TELLING
BUILDSTRONG

ViperStud®
TELLING®
INDUSTRIES

PRODUCT CATALOG

IBC 2012 COMPLIANT

ICC ES
ESR #2620

INTERTEK Warnock Hersey
C US

CLASSIFIED
C UL US

Architectural Testing Approved
CCRR-0154

CSSA
Certified Steel Stud Association

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...

ViperStud® TELLING® INDUSTRIES

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 Viper-Stud 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

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%

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.

A High Strength, Flat Steel Drywall Framing System

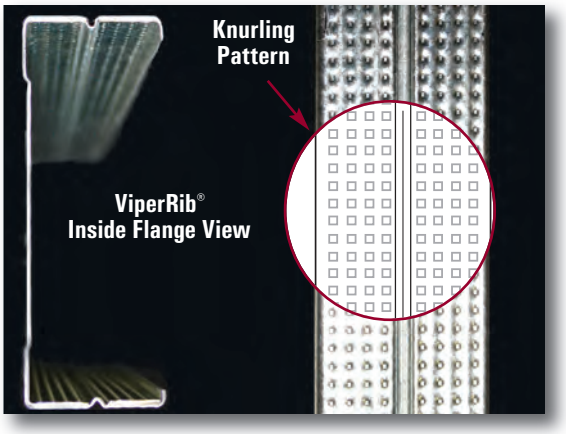
The ViperStud Drywall Framing System offers all the benefits of conventional flat steel studs with a design that performs even better. The ViperStud drywall framing system is interchangeable with conventional framing components. Since ViperStud is flat steel, it is easy to plumb and mark, make minor 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.

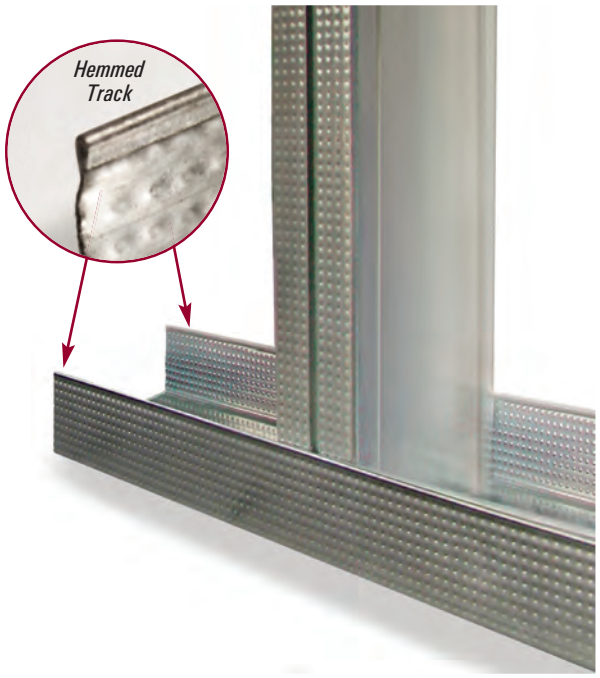


The One-Track System

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.



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.

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:

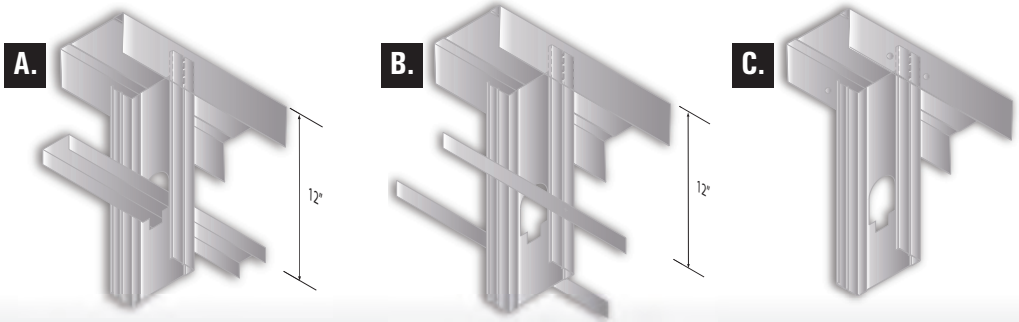
A. CR channel and BRC Clip. 12" down from the stud end.

