

ICC-ES Evaluation Report



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DIVISION: 05 00 00—METALS Section: 05 40 00—Cold-Formed Metal Framing

DIVISION: 09 00 00—FINISHES

Section: 09 22 16.13—Non-Structural Metal Stud Framing

REPORT HOLDER:

CLARKDIETRICH® BUILDING SYSTEMS

EVALUATION SUBJECT:

TRAKLOC[®] NONLOAD-BEARING WALL STUD FRAMING SYSTEM

1.0 EVALUATION SCOPE

Compliance with the following codes:

2015 and 2012 International Building Code® (IBC)

Property evaluated:

Structural

2.0 USES

The TRAKLOC nonload-bearing wall steel framing system is used for framing of interior nonload-bearing walls.

3.0 DESCRIPTION

3.1 General:

The TRAKLOC nonload-bearing wall steel framing system is constructed from the TRAKLOC studs and tracks which are available in four depths and four material thicknesses as noted in Table 2. The studs and tracks have a twist and lock system that permits stud installation into the top and bottom tracks without the use of fasteners. The TRAKLOC studs are available as single-unit fixed-length studs and as two-part adjustable-length studs.

3.1.1 TRAKLOC Fixed Length Stud: The TRAKLOC Fixed Length Stud (TLF) is not adjustable and is a single piece component. It is swaged at each end to interlock with TRAKLOC Track. The TLF is provided to job specific fixed lengths. The single-unit fixed-length studs (TLF) have the designation xxxTLFxxx-xx.

3.1.2 TRAKLOC Adjustable Stud: The TRAKLOC Adjustable Stud (TLA) is a two-piece stud that is adjustable in length at the top of the stud. It is used where small

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allowances for live-load and/or seismic-induced inter-floor vertical deflection is not needed. The adjustable-length studs are made up of two parts, the outer stud base (TSO) and the short inner stud TRAKLOC extension piece (TSE). See Figure 3. The TSE is fitted into the TSO, allowing the length of the TRAKLOC stud to be adjusted in the field. The TRAKLOC Adjustable Studs (TLA) have the designation xxxTLAxxx-xx.

3.1.3 TRAKLOC Deflection Stud: The TRAKLOC Deflection Stud (TLD) is a two-piece stud that is adjustable in length to accommodate small allowances for live-load and/or seismic-induced inter-floor vertical deflection. The short inner stud TRAKLOC extension insert (TSE) has slots cut out of the flanges to allow the drywall screw to penetrate through the drywall and the outer portion of the stud (TSO) while passing through the slot. The slot allows the drywall to be attached while still allowing for deflection at the head-of-wall joint. See Figure 3. The TSE is fitted into the TSO, allowing the length of the TRAKLOC beflection Studs (TLD) have the designation xxxTLDxxx-xx.

3.1.4 TRAKLOC Extension Insert: The TRAKLOC extension insert (TSE) is used with the TLA and TLD to allow for small amounts of vertical deflection. It has a base metal thickness of 33 mils. The minimum overall length of the TSE is 12 inches (305 mm) with a required minimum overlap length of 8 inches (204 mm) and a maximum unlapped length of 4 inches (102 mm). It is manufactured without web punch-outs, and with and without flange punch-outs. The flange punch-outs, when present, are ³/₄-inch by 3.0 inch (19 mm by 76 mm). The TSE without flange punch-outs is used with the TSO for the adjustable length studs (TLA). The TSE with flange punch-outs is used with the TSO for the deflection stud (TLD). See Figure 3.

3.1.5 TRAKLOC Elevator Stud: The TRAKLOC Elevator Stud (TLE) is comprised of two approximately equal length TSO & TSE parts of like thicknesses and is supplied in collapsed or retracted position to accommodate transport in a building elevator. It is then extended (telescoped) to the required fully extended length at the point of installation. The minimum overlap length for the elevator studs (TLE) is 11 inches (280 mm). The TSE and TSO components for use with the elevator stud are manufactured with web punch-outs. Each component is approximately 6 inches (152 mm) longer than one-half of the required span (telescoped) length. The TRAKLOC Elevator Studs (TLE) have the designation xxxTLExxx-xx.

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3.1.6 TRAKLOC Track: The TRAKLOC Track has a V-groove rolled into the flanges of the track to match the swaged ends of the TRAKLOC stud and dimples pressed into the center of the web. The TRAKLOC Track is typically provided in 10 foot (3048 mm) lengths. Custom lengths are available. The tracks are channel-shaped with an inward ridge to twist and lock the studs to the track and have the designation xxxTTSxxx-xx. See Figure 1 for stud and track configurations. See Figure 2 for punch-out configurations.

