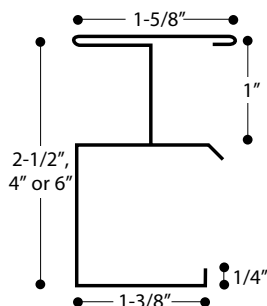


SHAFTWALL FRAMING

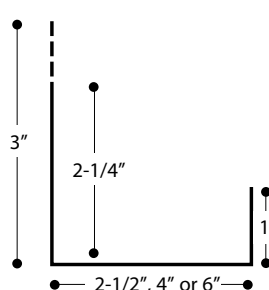
C-T Stud Detail



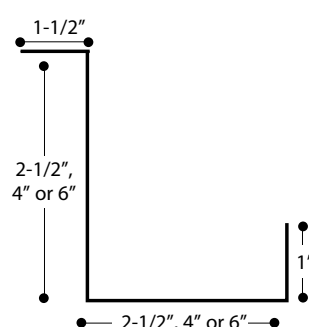
C-T Stud



J Track



J-L Corner



RECOMMENDATIONS

- Use a fastening plate to secure the J track whenever fasteners are closer than 4" to the edge. Setting the plate at the time of concrete construction will avoid spalling by mechanical fasteners.
- Cut C-T, C-H or I studs 3/4" less than the height of the opening.
- Cut 1" DensGlass Ultra® Shaftliner panel 3/4" less than the height of the opening.
- In structural steel-frame construction, install J track sections before applying spray-on fireproofing.
- Items to be anchored to the wall (cabinets, sinks, handrails, etc.) should be fastened to the C-T, C-H or I studs or to plates secured behind or between layers of 1/2" ToughRock® Fireguard® C gypsum board. (See illustration on page 12.)
- Joint compounds should be applied at ambient temperatures above 50°F (10°C) with adequate ventilation.
- Use Type S screws for 25-gauge steel framing. Use Type S-12 screws for 20-gauge (or heavier) steel framing.
- It is important that the job structural engineer approves the type, size and maximum spacing of track fasteners to meet the design load requirements.

SHAFTWALL FRAMING

MAXIMUM HORIZONTAL SPANS

When used as a horizontal membrane, the stud length should not exceed those in the following table.

C-T Stud	Nominal Gauge	Series 623/624/627 2-Hour	
		L/240	L/360
2-1/2"	25	8' - 1"	7' - 1"
2-1/2"	20	9' - 8"	8' - 5"
4"	25	11' - 6"	10' - 0"
4"	20	13' - 7"	11' - 10"
6"	25	15' - 7"	13' - 7"
6"	20	18' - 6"	16' - 2"

Span calculations based on stud properties. Use 20-gauge J track.

MAXIMUM SECTION PROPERTIES

Based on AISI Specifications for the Design of Cold-Formed Steel Structural Members.

C-T Stud Size	T	W	A	I _x	S _x (C)	S _x (T)
2-1/2"-25 gauge	0.0179	0.470	0.118	0.132	0.095	0.118
2-1/2"-20 gauge	0.0329	0.820	0.218	0.242	0.175	0.217
4"-25 gauge	0.0179	0.580	0.145	0.374	0.171	0.207
4"-20 gauge	0.0329	1.020	0.267	0.687	0.341	0.380
6"-25 gauge	0.0179	0.715	0.181	0.957	0.299	0.347
6"-20 gauge	0.0329	1.260	0.333	1.759	0.543	0.637

T = Minimum Uncoated Base Steel Thickness (inches)
W = Weight (pounds per linear foot)
A = Sectional Area (inches²)

I_x = Moment of Inertia (inches⁴)
S_x(C) = Section Modulus 'C' flange (inches³)
S_x(T) = Section Modulus 'T' flange (inches³)

SHAFTWALL LIMITING HEIGHTS FOR 1-, 2- AND 3-HOUR SYSTEMS

C-T Stud Depth	Stud & Track Gauge	Design Deflection Limit	Uniform Load (PSF)							
			For 1-hr.*				For 2- to 3-hr.**			
			5	7.5	10	15	5	7.5	10	15
2.5"	25	L/120	14' - 2"	12' - 5"	11 - 3"	9' - 4"	15' - 6"	13' - 3"	11' - 6"	9' - 5"
		L/180	12' - 5"	10' - 10"	9' - 10"	8' - 7"	13' - 7"	11' - 10"	10' - 9"	9' - 5"
		L/240	11' - 3"	9' - 10"	8' - 11"	7' - 10"	12' - 4"	10' - 9"	9' - 9"	8' - 6"
		L/360	9' - 10"	8' - 7"	7' - 10"	6' - 10"	10' - 9"	9' - 5"	8' - 6"	7' - 6"
2.5"	20	L/120	15' - 10"	13' - 10"	12' - 6"	10' - 11"	17' - 4"	15' - 1"	13' - 9"	12' - 0"
		L/180	13' - 10"	12' - 1"	10' - 11"	9' - 7"	15' - 1"	13' - 2"	12' - 0"	10' - 6"
		L/240	12' - 6"	10' - 11"	9' - 11"	8' - 8"	13' - 9"	12' - 0"	10' - 11"	9' - 6"
		L/360	10' - 11"	9' - 7"	8' - 8"	7' - 7"	12' - 0"	10' - 6"	9' - 6"	8' - 4"
4"	25	L/120	19' - 1"	15' - 11"	13' - 10"	11' - 3"	19' - 7"	15' - 11"	13' - 10"	11' - 3"
		L/180	16' - 8"	14' - 6"	13' - 2"	11' - 3"	18' - 3"	15' - 11"	13' - 10"	11' - 3"
		L/240	15' - 1"	13' - 2"	12' - 0"	10' - 6"	16' - 7"	14' - 5"	13' - 2"	11' - 3"
		L/360	13' - 2"	11' - 6"	10' - 6"	9' - 2"	14' - 5"	12' - 8"	11' - 6"	11' - 3"
4"	20	L/120	21' - 8"	18' - 11"	17' - 2"	15' - 0"	23' - 8"	20' - 8"	18' - 9"	15' - 6"
		L/180	18' - 11"	16' - 6"	15' - 0"	13' - 1"	20' - 8"	18' - 1"	16' - 5"	14' - 4"
		L/240	17' - 2"	15' - 0"	13' - 8"	11' - 11"	18' - 9"	16' - 5"	14' - 11"	13' - 0"
		L/360	15' - 0"	13' - 1"	11' - 11"	10' - 5"	16' - 5"	14' - 4"	13' - 0"	11' - 5"
6"	25	L/120	22' - 7"	18' - 9"	16' - 3"	12' - 0"	22' - 11"	18' - 9"	16' - 3"	12' - 0"
		L/180	19' - 9"	17' - 3"	15' - 8"	12' - 0"	21' - 8"	18' - 9"	16' - 3"	12' - 0"
		L/240	17' - 11"	15' - 8"	14' - 3"	12' - 0"	19' - 8"	17' - 2"	15' - 7"	12' - 0"
		L/360	15' - 8"	13' - 8"	12' - 5"	10' - 10"	17' - 2"	15' - 0"	13' - 8"	11' - 11"
6"	20	L/120	27' - 4"	23' - 11"	21' - 8"	19' - 0"	30' - 0"	26' - 2"	23' - 7"	19' - 3"
		L/180	23' - 11"	21' - 11"	19' - 0"	16' - 7"	26' - 2"	22' - 11"	20' - 9"	18' - 2"
		L/240	21' - 8"	19' - 0"	17' - 3"	15' - 1"	23' - 9"	20' - 9"	18' - 11"	16' - 6"
		L/360	19' - 0"	16' - 7"	15' - 1"	13' - 2"	20' - 9"	18' - 2"	16' - 6"	14' - 5"