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"
					2-1/2, 3-5/8	3"	1"	30	10'-3"
VIPERTRACK20	0.0220	0.0209	57	G40	4, 6	2"	1/2"	69	23'-8"
					4, 6	2-1/2"	3/4"	46	15'-9"
					4, 6	3"	1"	35	11'-10"
VIPERTRACK 30mil	0.0312	0.0296	33	G40	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"
					2-1/2, 3-5/8, 4, 6	3"	1"	46	13'-9"
VIPERTRACK 33mil	0.0346	0.0329	33	G40	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*



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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 AREA (in^1)	Ix (in^3)	rx (in)	Iy (in^3)	ry (in)	EFFECTIVE PROPERTIES Ixd (in^3)	Sx (in^2)	MOMENTS Allowable Moment Ma (in-k)	Local Buckling Nominal Moment[1,3] Viper Mnl (in-k)	Distortional Buckling Nominal Moment[1,3] Viper Mnd (in-k)	Nominal Moment for Conventional Studs[2] Mn (in-k)	Critical Unbraced Length[6] Lu (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:
1. *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.*
2. *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.*
3. *Section properties are in accordance with AISI S100-07. Viper25 and Viper20 section properties are based on testing.*
4. *Web depth-to-thickness ratio exceeds 200.*
5. *Web depth-to-thickness ratio exceeds 260.*
6. *ViperStud is considered fully braced when the unbraced length is less than listed Lu.*
7. *KΦ assumed to be zero for distortional buckling moments.*

VIPERTRACK®

MEMBER	LEG SIZE (in)	WEIGHT (lb/ft)	DESIGN (in)	MIN (in)	YIELD (ksi)	GROSS 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)	EFFECTIVE PROPERTIES I_{xd} (in^4)	S_{xe} (in^3)	M_a (in-k)	TORSIONAL PROPERTIES X_o (in)	$Jx10^3$ (in^4)	C_w (in^6)	r_o (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:
1. *See page 6 for ViperTrack notes.*

DEEP LEG VIPERTRACK SECTION PROPERTIES

MEMBER	LEG SIZE (in)	WEIGHT (lb/ft)	DESIGN (in)	MIN (in)	YIELD (ksi)	GROSS 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)	EFFECTIVE PROPERTIES I_{xd} (in^4)	S_{xe} (in^3)	M_a (in-k)	TORSIONAL PROPERTIES X_o (in)	$Jx10^3$ (in^4)	C_w (in^6)	r_o (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	0.596	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	0.675	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 ration 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 X[3]