3.1.7 TRAKLOC Punch-outs: The TLF fixed length stud and the TSO for the adjustable length studs (TLA) and the deflection studs (TLD) are manufactured with web punchouts. The punch-outs are 3/4-inch by 4.0 inches (19 mm by 102 mm) for TSOs with web depth of less than 3 inches (76 mm). For all other TSO web depths the punch-outs are $1^{1}/_{2}$ -inches by 4.0 inches (38 mm by 102 mm). Punch-outs are spaced a minimum of 24 inches (610 mm) on center along the centerline of the TSO, with a minimum distance of 10 inches (254 mm) from the end of the member to the near edge of the punch-out.

3.2 Material:

3.2.1 Steel: The 24 mil studs and tracks are formed from coils of steel complying with ASTM A1003, NS57. All other studs and tracks are formed from coils of steel complying with ASTM A1003, NS33. The uncoated minimum base-metal thickness is specified in Table 2. The coating on the steel is a metallic coating conforming to ASTM A653/A653M with a minimum G40 (Z120) coating.

3.2.2 Gypsum Wallboard: Gypsum wallboard must be a minimum of $5/_8$ -inch (15.9 mm) thick and Type X, complying with ASTM C1396 and manufactured by of the following companies: American Gypsum; CertainTeed; Georgia Pacific; Continental; National Gypsum; or United States Gypsum.

3.2.3 Fasteners: Fasteners attaching the gypsum wallboard to the studs and tracks must be No. 6, Type S, fine thread drywall bugle head screws conforming to ASTM C1002.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The allowable values and tabulated limiting heights for both non-composite and composite designs are for use with the Allowable Strength Design (ASD).

4.1.1 Section Properties: The properties in Tables 3, 4, and 5 have been determined in accordance with the applicable edition of the North American Specification for Design of Cold-Formed Steel Structural Members (AISI S100).

4.1.2 Non-Composite: The limiting wall heights provided in Table 6, 7, 8, 9, 10, 11, 12, and 13 were determined by an all steel based design using the section properties in Tables 3 and 4 for simple spans.

4.1.3 Composite: The limiting wall heights provided in Tables 14, 15, and 16 were determined based on the composite action between the gypsum board and the steel studs.

4.2 Installation:

Installation of the TRAKLOC nonload-bearing wall steel framing system must be in accordance with the applicable

code, the approved construction documents and this report. If there is a conflict between this report and the documents submitted for approval, this report governs. The approved plans must be available on the jobsite at all times during installation.

5.0 CONDITIONS OF USE

The TRAKLOC nonload-bearing wall steel framing system described in this report complies with, or is a suitable alternative to what is specified in those codes listed in Section 1.0 of this report, subject to the following conditions:

- **5.1** The TRAKLOC nonload-bearing wall steel framing system is manufactured, identified and installed in accordance with this report, the approved plans, and the manufacturer's published installation instructions.
- **5.2** The composite wall assemblies are limited to interior nonload-bearing installations where the superimposed axial load is zero pounds (zero newtons).
- **5.3** Design of the attachment of the wall to the surrounding structure is outside the scope of this report.
- **5.4** Calculations and drawings demonstrating compliance with this report must be submitted to the code official for each project. The calculations and construction documents must be prepared and sealed by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- **5.5** Installation of the gypsum wallboard must meet the requirements of ASTM C840 or GA-216.
- **5.6** TRAKLOC studs and tracks are manufactured at the facilities listed in Table 1.

6.0 EVIDENCE SUBMITTED

- **6.1** Data in accordance with the ICC Acceptance Criteria for Cold-formed Steel Framing Members (AC46), Approved June 2012 (editorially revised April 2015).
- **6.2** Data in accordance with the ICC Acceptance Criteria for Cold-formed Steel Framing Members—Interior Nonload-Bearing Wall Assemblies (AC86), Approved May 2012 (editorially revised August 2015).