* 1-Hr. Rated Series 622 ** 2-Hr. Rated Series 620 or 621 & 3-Hr. Rated Series 630 or 631.

Test Ref: WHI-495-TRL-0206/0225, issued August 4, 1995. C-T studs and J track are same gauge. Based on deflection limits with adjustment to conform to a minimum safety factor of 1.5 for ultimate bending strength and end reaction.

WHI = Warnock Hersey International Testing Laboratory

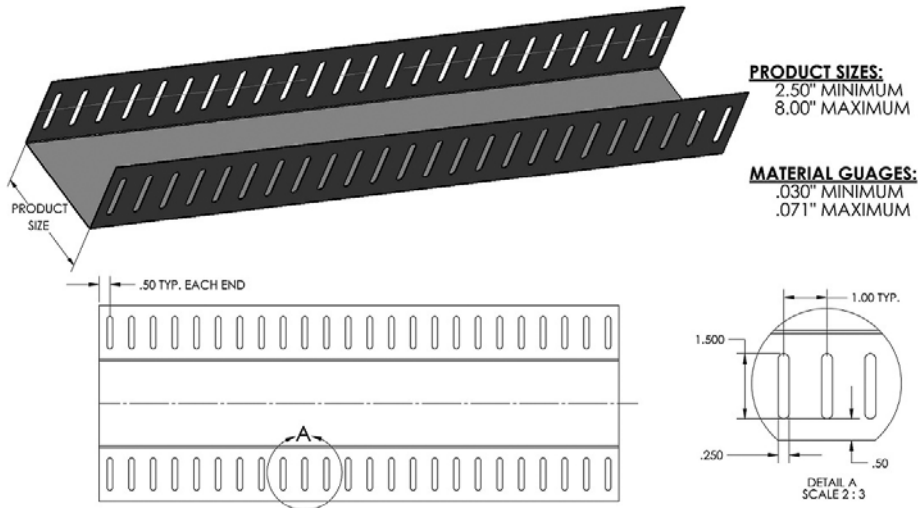
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HEAD OF WALL DEFLECTION SYSTEM

TRUE-ACTION™ SLOTTED TRACK



UL Rated Designs

True-Action Slotted Track framing members for use in Joint System Nos. HW -D-0003, HW -D-0016, HW -D-0020, HW -D-0021, HW -D-0024, HW -D-0025, HW -D-0029, HW -D-0031, HW -D-0034, HW -D-0036, HW -D-0042, HW -D-0043, HW -D-0044, HW -D-0045, HW -D-0046, HW -D-0047, HW -D-0048, HW -D-0049, HW -D-0054, HW -D-0062, HW -D-0063, HW -D-0067, HW -D-0068, HW -D-0069, HW -D-0071, HW -D-0072, HW -D-0073, HW -D-0076, HW -D-0077, HW -D-0082, HW -D-0083, HW -D-0084, HW -D-0085, HW -D-0087, HW -D-0088, HW -D-0089, HW -D-0091, HW -D-0099, HW -D-0101, HW -D-0102, HW -D-0106, HW -D-0107, HW -D-0108, HW -D-0111, HW -D-0134, HW -D-0136, HW -D-0137, HW -D-0144, HW -D-0146, HW -D-0152, HW -D-0154, HW -D-0160, HW -D-0162, HW -D-0167, HW -D-0170, HW -D-0173, HW -D-0183, HW -D-0184, HW -D-0185, HW -D-0186, HW -D-0190, HW -D-0193, HW -D-0194, HW -D-0195, HW -D-0205, HW -D-0210, HW -D-0217, HW -D-0218, HW -D-0241, HW -D-0242, HW -D-0243, HW -D-0246, HW -D-0259, HW -D-0260, HW -D-0263, HW -D-0265, HW -D-0271, HW -D-0272, HW -D-0275, HW -D-0277, HW -D-0278, HW -D-0293, HW -D-0313, HW -D-0322, HW -D-0341, HW -D-0420, HW -D-0421, HW -D-0453, HW -D-0455, HW -D-0461, HW -D-0462, HW -D-0463, HW -D-0467, HW -D-0468, HW -D-0475, HW -D-0476, HW -D-0477, HW -D-0480, HW -D-0485, HW -D-0486, HW -D-0517, HW -D-0532, HW -D-0541, HW -D-0542, HW -D-0548, HW -D-0549, HW -D-0564, HW -D-0569, HW -D-0570, HW -D-0571, HW -D-0572.

Notes:

Details of UL Rated Designs available at www.BuildStrong.com.