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.*

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"	6'-7"	7'-8" f	6'-7"	--	6'-7" f	6'-0"	--
			162VS125-15	0.0155	0.0147	50	16	8'-1" f	6'-10"	6'-0"	6'-7" f	6'-0"	--	--	--	--
			162VS125-15	0.0155	0.0147	50	24	6'-7" f	6'-0"	--	--	--	--	--	--	--
	2-1/2″	25EQ	250VS125-15	0.0155	0.0147	50	12	12'-6" f	10'-7"	9'-2"	10'-2" f	9'-2"	8'-1"	8'-10" f	8'-5"	7'-4"
			250VS125-15	0.0155	0.0147	50	16	10'-10" f	9'-7"	8'-5"	8'-10" f	8'-5"	7'-4"	7'-8" f	7'-7"	6'-8"
			250VS125-15	0.0155	0.0147	50	24	8'-10" f	8'-5"	7'-4"	7'-1" w	7'-1" w	6'-5"	--	--	--
	3-5/8″	25EQ	362VS125-15	0.0155	0.0147	50	12	14'-7" f	13'-11"	12'-1"	11'-11" f	11'-11"f	10'-7"	10'-4" f	10'-4" f	9'-7"
			362VS125-15	0.0155	0.0147	50	16	12'-8" f	12'-7"	11'-0"	10'-4" f	10'-4" f	9'-7"	9'-0" f	9'-0" f	8'-10"
			362VS125-15	0.0155	0.0147	50	24	10'-4" f	10'-4" f	9'-7"	8'-5" f	8'-5" f	8'-5"	6'-7" w	6'-7" w	6-7" w
	4″	25EQ	400VS125-15	0.0155	0.0147	50	12	15'-0" f	15'-0"	13'-1"	12'-4" f	12'-4" f	11'-5"	10'-7" f	10'-7" f	10'-5"
			400VS125-15	0.0155	0.0147	50	16	13'-0" f	13'-0" f	11'-11"	10'-7" f	10'-7" f	10'-5"	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"	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"	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"	8'-8"	7'-7"	9'-6"	7'-7"	6'-7"	8'-8"	6'-11"	6'-0"
			162VS125-20	0.0205	0.0195	57	16	9'-11"	7'-11"	6'-11"	8'-8"	6'-11"	6'-0"	7'-8"f	6'-4"	--
			162VS125-20	0.0205	0.0195	57	24	8'-8"	6'-11"	6'-0"	7'-2" f	6'-0"	--	6'-4" f	--	--
	2-1/2″	20EQ	250VS125-20	0.0205	0.0195	57	12	15'-0"	11'-11"	10'-5"	13'-1"	10'-5"	9'-1"	11'-8" f	9'-6"	8'-4"
			250VS125-20	0.0205	0.0195	57	16	13'-7"	10'-10"	9'-6"	11'-8" f	9'-6"	8'-4"	10'-1" f	8'-7"	7'-6"
			250VS125-20	0.0205	0.0195	57	24	11'-8" f	9'-6"	8'-4"	9'-6" f	8'-4"	7'-2"	8'-4" f	7'-6"	6'-7"
	3-5/8″	20EQ	362VS125-20	0.0205	0.0195	57	12	19'-6" f	15'-10"	13'-10"	15'-11" f	13'-10"	12'-0"	13'-10" f	12'-6"	10'-11"
			362VS125-20	0.0205	0.0195	57	16	16'-11" f	14'-4"	12'-6"	13'-10" f	12'-6"	10'-11"	11'-11" f	11'-5"	9'-11"
			362VS125-20	0.0205	0.0195	57	24	13'-10" f	12'-6"	10'-11"	11'-2" f	10'-11"	9'-6"	9'-8" f	9'-8" f	8'-8"
	4″	20EQ	400VS125-21	0.0220	0.0209	57	12	21'-6"	17'-0"	14'-11"	18'-1" f	14'-11"	13'-0"	15'-8" f	13'-6"	11'-10"
			400VS125-21	0.0220	0.0209	57	16	19'-2" f	15'-6"	13'-6"	15'-8" f	13'-6"	11'-10"	13'-7" f	12'-4"	10'-8"
			400VS125-21	0.0220	0.0209	57	24	15'-8" f	13'-6"	11'-10"	12'-10" f	11'-10"	10'-4"	11'-1" f	10'-8"	9'-5"
	6″	20EQ	600VS125-21	0.0220	0.0209	57	12	26'-0" f	22'-6"	19'-8"	21'-2" f	19'-8"	17'-2"	18'-5" f	17'-11"	15'-7"
			600VS125-21	0.0220	0.0209	57	16	22'-6" f	20'-5"	17'-11"	18'-5" f	17'-11"	15'-7"	15'-11" f	15'-11" f	14'-2"
			600VS125-21	0.0220	0.0209	57	24	18'-5" f	17'-11"	15'-7"	15'-0" f	15'-0" f	13'-7"	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"	9'-4"	8'-1"	10'-2"	8'-1"	7'-1"	9'-4"	7'-5"	6'-6"
			162VS125-30	0.0312	0.0296	33	16	10'-8"	8'-6"	7'-5"	9'-4"	7'-5"	6'-6"	8'-1" f	6'-8"	--