7.0 IDENTIFICATION

- 7.1 Each TRAKLOC stud and track must have a legible label or stamp, at a maximum spacing of 96 inches (2413 mm) on center, indicating the member designation; manufacturer's name or initials (CD); the minimum yield strength if other than 33 ksi (230 MPa); the designation "NS"; and the evaluation report number (ESR-1464). The TRAKLOC extension insert must have a legible label or stamp indicating the member designation (TSE); the manufacturer's name or initials (CD); and the evaluation report number (ESR-1464).
- 7.2 The report holder's contact information is:

CLARKDIETRICH[®] BUILDING SYSTEMS 9050 CENTRE POINTE DRIVE, SUITE 400 WEST CHESTER, OHIO 45069 (513) 870-1100 www.clarkdietrich.com

TABLE 1—MANUFACTURING LOCATIONS

ClarkDietrich [®] Building Systems - Woodland	ClarkDietrich [®] Building Systems - Vienna
1685 Tide Court	1455 Ridge Road
Woodland, CA 95776	Vienna Township, OH 44473

TABLE 2—TRAKLOC STUDS AND TRACKS

			STU	DS ^{1,2}			
MEMBER DESIGNATION⁴	WEIGHT (lb./ft.)	DEPTH (in.)	FLANGE (in.)	LIP (in.)	THICKNESS (mils)	MINIMUM BASE-METAL THICKNESS ³ (in.)	DESIGN THICKNESS (in.)
250125-18	0.346				18	0.0179	0.0188
250125-24	0.456	0.5	4.05	0.0405	24	0.0238	0.0250
250125-30	0.569	2.5	1.25	0.3125	30	0.0296	0.0312
250125-33	0.629				33	0.0329	0.0346
362 125-18	0.418				18	0.0179	0.0188
362 125-18 362 125-24	0.552				24	0.0179	0.0188
362125-24	0.552	3.625	1.25	0.3125	30	0.0238	0.0250
362125-33	0.762				33	0.0329	0.0346
400125-18	0.437				18	0.0179	0.0188
400 125-24	0.583		4.05	0.0405	24	0.0238	0.0250
400125-30	0.728	- 4	1.25	0.3125	30	0.0296	0.0312
400125-33	0.804				33	0.0329	0.0346
000 405 40	0.570				40	0.0470	0.0100
600125-18 600125-24	0.570 0.753				<u>18</u> 24	0.0179 0.0238	0.0188
		6	1.25	0.3125			
<u>600125-30</u> 600125-33	0.940				<u> </u>	0.0296	0.0312
600125-33	1.040		TRA		33	0.0329	0.0346
250TTS137-18	0.350				18	0.0179	0.0188
250TTS137-24	0.466				24	0.0238	0.0250
250TTS137-30	0.581	2.5	1.375		30	0.0296	0.0312
250TTS137-33	0.645				33	0.0329	0.0346
362TTS137-18	0.423				18	0.0179	0.0188
362TTS137-24	0.562	3.625	1.375		24	0.0238	0.0250
362TTS137-30	0.701	0.020	1.070		30	0.0296	0.0312
362TTS137-33	0.778				33	0.0329	0.0346
400TTS137-18	0.446				18	0.0179	0.0188
400TTS137-24	0.593				24	0.0238	0.0250
400TTS137-30	0.740	- 4	1.375		30	0.0296	0.0200
400TTS137-33	0.820				33	0.0329	0.0346
000TT0107.10	0.574					0.0470	0.0405
600TTS137-18	0.574	_			18	0.0179	0.0188
600TTS137-24	0.763	6	1.375		24	0.0238	0.0250
600TTS137-30	0.953				30	0.0296	0.0312
600TTS137-33	1.056				33	0.0329	0.0346

For **SI:** 1 inch = 25.4 mm, 1 lb/ft = 1.488 kg/m.

1 Values based on stud base (TSO).

Depth of study measured from outside face to outside face of flanges of TSO. Depth of track measured from inside face to inside face of flanges. Minimum base metal thickness permitted for framing members delivered to the project site. For member designations containing "____", the "____" is TLF, TLA, TLD, or TLE, as applicable. 2