Allowable Wall Heights (ft)

Gauge		Strength Fy	Allowable Reaction	Lateral Pressure (psf)											
Mill Thickness	Design Thickness (in)			5 PSF			10 PSF			20 PSF			30 PSF		
				Stud Spacing (in)			Stud Spacing (in)			Stud Spacing (in)			Stud Spacing (in)		
(mils)	(in)	(ksi)	(lb/stud)	12	16	24	12	16	24	12	16	24	12	16	24
33	.0346	33	98	39.2	29.4	19.6	19.6	14.7	9.8	9.8	7.35	4.9	6.533	4.9	3.267
43	.0451	33	172	68.8	51.6	34.4	34.4	25.8	17.2	17.2	12.9	8.6	11.47	8.6	5.733
54	.0566	50	423	169.2	126.9	84.6	84.6	63.45	42.3	42.3	31.73	21.15	28.2	21.15	14.1
68	.0713	50	626	250.4	187.8	125.2	125.2	93.9	62.6	62.6	46.95	31.3	41.73	31.3	20.87

Notes:
 1 Based on testing and analysis by Structural Testing and Research (STaR) Report No. 3160903 dated March 29, 2010 (Amended May 19, 2010)
 2 Testing based on maximum 7/8" gap between end of stud and track web
 3 Testing based on #8 screws ea leg for 33-mil track, #10 ea leg for 43, 54 and 68-mil track. All screws were pan head, 0.43 inch head diameter.
 4 Loads have not been modified for duration of load



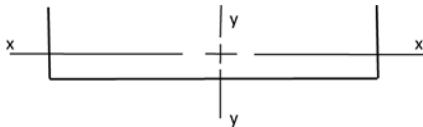
HEAD OF WALL DEFLECTION SYSTEM

TRUE-ACTION SLOTTED TRACK SECTION PROPERTIES

Section	Design thickness (in)	F _y (ksi)	GROSS PROPERTIES ¹							EFFECTIVE PROPERTIES ^{4,5}		
			Area (in ²)	Net Area ₂ (in ²)	Wt. ³ (lb/ft)	I _{xx} (in ⁴)	R _x (in)	I _{yy} (in ⁴)	R _y (in)	S _{yy} (in ³)	S _{yy} (in ³)	M _{ay-y} (in-k)
250TAT250-33	0.0346	33	0.259	0.156	0.88	0.178	0.827	0.339	1.144	0.129	0.087	1.72
250TAT250-43	0.0451	33	0.338	0.203	1.15	0.23	0.826	0.443	1.146	0.168	0.113	2.23
250TAT250-54	0.0566	50	0.424	0.254	1.44	0.287	0.824	0.565	1.155	0.213	0.141	4.22
250TAT250-68	0.0713	50	0.534	0.32	1.82	0.36	0.821	0.728	1.168	0.273	0.177	5.29
350TAT250-33	0.0346	33	0.294	0.19	1	0.198	0.821	0.687	1.528	0.286	0.138	2.73
350TAT250-43	0.0451	33	0.383	0.248	1.3	0.257	0.819	0.896	1.53	0.373	0.185	3.66
350TAT250-54	0.0566	50	0.48	0.311	1.63	0.321	0.817	1.137	1.538	0.471	0.232	6.93
350TAT250-68	0.0713	50	0.605	0.391	2.06	0.401	0.814	1.454	1.55	0.598	0.29	8.69
362TAT250-33	0.0346	33	0.298	0.194	1.01	0.2	0.82	0.74	1.575	0.312	0.144	2.85
362TAT250-43	0.0451	33	0.389	0.253	1.32	0.26	0.818	0.966	1.577	0.406	0.195	3.86
362TAT250-54	0.0566	50	0.487	0.318	1.66	0.324	0.816	1.224	1.585	0.512	0.244	7.32
362TAT250-68	0.0713	50	0.614	0.4	2.09	0.406	0.813	1.565	1.597	0.65	0.306	9.17
400TAT250-33	0.0346	33	0.311	0.207	1.06	0.207	0.815	0.914	1.714	0.396	0.162	3.21
400TAT250-43	0.0451	33	0.405	0.27	1.38	0.268	0.813	1.193	1.715	0.516	0.227	4.49
400TAT250-54	0.0566	50	0.509	0.339	1.73	0.335	0.811	1.511	1.723	0.65	0.284	8.51
400TAT250-68	0.0713	50	0.641	0.427	2.18	0.418	0.808	1.928	1.735	0.825	0.356	10.67
550TAT250-33	0.0346	33	0.363	0.259	1.24	0.228	0.792	1.839	2.251	0.837	0.236	4.66
550TAT250-43	0.0451	33	0.473	0.338	1.61	0.295	0.79	2.399	2.252	1.142	0.34	6.72
550TAT250-54	0.0566	50	0.594	0.424	2.02	0.368	0.788	3.029	2.259	1.436	0.43	12.87
550TAT250-68	0.0713	50	0.748	0.534	2.54	0.46	0.785	3.849	2.269	1.817	0.584	17.48
600TAT250-33	0.0346	33	0.38	0.277	1.29	0.233	0.783	2.236	2.424	1.026	0.26	5.14
600TAT250-43	0.0451	33	0.496	0.36	1.69	0.303	0.781	2.916	2.425	1.407	0.378	7.47
600TAT250-54	0.0566	50	0.622	0.452	2.12	0.377	0.779	3.678	2.432	1.777	0.478	14.31
600TAT250-68	0.0713	50	0.783	0.569	2.67	0.472	0.776	4.67	2.442	2.266	0.655	19.61
800TAT250-33 ⁶	0.0346	33	0.45	0.346	1.53	0.252	0.748	4.318	3.099	2.003	0.358	7.07
800TAT250-43	0.0451	33	0.586	0.451	1.99	0.326	0.746	5.629	3.1	2.801	0.53	10.47
800TAT250-54	0.0566	50	0.735	0.565	2.5	0.407	0.744	7.09	3.106	3.54	0.671	20.1
800TAT250-68	0.0713	50	0.926	0.712	3.15	0.509	0.741	8.978	3.114	4.698	0.942	28.21

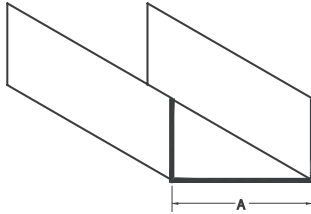
Notes:

- Gross properties are based on the full section away from flange slots
- Net area is based on the section through the flange slots
- Weight is nominal weight of the gross section, not reduced for flange slots.
- Effective properties are calculated in accordance with the 2007 NASPEC with 2010 Supplement (AISI S100-07/S2-10). For effective flange widths, the compression flange (before local buckling) is taken as the portion of the flange between the web and the slot (the slot and any steel beyond the slot is considered absent). The tension flange is taken as the net flange at the slots.
- Cold-work of forming has not been considered for effective properties.
- Web width-to-thickness ratio exceeds 200. Web stiffeners are required at points of concentrated loads or reactions
- IBC 2006, 2009, and 2012 compliant.