			162VS125-30	0.0312	0.0296	33	24	9'-4"	7'-5"	6'-6"	7'-8" f	6'-6"	--	6'-7" f	--	--
	2-1/2″	20DW	250VS125-30	0.0312	0.0296	33	12	16'-2"	12'-11"	11'-4"	14'-2"	11'-4"	9'-10"	12'-5" f	10'-2"	8'-11"
			250VS125-30	0.0312	0.0296	33	16	14'-8"	11'-8"	10'-2"	12'-5" f	10'-2"	8'-11"	10'-8" f	9'-4"	8'-1"
			250VS125-30	0.0312	0.0296	33	24	12'-5" f	10'-2"	8'-11"	10'-1" f	8'-11"	7'-10"	8'-10" f	8'-1"	7'-1"
	3-5/8″	20DW	362VS125-30	0.0312	0.0296	33	12	21'-4" f	17'-2"	15'-0"	17'-5" f	15'-0"	13'-1"	15'-0" f	13'-7"	11'-11"
			362VS125-30	0.0312	0.0296	33	16	18'-5" f	15'-7"	13'-7"	15'-0" f	13'-7"	11'-11"	13'-0" f	12'-5"	10'-10"
			362VS125-30	0.0312	0.0296	33	24	15'-0" f	13'-7"	11'-11"	12'-4" f	11'-11"	10'-5"	10'-7" f	10'-7" f	9'-5"
	4″	20DW	400VS125-30	0.0312	0.0296	33	12	22'-6" f	18'-6"	16'-2"	18'-4" f	16'-2"	14'-1"	15'-11" f	14'-8"	12'-11"
			400VS125-30	0.0312	0.0296	33	16	19'-5" f	16'-10"	14'-8"	15'-11" f	14'-8"	12'-11"	13'-8" f	13'-5"	11'-8"
			400VS125-30	0.0312	0.0296	33	24	15'-11" f	14'-8"	12'-11"	13'-0" f	12'-11"	11'-2"	11'-2" f	11'-2" f	10'-2"
	6″	20DW	600VS125-30	0.0312	0.0296	33	12	28'-2" f	25'-4"	22'-1"	23'-0" f	22'-1"	19'-4"	19'-11" f	19'-11" f	17'-6"
			600VS125-30	0.0312	0.0296	33	16	24'-5" f	23'-0"	20'-1"	19'-11" f	19'-11" f	17'-6"	17'-2" f	17'-2" f	15'-11"
			600VS125-30	0.0312	0.0296	33	24	19'-11" f	19'-11" f	17'-6"	16'-4" f	16'-4" f	15'-4"	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"	9'-7"	8'-5"	10'-7"	8'-5"	7'-4"	9'-7"	7'-7"	6'-8"
			162VS125-33	0.0346	0.0329	33	16	11'-0"	8'-8"	7'-7"	9'-7"	7'-7"	6'-8"	8'-8" f	6'-11"	6'-1"
			162VS125-33	0.0346	0.0329	33	24	9'-7"	7'-7"	6'-8"	8'-2" f	6'-8"	--	7'-1" f	6'-1"	--
	2-1/2″	20STR	250VS125-33	0.0346	0.0329	33	12	16'-10"	13'-4"	11'-7"	14'-8"	11'-7"	10'-2"	13'-4" f	10'-7"	9'-2"
			250VS125-33	0.0346	0.0329	33	16	15'-4"	12'-1"	10'-7"	13'-4" f	10'-7"	9'-2"	11'-6" f	9'-7"	8'-5"
			250VS125-33	0.0346	0.0329	33	24	13'-4" f	10'-7"	9'-2"	10'-10" f	9'-2"	8'-1"	9'-5" f	8'-5"	7'-4"
	3-5/8″	20STR	362VS125-33	0.0346	0.0329	33	12	22'-5"	17'-10"	15'-6"	18'-10" f	15'-6"	13'-7"	16'-4" f	14'-1"	12'-4"
			362VS125-33	0.0346	0.0329	33	16	19'-11" f	16'-1"	14'-1"	16'-4" f	14'-1"	12'-4"	14'-1" f	12'-10"	11'-2"
			362VS125-33	0.0346	0.0329	33	24	16'-4" f	14'-1"	12'-4"	13'-4" f	12'-4"	10'-10"	11'-6" f	11'-2"	9'-10"
	4″	20STR	400VS125-33	0.0346	0.0329	33	12	24'-2"	19'-2"	16'-10"	19'-10" f	16'-10"	14'-7"	17'-2" f	15'-2"	13'-4"
			400VS125-33	0.0346	0.0329	33	16	21'-0" f	17'-5"	15'-2"	17'-2" f	15'-2"	13'-4"	14'-11" f	13'-10"	12'-1"
			400VS125-33	0.0346	0.0329	33	24	17'-2" f	15'-2"	13'-4"	14'-0" f	13'-4"	11'-7"	12'-1" f	12'-1"	10'-7"
	6″	20STR	600VS125-33	0.0346	0.0329	33	12	30'-5" f	26'-4"	23'-0"	24'-10" f	23'-0"	20'-1"	21'-6" f	20'-11"	18'-2"
			600VS125-33	0.0346	0.0329	33	16	26'-4" f	23'-11"	20'-11"	21'-6" f	20'-11"	18'-2"	18'-7" f	18'-7" f	16'-7"
			600VS125-33	0.0346	0.0329	33	24	21'-6" f	20'-11"	18'-2"	17'-6" f	17'-6" f	15'-11"	15'-2" f	15'-2" f	14'-6"