3

4

Member			Gros	s Sectio	on Prop	erties			Effec	tive Sec	tion Pro	perties a	ıt F _y			d/Trak			Tors	ional Pr	opertie	s		L.
Designation	Fy	Area	I _x	Sx	r _x	l _y	r _y	A _e	I _{xe}	S _{xe}	Mai	\mathbf{M}_{ad}	Va_g	Va _{net}	TLF	TLA	TLD	Jx1000	Cw	Xo	m	R。	ß	(in)
	(ksi)	(in²)	(in⁴)	(in³)	(in)	(in⁴)	(in)	(in²)	(in⁴)	(in³)	(in-lbs)	(in-lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(in⁴)	(in⁰)	(in)	(in)	(in)	٢	
250TLF/TLA/TLD125-18	33	0.102	0.106	0.084	1.017	0.022	0.467	0.056	0.102	0.070	1387	1289	252	198	38	40	42	0.0120	0.031	-1.000	0.598	1.501	0.556	31.5
362TLF/TLA/TLD125-18	33	0.123	0.248	0.137	1.419	0.025	0.451	0.056	0.243	0.091	1797	1914	170	165	38	53	53	0.0145	0.068	-0.873	0.540	1.726	0.744	31.0
400TLF/TLA/TLD125-181	33	0.130	0.312	0.156	1.549	0.026	0.445	0.056	0.268	0.101	1881	1794	154	-	39	58	44	0.0153	0.084	-0.839	0.524	1.817	0.787	30.8
600TLF/TLA/TLD125-18 ²	33	0.168	0.821	0.274	2.212	0.029	0.414	0.057	0.692	0.156	2915	2744	101	-	31	75	74	0.0198	0.208	-0.696	0.452	2.356	0.913	30.0
250TLF/TLA/TLD125-24	57	0.135	0.139	0.111	1.014	0.029	0.464	0.067	0.128	0.086	2921	2680	596	349	111	96	99	0.0281	0.040	-0.992	0.594	1.493	0.558	24.3
362TLF/TLA/TLD125-24	57	0.163	0.327	0.180	1.416	0.033	0.448	0.067	0.306	0.109	3710	3986	402	292	102	115	107	0.0339	0.088	-0.866	0.536	1.719	0.746	23.9
400TLF/TLA/TLD125-24	57	0.172	0.411	0.206	1.545	0.034	0.442	0.067	0.388	0.121	4114	4416	363	313	125	131	126	0.0359	0.110	-0.832	0.520	1.810	0.789	23.8
600TLF/TLA/TLD125-241	57	0.222	1.084	0.361	2.208	0.037	0.410	0.068	0.927	0.208	7114	6523	238	-	87	116	118	0.0463	0.272	-0.690	0.448	2.350	0.914	23.1
250TLF/TLA/TLD125-30	33	0.167	0.171	0.137	1.011	0.035	0.461	0.113	0.170	0.125	2475	2515	832	388	147	106	108	0.0543	0.049	-0.984	0.590	1.485	0.560	31.4
362TLF/TLA/TLD125-30	33	0.202	0.404	0.223	1.413	0.040	0.445	0.114	0.401	0.179	3531	3822	785	453	158	137	134	0.0657	0.108	-0.859	0.532	1.712	0.748	30.8
400TLF/TLA/TLD125-30	33	0.214	0.509	0.254	1.542	0.041	0.439	0.114	0.505	0.199	3930	4261	708	487	161	162	135	0.0695	0.134	-0.825	0.516	1.802	0.791	30.6
600TLF/TLA/TLD125-30	33	0.276	1.343	0.448	2.204	0.046	0.407	0.116	1.291	0.352	6960	6491	464	464	114	121	114	0.0897	0.333	-0.683	0.445	2.343	0.915	29.7
250TLF/TLA/TLD125-33	33	0.185	0.188	0.151	1.010	0.039	0.459	0.116	0.187	0.143	2824	3072	990	414	166	103	112	0.0738	0.053	-0.980	0.587	1.480	0.561	29.9
362TLF/TLA/TLD125-33	33	0.224	0.445	0.246	1.411	0.044	0.443	0.118	0.442	0.208	4116	4682	1024	531	149	134	125	0.0893	0.118	-0.855	0.530	1.708	0.749	29.3
400TLF/TLA/TLD125-33	33	0.237	0.561	0.281	1.540	0.045	0.437	0.118	0.557	0.232	4587	5225	967	598	154	151	145	0.0945	0.147	-0.821	0.514	1.799	0.792	29.1
600TLF/TLA/TLD125-33	33	0.306	1.483	0.494	2.202	0.050	0.405	0.120	1.438	0.413	8164	7997	634	634	124	108	106	0.1221	0.366	-0.680	0.443	2.340	0.916	28.2

For **SI** Units: 1 inch = 25.4 mm. 1 lb = 4.45 N. 1 ksi = 6.89 N/m².

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.

^{3.} Gross and torsional properties are based on full-unreduced cross section of the studs, away from punch-outs.