BRIDGING AND BRACING

(CRC) Cold-Rolled Channel



Product Data:

- Available in galvanized steel meeting ASTM A1003 or hot-dipped galvanized steel meeting ASTM A653, G60.
- Lengths: 16' stock length. (Other lengths available)

Uses:

- Bridging, (lateral support) in walls carrying axial and/or wind loads.
- Bracing studs at door bucks and furring for ceilings.
- Used in conjunction with metal lath and plaster in partitions, ceilings, column and beam enclosures, etc.

U-Channel (CRC) Properties and Spans

Section	Design Thickness (in)	Area (in ²)	Weight (lb/ft)	Gross				Effective Properties 33 ksi			
				I _x (in ⁴)	R _x (in)	I _y (in ⁴)	R _y (in)	I _x (in ⁴)	S _x (in ³)	M _a (in-k)	V _a (lb)
CRC-075	0.0566	0.087	0.30	0.007	0.288	0.002	0.155	0.007	0.019	0.45	315
CRC-150	0.0566	0.129	0.44	0.039	0.547	0.003	0.144	0.039	0.052	1.22	840
CRC-200	0.0566	0.157	0.54	0.079	0.709	0.003	0.136	0.079	0.079	1.87	1190
CRC-250	0.0566	0.186	0.63	0.139	0.866	0.003	0.128	0.139	0.111	2.64	1540

- Notes:
- 1 Minimum deliverable base metal thickness is 95% of design thickness.
 - 2 Inside bend radius taken as 3/32"
 - 3 Effective properties based on F_y = 33 ksi.
 - 4 For deflection calculations, use the effective moment of inertia.

Allowable U-Channel (CRC) Ceiling Spans - L/240

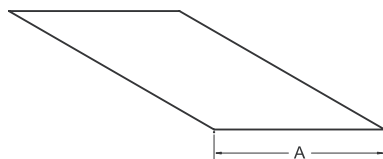
Section	Spans	4 psf					6 psf					13 psf					15 psf														
		Channel Spacing (in) o.c.										Channel Spacing (in) o.c.										Channel Spacing (in) o.c.									
		24	36	48	60	72	24	36	48	60	72	24	36	48	60	72	24	36	48	60	72										
CRC-075	Single	3' 11"	3' 5"	3' 1"	2' 10"	2' 8"	3' 5"	3' 0"	2' 8"	2' 6"	2' 4"	2' 7"	2' 4"	2' 1"	1' 11"	1' 9"	2' 6"	2' 2"	2' 0"	1' 10"	1' 8"										
	Multiple	4' 10"	4' 2"	3' 10"	3' 7"	3' 4"	4' 2"	3' 8"	3' 4"	3' 1"	2' 10"	3' 3"	2' 9"	2' 4"	2' 1"	1' 11"	3' 1"	2' 7"	2' 2"	2' 0"	1' 9"										
CRC-150	Single	5' 6"	4' 10"	4' 5"	4' 1"	3' 10"	4' 10"	4' 3"	3' 10"	3' 7"	3' 5"	3' 9"	3' 3"	3' 0"	2' 9"	2' 7"	3' 7"	3' 2"	2' 10"	2' 7"	2' 5"										
	Multiple	7' 1"	6' 2"	5' 8"	5' 3"	4' 11"	6' 2"	5' 5"	4' 11"	4' 7"	4' 4"	4' 10"	4' 2"	3' 9"	3' 4"	3' 0"	4' 7"	4' 0"	3' 6"	3' 1"	2' 9"										
CRC-200	Single	5' 10"	5' 1"	4' 8"	4' 4"	4' 1"	5' 1"	4' 6"	4' 1"	3' 10"	3' 7"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"	3' 10"	3' 4"	3' 1"	2' 10"	2' 8"										
	Multiple	7' 5"	6' 6"	5' 11"	5' 6"	5' 2"	6' 6"	5' 8"	5' 2"	4' 10"	4' 7"	5' 1"	4' 5"	4' 0"	3' 9"	3' 6"	4' 10"	4' 3"	3' 10"	3' 7"	3' 2"										
CRC-250	Single	6' 1"	5' 4"	4' 10"	4' 6"	4' 3"	5' 4"	4' 8"	4' 3"	4' 0"	3' 9"	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"										
	Multiple	7' 9"	6' 9"	6' 2"	5' 9"	5' 5"	6' 9"	5' 11"	5' 5"	5' 0"	4' 9"	5' 3"	4' 7"	4' 3"	3' 11"	3' 9"	5' 0"	4' 5"	4' 0"	3' 9"	3' 7"										

Allowable U-Channel (CRC) Ceiling Spans - L/360

Section	Spans	4 psf					6 psf					13 psf					15 psf														
		Channel Spacing (in) o.c.										Channel Spacing (in) o.c.										Channel Spacing (in) o.c.									
		24	36	48	60	72	24	36	48	60	72	24	36	48	60	72	24	36	48	60	72										
CRC-075	Single	3' 5"	3' 0"	2' 8"	2' 6"	2' 4"	3' 0"	2' 7"	2' 4"	2' 2"	2' 1"	2' 4"	2' 0"	1' 10"	1' 8"	1' 7"	2' 2"	1' 11"	1' 9"	1' 7"	1' 6"										
	Multiple	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	3' 8"	3' 2"	2' 11"	2' 8"	2' 7"	2' 10"	2' 6"	2' 3"	2' 1"	1' 11"	2' 8"	2' 4"	2' 2"	2' 0"	1' 9"										
CRC-150	Single	5' 6"	4' 10"	4' 5"	4' 1"	3' 10"	4' 10"	4' 3"	3' 10"	3' 7"	3' 5"	3' 9"	3' 3"	3' 0"	2' 9"	2' 7"	3' 7"	3' 2"	2' 10"	2' 7"	2' 5"										
	Multiple	7' 1"	6' 2"	5' 8"	5' 3"	4' 11"	6' 2"	5' 5"	4' 11"	4' 7"	4' 4"	4' 10"	4' 2"	3' 9"	3' 4"	3' 0"	4' 7"	4' 0"	3' 6"	3' 1"	2' 9"										
CRC-200	Single	5' 10"	5' 1"	4' 8"	4' 4"	4' 1"	5' 1"	4' 6"	4' 1"	3' 10"	3' 7"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"	3' 10"	3' 4"	3' 1"	2' 10"	2' 8"										
	Multiple	7' 5"	6' 6"	5' 11"	5' 6"	5' 2"	6' 6"	5' 8"	5' 2"	4' 10"	4' 7"	5' 1"	4' 5"	4' 0"	3' 9"	3' 6"	4' 10"	4' 3"	3' 10"	3' 7"	3' 2"										
CRC-250	Single	6' 1"	5' 4"	4' 10"	4' 6"	4' 3"	5' 4"	4' 8"	4' 3"	4' 0"	3' 9"	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"										
	Multiple	7' 9"	6' 9"	6' 2"	5' 9"	5' 5"	6' 9"	5' 11"	5' 5"	5' 0"	4' 9"	5' 3"	4' 7"	4' 3"	3' 11"	3' 9"	5' 0"	4' 5"	4' 0"	3' 9"	3' 7"										