"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. *For bending, studs are assumed to be adaquately 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.*
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".*

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 $h/t \leq 200$, 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

MODEL NO.	MEMBER DESIGNATION	Fy ksi	4 PSF Lateral Support of Compression Flange						6 PSF Lateral Support of Compression Flange					
			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"
	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"	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

MODEL NO.	MEMBER DESIGNATION	Fy ksi	4 PSF Lateral Support of Compression Flange						6 PSF Lateral Support of Compression Flange					
			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"	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"	8'-2"	7'-5"	6'-6"	7'-1" f	6'-6"	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"	12'-11"	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"	13'-4"	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".*

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.

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[9]	30	97	90[9]	36	121	93[9]	42	132	Pass
Viper20 (1-5/8"–3-5/8")	0.0205	0.0195	57	57	106[9]	46	146	124[9]	54	183	130[9]	63	199	Pass
Viper20 (4" –6")	0.0220	0.0209	57	57	129[9]	49	157	141[9]	58	196	144[9]	98	213	Pass
Conventional (25ga)	0.0188	0.0179	33	33	44	24	78	48	29	97	52	33	105	--
Conventionl (20ga DW) OR Viper 30mil	0.0312	0.0296	33	33	95	40	129	103	48	161	111	55	175	--
Conventionl (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	PASS
			4000	PASS
National Gypsum 5/8" High Impact	3-5/8" Viper20	#6 x 1-1/4" Type S sharp pt	2500	PASS
			4000	PASS
National Gypsum 5/8" High Abuse	3-5/8" Viper20	#6 x 1-1/4" Type S sharp pt	2500	PASS
			4000	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	PASS
			4000	PASS
		#9 Phillips Cement Board	2500	PASS
			4000	PASS
National Gypsum 5/8" Permabase	Viper20	#9 Buildex Rock-On	2500	PASS
			4000	PASS
		#9 Phillips Cement Board	2500	PASS
			4000	PASS

GYPSUM BOARD – VIPER25 & VIPER20

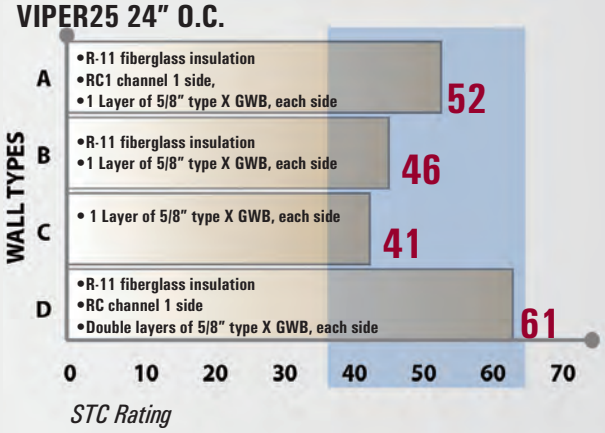
1/2" Type C	Viper25	#6 x1-1/4"	2500	PASS
5/8" Type X	Viper25	Type S sharp pt	2500	PASS
5/8" Type X	Viper20	Type S sharp pt	2500	PASS

ACOUSTIC PERFORMANCE (ASTM E 90)