^{4.} The allowable moment based on local buckling (M_{al}) is based on the compression flange continuously braced.

^{5.} The distortional buckling moment (M_{ad}) does not consider the beneficial effect of sheathing to rotational stiffness, Kφ = 0.

^{6.} For deflection calculations, use the effective moment of inertia.

⁷ Rx is the maximum end reaction (web crippling) capacity based on a minimum bearing length of 1 inch.

8. For TLA and TLD members, the minimum overlap of the TSO and TSE must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

Gross Properties

r_x

l_y -

rv

I. moment of inertia of the cross section about the x-axis

radius of gyration of cross section about the x-axis

- Sx section modulus about the x-axis radius of gyration of cross section about the x-axis -
 - Sxe - section modulus about the x-axis Mal moment of inertia of the cross section about the y-axis

- Effective area

Effective Properties

Ae

Ixe

 M_{ad}

 V_{ag}

Vanet

- allowable moment based on local buckling
- allowable strong axis shear away from punch-out

- moment of inertia of the cross section about the x-axis

-Allowable strong axis shear at the punch-out

Torsional and Other Properties

- .1 -St. Venant torsion constant.
- Cw -Warping constant.
 - -Distance from shear center to neutral axis.
- Xo Distance from shear center to mid-plane of web. m -
- -Polar radius of gyration of cross section about the shear center Ro
 - Torsional flexural constant, 1-(Xo/Ro)²
- β Lu
 - Critical unbraced length for lateral-torsional buckling. Members are considered fully braced when unbraced length is less than Lu.
- Kφ -Rotational stiffness.

TABLE 4—TRAKLOC ELEVATOR (TLE) PROPERTIES^{3,4,5,6,7}

Member			Gros	s Sectio	on Prop	erties			Effec	tive Sec	tion Pro	perties a	t F _y		R _x		Tors	ional Pr	opertie	es		
Designation	$\mathbf{F}_{\mathbf{y}}$	Area	I _x	Sx	R _x	l _y	Ry	A _e	I _{xe}	S _{xe}	\mathbf{M}_{al}	\mathbf{M}_{ad}	Va_{g}	Va _{net}	TLE	Jx1000	Cw	X。	m	R。	β	(in)
	(ksi)	(in²)	(in⁴)	(in³)	(in)	(in⁴)	(in)	(in²)	(in⁴)	(in³)	(in-lbs)	(in-lbs)	(lbs)	(lbs)	(lbs)	(in⁴)	(in⁰)	(in)	(in)	(in)	F	
250TLE125-18	33	0.099	0.098	0.080	0.997	0.019	0.444	0.056	0.082	0.059	1165	1123	256	197	39	0.0116	0.026	-0.946	0.568	1.445	0.571	30.1
362TLE125-18	33	0.120	0.234	0.131	1.398	0.022	0.428	0.056	0.204	0.084	1661	1687	172	164	47	0.0141	0.058	-0.823	0.511	1.677	0.759	29.6
400TLE125-181	33	0.127	0.296	0.149	1.526	0.023	0.422	0.056	0.242	0.093	1843	1825	155	-	38	0.0150	0.073	-0.789	0.495	1.769	0.801	29.4
600TLE125-18 ²	33	0.165	0.787	0.264	2.187	0.025	0.391	0.057	0.609	0.148	2915	2744	102	-	31	0.0194	0.181	-0.652	0.425	2.315	0.921	28.5
250TLE125-24	57	0.130	0.128	0.104	0.990	0.025	0.441	0.067	0.115	0.071	2423	2297	609	346	108	0.0271	0.034	-0.940	0.564	1.435	0.570	22.8
362TLE125-24	57	0.158	0.306	0.171	1.390	0.029	0.425	0.067	0.281	0.104	3562	3520	408	288	107	0.0330	0.076	-0.817	0.508	1.667	0.760	22.4
400TLE125-24	57	0.168	0.387	0.196	1.518	0.029	0.419	0.067	0.356	0.120	4094	3957	368	311	119	0.0350	0.094	-0.783	0.492	1.759	0.802	22.3
600TLE125-24 ¹	57	0.218	1.034	0.347	2.178	0.033	0.388	0.068	0.911	0.188	6427	5847	241	-	85	0.0454	0.235	-0.646	0.422	2.305	0.921	21.6
250TLE125-30	33	0.161	0.156	0.128	0.982	0.031	0.438	0.113	0.163	0.125	2475	2515	832	372	137	0.0523	0.041	-0.934	0.561	1.425	0.570	30.0
362TLE125-30	33	0.196	0.375	0.211	1.382	0.035	0.422	0.114	0.372	0.179	3531	3822	799	446	138	0.0637	0.092	-0.811	0.504	1.657	0.760	29.4
400TLE125-30	33	0.208	0.475	0.241	1.511	0.036	0.416	0.114	0.471	0.199	3930	4261	719	482	152	0.0675	0.114	-0.778	0.488	1.749	0.802	29.2
600TLE125-30	33	0.270	1.274	0.429	2.170	0.040	0.384	0.116	1.195	0.352	6960	6491	470	470	110	0.0878	0.287	-0.641	0.419	2.295	0.922	28.2
250TLE125-33	33	0.178	0.170	0.140	0.978	0.034	0.436	0.116	0.171	0.143	2824	3047	961	384	149	0.0710	0.044	-0.931	0.559	1.419	0.570	28.5
362TLE125-33	33	0.217	0.412	0.232	1.378	0.038	0.420	0.118	0.394	0.208	4116	4404	1024	512	133	0.0866	0.100	-0.808	0.503	1.651	0.761	27.9
400TLE125-33	33	0.230	0.522	0.265	1.506	0.039	0.414	0.118	0.481	0.232	4587	5195	985	591	153	0.0917	0.125	-0.774	0.487	1.744	0.803	27.7
600TLE125-33	33	0.299	1.403	0.473	2.166	0.044	0.383	0.120	1.244	0.413	8164	7987	642	642	113	0.1194	0.314	-0.638	0.417	2.290	0.922	26.7