- Notes:
- 1 Multiple span indicates two or more equal spans with channel continuous over interior supports.
 - 2 End and interior bearing length = 0.75". Web stiffeners are not required.
 - 3 Listed spans are based on unbraced compression flanges.
 - 4 Moment of inertia for deflection is calculated at the maximum service level stress for the span and load listed. Note that this value may be higher than the effective I_{xx} listed in section property tables.

(FS) Flat Strapping



Product Data:

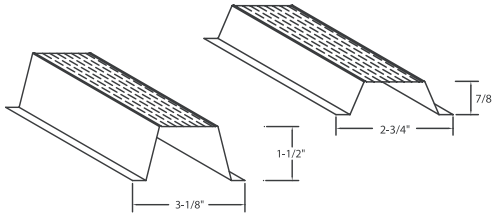
- Designation: Width-FS- Gauge.
 - o Ex 2" FS- 20Ga
- Stock widths: 2", 4", 6"
- Custom Widths are available in increments of even inches.
 - o Examples: 1.5, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48"
- Length: 10' Standard (Alt. Lengths Available, ie. 8')
- Gauges:
 - o 33KSI: 25, 22, 20, 20S& 18 gauge.
 - o 50KSI: 20S, 22, 16, 14 & 12 gauge.
- Coating:
 - o Drywall: Standard G-40 Hot Dipped Galvanized. Also Available in G-60 and G-90.
 - o Structural: G-60 Hot Dipped Galvanized. Also Available in G-60 and G-90
- Meets applicable ASTM's for Structural and Drywall applications:
 - o ASTM- A1003, A-653, A924, C-645, C754, C955, C1007

Uses

- Provides tension force resistance in shear wall assemblies.
- Backing plates for fixtures, railings and where ever additional pullout strength is required.
- Resists racking of prefabricated wall assemblies while handling, transporting, and erecting.

ACCESSORIES AND FINISHING SYSTEMS

(DWFC) Drywall Furring Channel



Product Data:

- Available in 7/8" and 1-1/2" sizes.
- Gauge: Standard 25 through 16 gauges.
- Available in galvanized steel conforming to ASTM A1003, ASTM A653, and ASTM C645.
- Lengths: 12' 0" Stock Length, (other lengths available).
- Consult Telling Industries' Light Gage Structural Framing & Accessories brochure for structural properties and span tables

Uses:

- Convenient accessory components for use in furring out ceilings and masonry walls. Knurled face prevents screw "ride" when attaching gypsum wallboard.
- 1-1/2" DWFC is economical with respect to furring walls with electrical boxes, (no need to set into concrete).

Physical/Structural Properties for Drywall Furring Channels (DWFC)

Section	Fy (ksi)	Design Thickness (in)	Gross Properties						Effective Properties		
			Area (in ²)	Weight (lb/ft)	Ix (in ⁴)	Rx (in)	Iy (in ⁴)	Ry (in)	Ixe (in ⁴)	Sxe (in ³)	Max (Ft-lb)
DWFC088-18	33	0.0188	0.070	0.239	0.009	0.356	0.035	0.710	0.009	0.016	26.4
DWFC088-30	33	0.0312	0.115	0.391	0.014	0.353	0.058	0.710	0.014	0.031	50.5
DWFC088-43	33	0.0451	0.162	0.550	0.020	0.348	0.082	0.711	0.020	0.042	69.2
DWFC088-54	50	0.0566	0.197	0.669	0.023	0.345	0.099	0.711	0.023	0.050	124.9
DWFC150-18	33	0.0188	0.094	0.320	0.031	0.575	0.047	0.705	0.030	0.034	56.6
DWFC150-30	33	0.0312	0.154	0.525	0.050	0.571	0.077	0.705	0.050	0.064	105.3
DWFC150-43	33	0.0451	0.219	0.745	0.070	0.565	0.109	0.705	0.070	0.089	146.3
DWFC150-54	50	0.0566	0.269	0.914	0.084	0.561	0.134	0.705	0.084	0.107	267.2

- Notes:
1. Properties based on the 2007 NASPEC, and comply with 2006, 2009, and 2012 International Building Codes.
 2. Design thickness used for determination of properties. Minimum delivered thickness must be no less than 95% of design thickness.
 3. For deflection calculations, use effective Ixx. Effective Ixx is based on Procedure 1 of the NASPEC
 4. Effective properties are given as the minimum value for positive or negative bending.

Drywall Furring Channel (DWFC) Allowable Ceiling Spans - L/240

Section	Fy (ksi)	Spans	4 psf Spacing (in) oc			Uniform Load 6 psf Spacing (in) oc			13 psf Spacing (in) oc		
			12	16	24	12	16	24	12	16	24
			DWFC088-18	33	Single Multiple	5'-2" 6'-5"	4'-9" 5'-10"	4'-1" 5'-1"	4'-6" 5'-7"	4'-1" 5'-1"	3'-7" 4'-0"
DWFC088-30	33	Single Multiple	6'-2" 7'-7"	5'-7" 6'-11"	4'-11" 6'-1"	5'-5" 6'-8"	4'-11" 6'-1"	4'-3" 5'-3"	4'-2" 5'-2"	3'-9" 4'-8"	
DWFC088-43	33	Single Multiple	6'-10" 8'-6"	6'-3" 7'-8"	5'-5" 6'-1"	6'-0" 7'-5"	5'-5" 6'-9"	4'-9" 5'-10"	4'-7" 5'-9"	4'-2" 5'-2"	
DWFC088-54	50	Single Multiple	7'-3" 9'-0"	6'-7" 8'-2"	5'-9" 7'-2"	6'-4" 7'-10"	5'-9" 7'-2"	5'-0" 6'-3"	4'-11" 6'-1"	4'-5" 5'-6"	
DWFC150-18	33	Single Multiple	7'-11" 9'-9"	7'-2" 8'-10"	6'-3" 7'-5"	6'-11" 8'-6"	6'-11" 7'-5"	5'-6" 5'-11"	5'-4" 5'-7"	4'-10" 4'-9"	
DWFC150-30	33	Single Multiple	9'-5" 11'-7"	8'-6" 10'-6"	7'-5" 9'-2"	8'-2" 10'-2"	7'-5" 9'-2"	6'-6" 8'-0"	6'-4" 7'-10"	5'-9" 7'-0"	
DWFC150-43	33	Single Multiple	10'-6" 12'-11"	9'-6" 11'-9"	8'-4" 10'-3"	9'-2" 11'-4"	8'-4" 10'-3"	7'-3" 9'-0"	7'-1" 8'-9"	6'-5" 7'-11"	
DWFC150-54	50	Single	11'-2" 13'-9"	10'-1" 12'-6"	8'-10" 10'-11"	9'-9" 12'-0"	8'-10" 10'-11"	7'-9" 9'-7"	7'-6" 9'-4"	6'-10" 8'-5"	