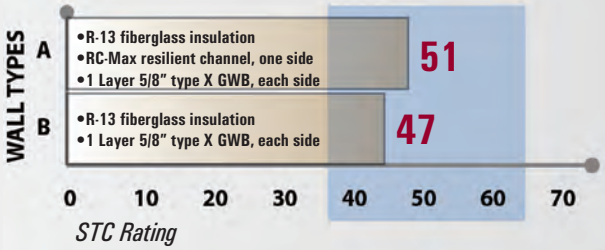
The ViperStud® drywall framing system has been tested to determine the transmission of sound through walls. Acoustic tests were performed using 3-5/8" ViperStud steel studs. The tests were performed according to ASTM E 90 in different configurations.

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

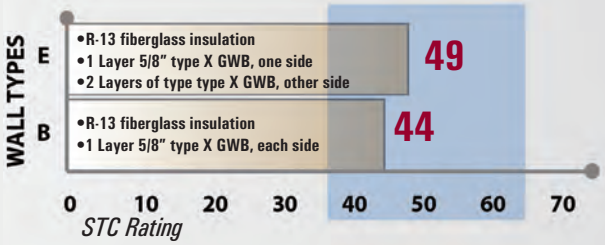
VIPER25 24" O.C.



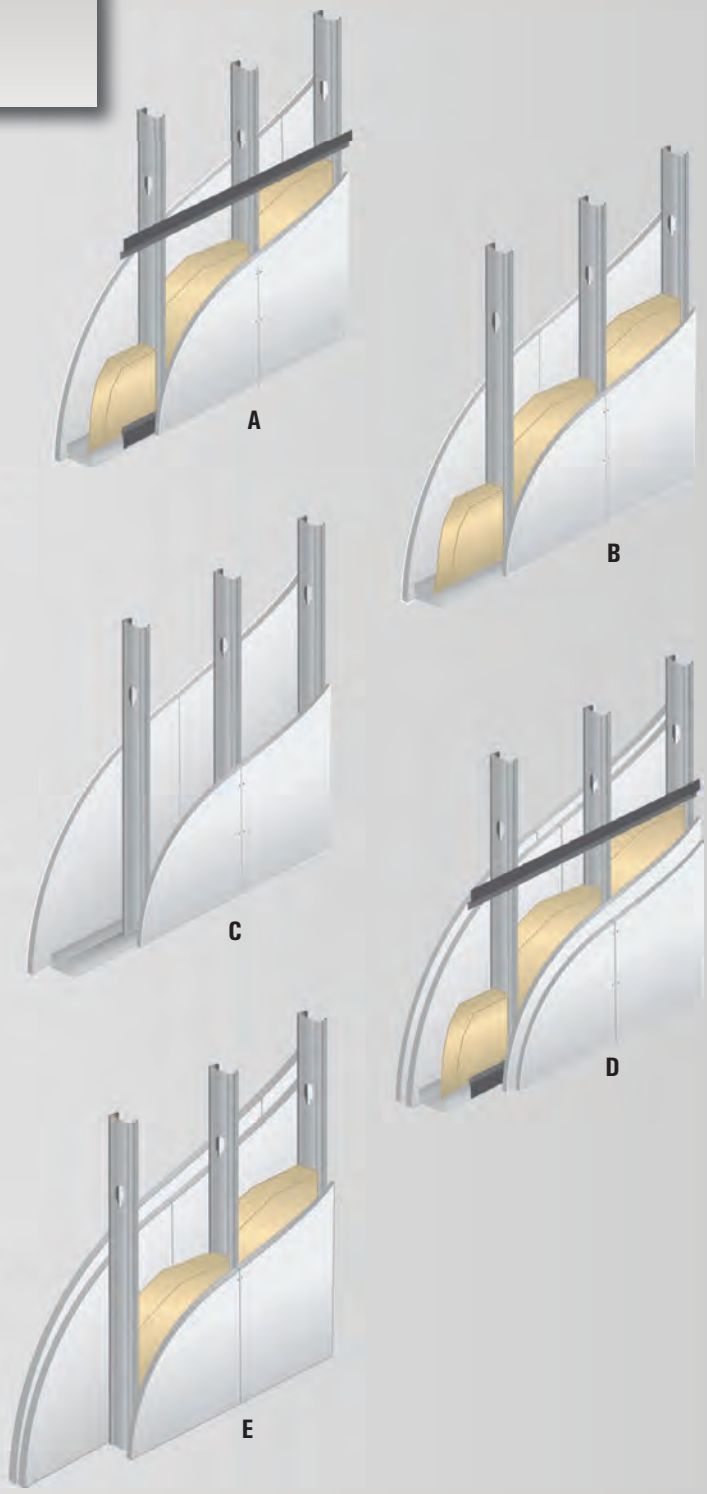
VIPER25 16" O.C.