For **SI** Units: 1 inch = 25.4 mm, 1 lb = 4.45 N, 1 ksi = 6.89 N/m².

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.

^{3.} Gross and torsional properties are based the full-unreduced cross section of the studs, away from punch-outs.

^{4.} The distortional buckling moment (M_{ad}) does not consider the beneficial effect of sheathing to rotational stiffness.

^{5.} For deflection calculations use, the effective moment of inertia.

^{6.} Rx is the maximum end reaction (web crippling) capacity based on a minimum bearing length of 1 inch.

⁷ The minimum overlap of the TSO and TSE must be minimum 11 inches and for the non-composite wall configuration must be connected with a minimum of (4) #8 x 9/16" long wafer head screws complying with ASTM C1513.

Member			Gross	Sectior	n Prope	rties		Effe	ctive Se	ection F	Properties	at F _y		Tors	ional Pre	opertie	s	
Designation	Fy	Area	l _x	Sx	R _x	ly	Ry	Ae	Ixe	Sxe	Mal	Vag	Jx1000	Cw	X。	m	R。	ß
	(ksi)	(in²)	(in⁴)	(in³)	(in)	(in⁴)	(in)	(in²)	(in⁴)	(in³)	(in-lbs)	(lbs)	(in⁴)	(in⁵)	(in)	(in)	(in)	Ρ
250TTS137-18 ²	33	0.099	0.110	0.085	1.057	0.019	0.444	-	-	-	-	-	0.0116	0.023	-0.875	0.519	1.442	0.632
362TTS137-18 ²	33	0.120	0.252	0.135	1.449	0.022	0.425	-	-	-	-	-	0.0141	0.053	-0.763	0.470	1.692	0.797
400TTS137-18 ²	33	0.127	0.315	0.154	1.576	0.022	0.418	-	-	-	-	-	0.0150	0.066	-0.732	0.456	1.787	0.832
600TTS137-18 ²	33	0.165	0.816	0.268	2.227	0.024	0.385	-	-	-	-	-	0.0194	0.168	-0.605	0.392	2.340	0.933
250TTS137-24	57	0.131	0.147	0.113	1.059	0.026	0.443	0.047	0.106	0.057	1946	570	0.0273	0.030	-0.872	0.518	1.441	0.634
362TTS137-24	57	0.159	0.335	0.180	1.451	0.029	0.424	0.048	0.258	0.082	2813	390	0.0332	0.070	-0.760	0.469	1.692	0.798
400TTS137-24	57	0.169	0.420	0.204	1.577	0.029	0.417	0.048	0.328	0.091	3103	353	0.0351	0.088	-0.730	0.454	1.787	0.833
600TTS137-241	57	0.219	1.086	0.355	2.228	0.032	0.384	0.048	0.718	0.134	4587	234	0.0456	0.222	-0.603	0.391	2.340	0.934
250TTS137-30	33	0.164	0.184	0.140	1.061	0.032	0.442	0.086	0.149	0.090	1775	832	0.0531	0.038	-0.868	0.516	1.440	0.636
362TTS137-30	33	0.199	0.419	0.224	1.452	0.036	0.423	0.089	0.347	0.153	3031	758	0.0645	0.087	-0.757	0.467	1.691	0.800
400TTS137-30	33	0.210	0.524	0.254	1.579	0.036	0.416	0.090	0.437	0.178	3510	686	0.0683	0.109	-0.727	0.453	1.787	0.835
600TTS137-30	33	0.273	1.356	0.443	2.229	0.040	0.383	0.092	1.117	0.247	4874	455	0.0885	0.276	-0.601	0.389	2.340	0.934
250TTS137-33	33	0.181	0.204	0.156	1.062	0.035	0.441	0.104	0.170	0.103	2043	1024	0.0724	0.042	-0.867	0.515	1.440	0.638
362TTS137-33	33	0.220	0.465	0.248	1.453	0.039	0.422	0.108	0.395	0.175	3465	1024	0.0879	0.097	-0.756	0.466	1.691	0.800
400TTS137-33	33	0.233	0.582	0.282	1.579	0.040	0.415	0.109	0.497	0.203	4006	935	0.0931	0.121	-0.725	0.452	1.787	0.835
600TTS137-33	33	0.303	1.504	0.491	2.230	0.044	0.383	0.111	1.287	0.296	5840	621	0.1207	0.306	-0.599	0.388	2.340	0.934