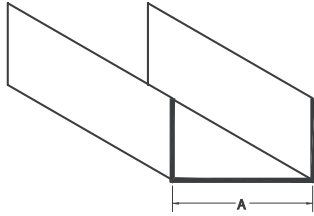
Drywall Furring Channel (DWFC) Allowable Ceiling Spans - L/360

Section	Fy (ksi)	Spans	4 psf Spacing (in) oc			Uniform Load 6 psf Spacing (in) oc			13 psf Spacing (in) oc		
			12	16	24	12	16	24	12	16	24
			DFWC088-18	33	Single Multiple	4'-6" 5'-7"	4'-1" 5'-1"	3'-7" 4'-5"	4'-0" 4'-11"	3'-7" 4'-5"	3'-2" 3'-11"
DWFC088-30	33	Single Multiple	5'-5" 6'-8"	4'-11" 6'-1"	4'-3" 5'-3"	4'-8" 5'-10"	4'-3" 5'-3"	3'-8" 4'-7"	3'-4" 4'-6"	2'-11" 4'-1"	
DWFC088-43	33	Single Multiple	6'-0" 7'-5"	5'-5" 6'-9"	4'-9" 5'-10"	5'-3" 6'-6"	4'-9" 5'-10"	4'-2" 5'-2"	4'-0" 5'-0"	3'-8" 4'-6"	
DWFC088-54	50	Single Multiple	6'-4" 7'-10"	5'-9" 7'-2"	5'-0" 6'-3"	5'-7" 6'-10"	5'-0" 6'-3"	4'-5" 5'-5"	4'-3" 5'-4"	3'-11" 4'-10"	
DWFC150-18	33	Single Multiple	6'-11" 8'-6"	6'-3" 7'-9"	5'-6" 6'-9"	6'-0" 7'-5"	5'-6" 6'-9"	4'-9" 5'-11"	4'-8" 5'-7"	4'-3" 4'-9"	
DWFC150-30	33	Single Multiple	8'-2" 10'-2"	7'-5" 9'-2"	6'-6" 8'-0"	7'-2" 8'-10"	6'-6" 8'-0"	5'-8" 7'-0"	5'-6" 6'-10"	4'-5" 6'-3"	
DFWC150-43	33	Single Multiple	9'-2" 11'-4"	8'-4" 10'-3"	7'-3" 9'-0"	8'-0" 9'-11"	7'-3" 9'-0"	6'-4" 7'-10"	6'-2" 7'-8"	5'-7" 6'-11"	
DFWC150-54	50	Single	9'-9" 12'-0"	8'-10" 10'-11"	7'-9" 9'-7"	8'-6" 10'-6"	7'-9" 9'-7"	6'-9" 8'-4"	6'-7" 8'-2"	5'-3" 7'-5"	

- Notes:
1. Single spans taken as the minimum span based on moment, shear, web crippling or deflection
 2. Multiple spans indicate two or more equal, continuous spans with span length measured support to support.
 3. Multiple spans taken as the minimum span based on moment, shear, web crippling, deflection combined bending and shear or combined and web crippling
 4. Web crippling values based on 1" bearing at end and interior supports.

ACCESSORIES AND FINISHING SYSTEMS

(CRC) Cold-Rolled Channel



Product Data:

- Available in galvanized steel meeting ASTM A1003 and hot-dipped galvanized steel meeting ASTM A653, G60.
- Lengths: 16' stock length. (Other lengths available)

Uses:

- Bridging, (lateral support) in walls carrying axial and/or wind loads.
- Bracing studs at door bucks and furring for ceilings.
- Used in conjunction with metal lath and plaster in partitions, ceilings, column and beam enclosures, etc.

U-Channel (CRC) Properties and Spans

Section	Design Thickness (in)	Area (in ²)	Weight (lb/ft)	Gross				Effective Properties 33 ksi			
				I _x (in ⁴)	R _x (in)	I _y (in ⁴)	R _y (in)	I _x (in ⁴)	S _x (in ³)	M _a (in-k)	V _a (lb)
CRC-075	0.0566	0.087	0.30	0.007	0.288	0.002	0.155	0.007	0.019	0.45	315
CRC-150	0.0566	0.129	0.44	0.039	0.547	0.003	0.144	0.039	0.052	1.22	840
CRC-200	0.0566	0.157	0.54	0.079	0.709	0.003	0.136	0.079	0.079	1.87	1190
CRC-250	0.0566	0.186	0.63	0.139	0.866	0.003	0.128	0.139	0.111	2.64	1540

- Notes:
- 1 Minimum deliverable base metal thickness is 95% of design thickness.
 - 2 Inside bend radius taken as 3/32".
 - 3 Effective properties based on F_y = 33 ksi.
 - 4 For deflection calculations, use the effective moment of inertia.