VIPER20 16" O.C.



WALL TYPES



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

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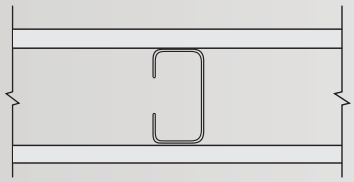
FIRE TESTING DATA (ASTM E 119)

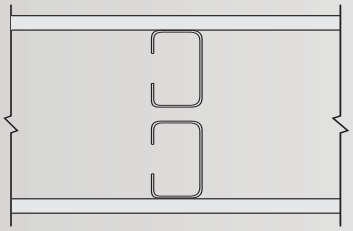
1 HOUR WALL ASSEMBLIES • NON-LOAD BEARING

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

1 Hour Wall Assembly



1 Hour Chase Wall Assembly



WALL ASSEMBLIES

- Studs spaced 24" o.c.
- One layer of generic 5/8" Type X gypsum wallboard[1]
- 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 wallboard[1]
- No insulation required

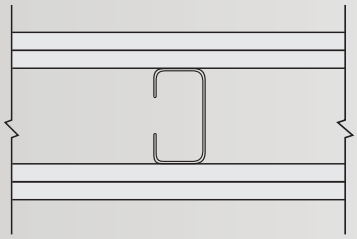
Warnock-Hersey Design No. TI/WF 60-03
- The wallboard is oriented vertically

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

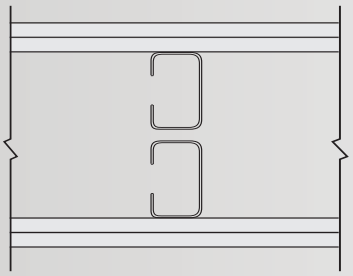
2 HOUR WALL ASSEMBLIES • NON-LOAD BEARING

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

2 Hour Wall Assembly



2 Hour Chase Wall Assembly



WALL ASSEMBLIES

- Studs spaced 24" o.c.
- Two layers of generic 5/8" Type X gypsum wallboard[1]
- 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 wallboard[1]
- 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

VIPERSTUD® IS FIRE TESTED

CLASSIFIED C UL US

INTERTEK C Warnock Hersey US

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.

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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.

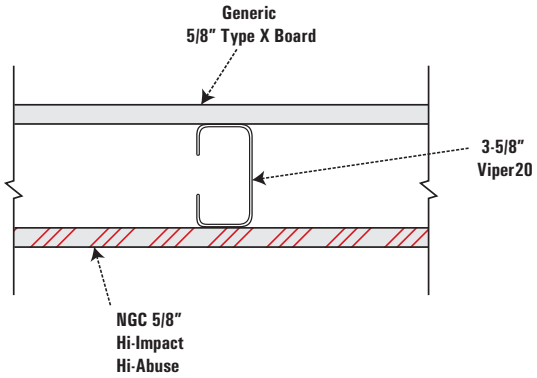
Test Materials:

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.