TABLE 5—TRAKLOC TRACK PROPERTIES 3,4

For **SI** Units: 1 inch = 25.4 mm, 1 lb = 4.45 N, 1 ksi = 6.89 N/m².

¹ Web-height to thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web-height to thickness ratio exceeds 260. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2. Flange width to thickness ratio exceeds 60. See AISI S100 Section B1.1.

³ Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punch-outs.

⁴ For deflection calculations use the effective moment of inertia.

TABLE 6—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) FULLY BRACED TRAKLOC FIXED LENGTH STUDS (TLF)^{3,4,5}

							Lateral I	_oad (psf)					
MEMBER DESIGNATION	Spacing o/c (in)		5 PSF			7.5 PSF			10 PSF			15 PSF	
	0,0 (iii)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
	12	13' 1"	11' 0"	9' 8"	10'8" e	10'8" e	9' 6"	9'3" e	9'3" e	8'7" e	7'7" e	7'7" e	7'6" e
250TLF125-18	16	11'4" e	10' 0"	8' 9"	9'3" e	9'3" e	8'7" e	8'0" e	8'0" e	7'10" e	6'7" e	6'7" e	6'7" e
	24	9'3" e	8'9" e	7'8" e	7'7" e	7'7" e	7'6" e	6'7" e	6'7" e	6'7" e	5' 4" e	5' 4" e	5'4" e
	12	15'6" e	14' 9"	12' 10"	12'8" e	12'8" e	12'8" e	10'11" e	10'11" e	10'11" e	8'11" e	8'11" e	8'11" e
362TLF125-18	16	13'5" e	13'4" e	11'8" e	10'11" e	10'11" e	10'11" e	9'6" e	9'6" e	9'6" e	7'9" e	7'9" e	7'9" e
	24	10'11" e	10'11" e	10'2" e	8'11" e	8'11" e	8'11" e	7'9" e	7'9" e	7'9" e	6'4" e	6'4" e	6'4" e
	12	15' 6"	15' 2"	13' 3"	12'8" e	12'8" e	12'8" e	10'11" e	10'11" e	10'11" e	8'11" e	8'11" e	8'11" e
400TLF125-181	16	13'5" e	13'5" e	12'1" e	10'11" e	10'11" e	10'11" e	9'6" e	9'6" e	9'6" e	7'9" e	7'9" e	7'9" e
	24	10'11" e	10'11" e	10'6" e	8'11" e	8'11" e	8'11" e	7'9" e	7'9" e	7'9" e	6'4" e	6'4" e	6'4" e
	12	19'2" e	19'2" e	18'3" e	15'7" e	15'7" e	15'7" e	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e
600TLF125-18 ²	16	16'7" e	16'7" e	16'7" e	13'6" e	13'6" e	13'6" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e
	24	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e
	12	15' 0"	11' 11"	10' 5"	14' 9"	11' 8"	10' 3"	13' 4"	10' 8"	9' 3"	10' 11"	9' 3"	8' 1"