Allowable U-Channel (CRC) Ceiling Spans - L/240

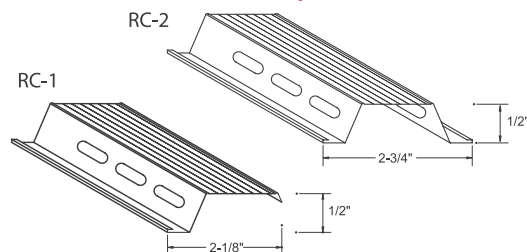
Section	Spans	4 psf					6 psf					13 psf					15 psf														
		Channel Spacing (in) o.c.										Channel Spacing (in) o.c.										Channel Spacing (in) o.c.									
		24	36	48	60	72	24	36	48	60	72	24	36	48	60	72	24	36	48	60	72										
CRC-075	Single	3' 11"	3' 5"	3' 1"	2' 10"	2' 8"	3' 5"	3' 0"	2' 8"	2' 6"	2' 4"	2' 7"	2' 4"	2' 1"	1' 11"	1' 9"	2' 6"	2' 2"	2' 0"	1' 10"	1' 8"										
	Multiple	4' 10"	4' 2"	3' 10"	3' 7"	3' 4"	4' 2"	3' 8"	3' 4"	3' 1"	2' 10"	3' 3"	2' 9"	2' 4"	2' 1"	1' 11"	3' 1"	2' 7"	2' 2"	2' 0"	1' 9"										
CRC-150	Single	5' 6"	4' 10"	4' 5"	4' 1"	3' 10"	4' 10"	4' 3"	3' 10"	3' 7"	3' 5"	3' 9"	3' 3"	3' 0"	2' 9"	2' 7"	3' 7"	3' 2"	2' 10"	2' 7"	2' 5"										
	Multiple	7' 1"	6' 2"	5' 8"	5' 3"	4' 11"	6' 2"	5' 5"	4' 11"	4' 7"	4' 4"	4' 10"	4' 2"	3' 9"	3' 4"	3' 0"	4' 7"	4' 0"	3' 6"	3' 1"	2' 9"										
CRC-200	Single	5' 10"	5' 1"	4' 8"	4' 4"	4' 1"	5' 1"	4' 6"	4' 1"	3' 10"	3' 7"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"	3' 10"	3' 4"	3' 1"	2' 10"	2' 8"										
	Multiple	7' 5"	6' 6"	5' 11"	5' 6"	5' 2"	6' 6"	5' 8"	5' 2"	4' 10"	4' 7"	5' 1"	4' 5"	4' 0"	3' 9"	3' 6"	4' 10"	4' 3"	3' 10"	3' 7"	3' 2"										
CRC-250	Single	6' 1"	5' 4"	4' 10"	4' 6"	4' 3"	5' 4"	4' 8"	4' 3"	4' 0"	3' 9"	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"										
	Multiple	7' 9"	6' 9"	6' 2"	5' 9"	5' 5"	6' 9"	5' 11"	5' 5"	5' 0"	4' 9"	5' 3"	4' 7"	4' 3"	3' 11"	3' 9"	5' 0"	4' 5"	4' 0"	3' 9"	3' 7"										

Allowable U-Channel (CRC) Ceiling Spans - L/360

Section	Spans	4 psf					6 psf					13 psf					15 psf														
		Channel Spacing (in) o.c.										Channel Spacing (in) o.c.										Channel Spacing (in) o.c.									
		24	36	48	60	72	24	36	48	60	72	24	36	48	60	72	24	36	48	60	72										
CRC-075	Single	3' 5"	3' 0"	2' 8"	2' 6"	2' 4"	3' 0"	2' 7"	2' 4"	2' 2"	2' 1"	2' 4"	2' 0"	1' 10"	1' 8"	1' 7"	2' 2"	1' 11"	1' 9"	1' 7"	1' 6"										
	Multiple	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	3' 8"	3' 2"	2' 11"	2' 8"	2' 7"	2' 10"	2' 6"	2' 3"	2' 1"	1' 11"	2' 8"	2' 4"	2' 2"	2' 0"	1' 9"										
CRC-150	Single	5' 6"	4' 10"	4' 5"	4' 1"	3' 10"	4' 10"	4' 3"	3' 10"	3' 7"	3' 5"	3' 9"	3' 3"	3' 0"	2' 9"	2' 7"	3' 7"	3' 2"	2' 10"	2' 7"	2' 5"										
	Multiple	7' 1"	6' 2"	5' 8"	5' 3"	4' 11"	6' 2"	5' 5"	4' 11"	4' 7"	4' 4"	4' 10"	4' 2"	3' 9"	3' 4"	3' 0"	4' 7"	4' 0"	3' 6"	3' 1"	2' 9"										
CRC-200	Single	5' 10"	5' 1"	4' 8"	4' 4"	4' 1"	5' 1"	4' 6"	4' 1"	3' 10"	3' 7"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"	3' 10"	3' 4"	3' 1"	2' 10"	2' 8"										
	Multiple	7' 5"	6' 6"	5' 11"	5' 6"	5' 2"	6' 6"	5' 8"	5' 2"	4' 10"	4' 7"	5' 1"	4' 5"	4' 0"	3' 9"	3' 6"	4' 10"	4' 3"	3' 10"	3' 7"	3' 2"										
CRC-250	Single	6' 1"	5' 4"	4' 10"	4' 6"	4' 3"	5' 4"	4' 8"	4' 3"	4' 0"	3' 9"	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"										
	Multiple	7' 9"	6' 9"	6' 2"	5' 9"	5' 5"	6' 9"	5' 11"	5' 5"	5' 0"	4' 9"	5' 3"	4' 7"	4' 3"	3' 11"	3' 9"	5' 0"	4' 5"	4' 0"	3' 9"	3' 7"										

- Notes:
- 1 Multiple span indicates two or more equal spans with channel continuous over interior supports.
 - 2 End and interior bearing length = 0.75". Web stiffeners are not required.
 - 3 Listed spans are based on unbraced compression flanges.
 - 4 Moment of inertia for deflection is calculated at the maximum service level stress for the span and load listed. Note that this value may be higher than the effective I_{xx} listed in section property tables.

(RC) Resilient Furring Channel



Product Data:

- RC-1: Single Leg • RC-2: Double Leg
- Gauge: Standard 25 gage conforming to ASTM A653, C645 and ASTM A1003.
- Lengths: 12' 0" stock length
- RC-1: Screw attachment, one side only.
- RC-2: Screw attachment, both sides.

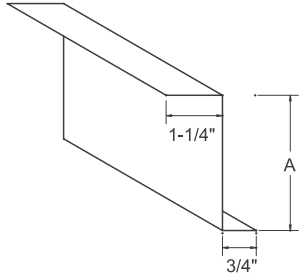
Uses:

- Used as cross furring members for resilient attachment of gypsum wallboard or lath on ceilings and partitions.
- Decreases sound transmission through wall partitions and ceilings.