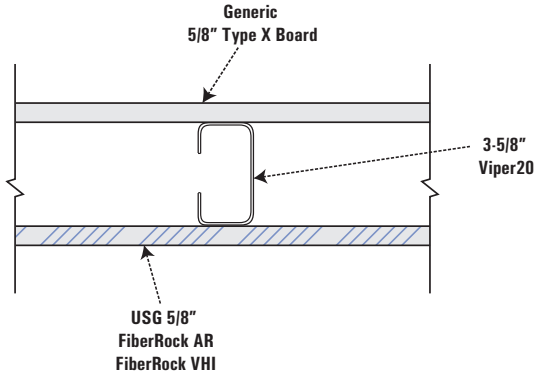
NATIONAL GYPSUM®

Soft Body Impact Test	Board Assembly	Classification
Single Drop	3-5/8" NGC Hi-Abuse	Level 2
Soft Body Impact Test	Board Assembly	Classification
Single Drop	3-5/8" NGC Hi-Impact	Level 3
Soft Body Impact Test	Board Assembly	Classification
Progressive Drop	3-5/8" NGC Hi-Abuse	Level 1
Soft Body Impact Test	Board Assembly	Classification
Progressive Drop	3-5/8" NGC Hi-Impact	Level 3
Hard Body Impact Test	Board Assembly	Classification
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
Soft Body Impact Test	Board Assembly	Classification
Progressive Drop	3-5/8" USG FiberRock VHI	Level 3
Hard Body Impact Test	Board Assembly	Classification
Single Drop	3-5/8" USG FiberRock AR	Level 1
Hard Body Impact Test	Board Assembly	Classification
Single Drop	3-5/8" USG FiberRock VHI	Level 3



- 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.

Soft body impact test using ViperStud.

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

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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.

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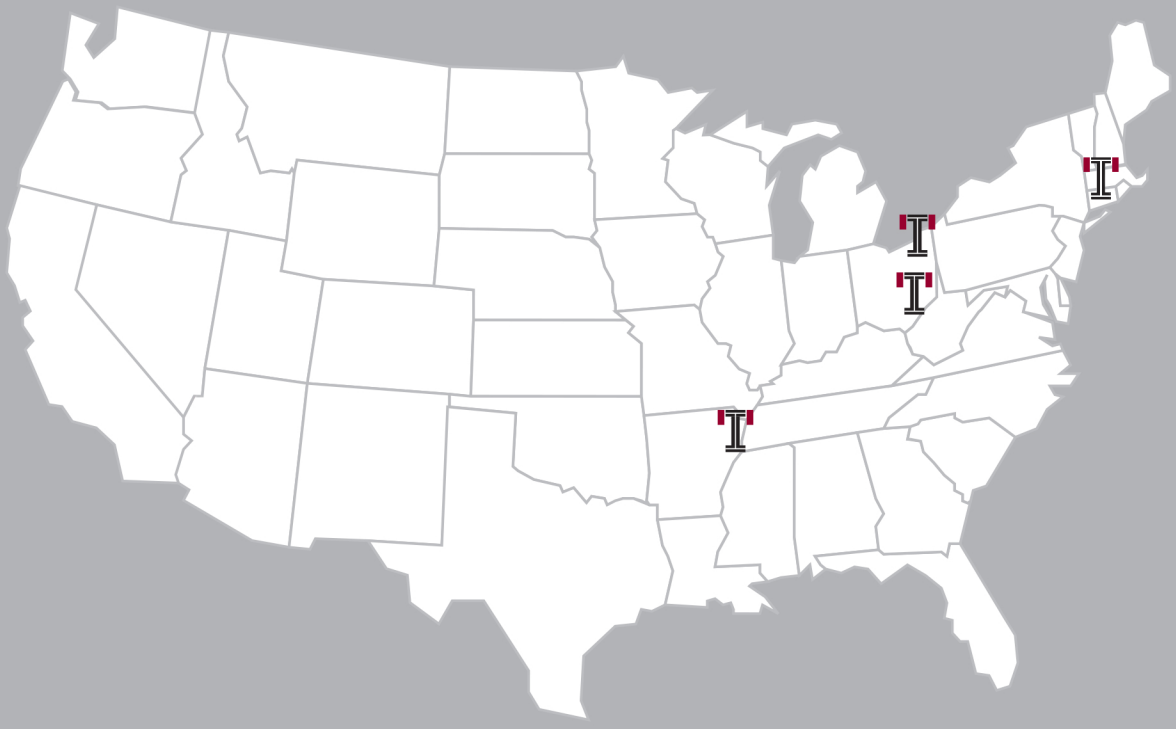

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This technical information reflects the most current information available and supersedes any and all previous publications effective January 1, 2016.

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