Product	Length	Wt./Ft.	Pcs./Ctn.	Ft./Ctn.
RC-1	12'	0.20	40	480
RC-2	12'	0.24	40	480

ACCESSORIES AND FINISHING SYSTEMS

(ZFC) Z-Furring Channel

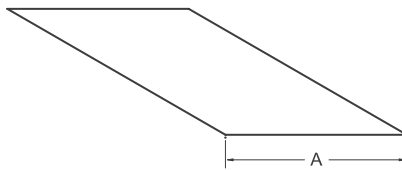


Product Data:

- Available in hot-dipped galvanized steel conforming to ASTM A653, C645 and A1003.
 - Gauges: Standard 25 gauge, (available in 20, 18, and 16 gauge upon request).
 - Lengths: Standard 10' 0" and 8' 6" lengths, (other lengths available upon request).
- Uses:**
- Designed to accommodate the installation of rigid insulation board while providing an attachment for drywall or other facing materials to the interior side of masonry or monolithic concrete walls.

Product	(A) in. Size	25 Ga. Wt./Ft.
Z-100	1.00	0.195
Z-150	1.50	0.225
Z-200	2.00	0.260

(FS) Flat Strapping

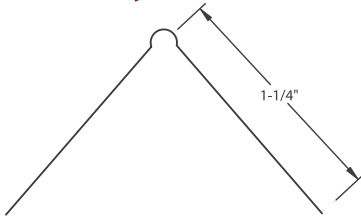


Product Data:

- Designation: FS width and gauge.
 - Widths: 2, 4 and 6" (custom widths and coil available).
- Uses:**
- Provides tension force resistance in shear wall assemblies.
 - Resists racking of prefabricated wall assemblies while handling, transporting, and erecting.

Product	Width (in.)	Gauges	Length
FS	2", 4", 6"	25, 22, 20, 18, 16	10'

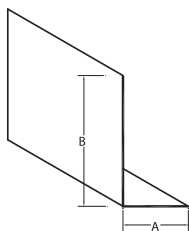
(DCB) Drywall Corner Bead



Product Data:

- Made of galvanized steel.
 - Joint cement adheres easily to knurled flanges and keys into the perforations.
 - Exposed nose provides a straight, clean corner definition and guards against damage through impact.
- Uses:**
- Provides durable protection for drywall external corners.
 - Specify hot-dipped for moist or humid conditions.

(RA) Rolled Angles



Product Data:

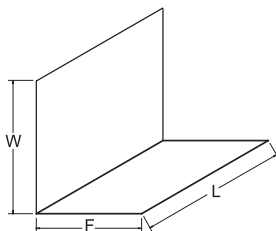
- Available in most sizes, lengths, and gauges.

Uses:

- For 90 degree corner enclosures at lapped framing location; provides in-plane stability of framework.

(AxB) Product	Gauges	Length
7/8" x 1-3/8"	25, 22, 20, 18	10'
1-5/8" x 1-5/8"	25, 22, 20, 18, 16	10'
2" x 2"	25, 22, 20, 18, 16, 14	10'
3" x 3"	20, 18, 16, 14, 12	10'
2" x 4"	20, 18, 16, 14, 12	10'
3" x 6"	20, 18, 16, 14, 12	10'

(CA) Clip Angles



Product Data:

- Designation: SA Length (L) x gauge.
- Designed for 3-5/8, 4, 6, 7-1/4, 8, 9-1/4, 10 and 12 inch studs.
- Gauges: 18 ga (3-5/8, 4, or 6 inch only), 14 ga (all lengths), 12 ga (6, 7-1/4, 8, 9-1/4, 10 and 12 inch only)
- W and F dimensions per request.
- Standard 2" x 2"

Uses:

- For miscellaneous attachments of intersecting framing components.
- For attachment of joist framing components to flush mounted headers.
- For attachment of solid blocking sections to adjacent studs of joists.
- For alternate screw attachment of CRC briding to stud webs in lieu direct weld

ACCESSORIES AND FINISHING SYSTEMS

J Bead



Product Data:

- Sturdy, channel-type steel casing.
- Joint cement applied to front side.
- L Bead available in both regular and long-leg flange.
- Easily installs to framing or jamb.

Uses:

- Provides maximum protection.
- Adds a finished edge to wallboard at window and door jambs

Product	Size Depth	Length(ft.)	Pcs./Ctn.	Ft./Ctn.
L-50, J-50	1/2" or 5/8"	8', 10'	63, 50	504, 500
L-62, J-62	"	"	"	"

Custom lengths and UPC labeling available upon request.

L Bead



(RT) Reveal Trim



Product Data:

- An economical steel channel.
- No joint cement required.

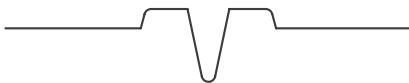
Uses:

- Provides edge protection around doors and windows or any partition junction openings.

Product	Size Depth	Length(ft.)	Pcs./Ctn.	Ft./Ctn.
RT-50, RT-62	1/2" & 5/8"	8', 10'	63, 50	504, 500

Custom lengths and UPC labeling available upon request.

093 Expansion Control Joint



Product Data:

- Manufactured from the highest quality pure zinc coil stock for superior corrosion resistance.
- Fits standard 1/4" openings.

Uses:

- Product is excellent for interior or exterior applications.

Product	Length(ft.)	Pcs./Ctn.	Ft./Ctn.
093	10'	25	250



Telling® Industries
Corporate Headquarters
4420 Sherwin Road
Willoughby, OH 44094
Phone: 440-974-3370
Toll Free: 866-FRAME-TI(372-6384)
Fax: 440-974-3408
E-mail: sales.corp@tellingindustries.com

Telling® Industries
Midwest Facility
2105 Larrick Road
Cambridge, OH 43725
Phone: 740-435-8900
Toll Free: 866-35STUDS (357-8837)
Fax: 740-435-8915
E-mail: sales.oh@tellingindustries.com

Telling® Industries
Midsouth Facility
1400 Southwire Drive
Osceola, AR 72370
Phone: 870-563-6065
Toll Free: 888-711-3124
Fax: 870-563-2471
E-mail: sales.ar@tellingindustries.com

Telling® Industries
Northeast Facility
1050 Kennedy Road
Windsor, CT 06095
Toll Free: 866-372-6384
Fax: 440-974-3408
E-mail: sales.corp@tellingindustries.com

For more information, please contact Telling® Industries at 1-866-372-6384

This technical information reflects the most current information available and supersedes any and all previous publications effective January 1, 2016.

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