250TLF125-24	16	13' 7"	10' 10"	9' 5"	13' 4"	10' 8"	9' 3"	11' 7"	9' 8"	8' 5"	9' 5"	8' 5"	7' 4"
	24	11' 11"	9' 5"	8' 3"	10' 11"	9' 3"	8' 1"	9' 5"	8' 5"	7' 4"	7'9" e	7' 4"	6' 5"
	12	20' 0"	15' 11"	13' 11"	18' 2"	15' 8"	13' 8"	15' 9"	14' 3"	12' 5"	12' 10"	12' 5"	10' 10"
362TLF125-24	16	18' 2"	14' 5"	12' 7"	15' 9"	14' 3"	12' 5"	13' 7"	12' 11"	11' 3"	11'1" e	11'1" e	9' 10"
	24	15' 9"	12' 7"	11' 0"	12' 10"	12' 5"	10' 10"	11'1" e	11'1" e	9' 10"	9'1" e	9'1" e	8'7" e
	12	21' 8"	17' 2"	15' 0"	19' 1"	16' 11"	14' 9"	16' 7"	15' 5"	13' 5"	13' 6"	13' 5"	11' 9"
400TLF125-24	16	19' 8"	15' 8"	13' 8"	16' 7"	15' 5"	13' 5"	14' 4"	14' 0"	12' 2"	11' 9"	11' 9"	10' 8"
	24	16' 7"	13' 8"	11' 11"	13' 6"	13' 5"	11' 9"	11' 9"	11' 9"	10' 8"	9'7" e	9'7" e	9'4" e
	12	27' 9"	23' 0"	20' 1"	22' 8"	22' 7"	19' 9"	19'8" e	19'8" e	17'11" e	16'1" e	16'1" e	15'8" e
600TLF125-241	16	24' 1"	20' 11"	18' 3"	19'8" e	19'8" e	17'11" e	17'0" e	17'0" e	16'4" e	13'11" e	13'11" e	13'11" e
	24	19'8" e	18'3" e	15' 11"	16'1" e	16'1" e	15'8" e	13'11" e	13'11" e		11'4" e	11'4" e	11'4" e
	12	16' 5"	13' 1"	11' 5"	14' 10"	12' 10"	11' 3"	12' 10"	11' 8"	10' 2"	10' 6"	10' 2"	8' 11"
250TLF125-30	16	14' 11"	11' 10"	10' 4"	12' 10"	11' 8"	10' 2"	11' 1"	10' 7"	9' 3"	9' 1"	9' 1"	8' 1"
	24	12' 10"	10' 4"	9' 1"	10' 6"	10' 2"	8' 11"	9' 1"	9' 1"	8' 1"	7' 5"	7' 5"	7' 1"
	12	21' 8"	17' 5"	15' 2"	17' 9"	17' 1"	14' 11"	15' 4"	15' 4"	13' 7"	12' 6"	12' 6"	11' 10"
362TLF125-30	16	18' 10"	15' 10"	13' 10"	15' 4"	15' 4"	13' 7"	13' 3"	13' 3"	12' 4"	10' 10"	10' 10"	10' 9"
	24	15' 4"	13' 10"	12' 1"	12' 6"	12' 6"	11' 10"	10' 10"	10' 10"	10' 9"	8' 10"	8' 10"	8' 10"
	12	22' 11"	18' 9"	16' 5"	18' 8"	18' 6"	16' 2"	16' 2"	16' 2"	14' 8"	13' 3"	13' 3"	12' 10"
400TLF125-30	16	19' 10"	17' 1"	14' 11"	16' 2"	16' 2"	14' 8"	14' 0"	14' 0"	13' 4"	11' 5"	11' 5"	11' 5"
	24	16' 2"	14' 11"	13' 0"	13' 3"	13' 3"	12' 10"	11' 5"	11' 5"	11' 5"	9'4" e	9'4" e	9'4" e
	12	29' 5"	25' 8"	22' 5"	24' 0"	24' 0"	22' 1"	20' 10"	20' 10"	20' 1"	17'0" e	17'0" e	17'0" e
600TLF125-30	16	25' 6"	23' 4"	20' 5"	20' 10"	20' 10"	20' 1"	18'0" e	18'0" e	18'0" e	14'9" e	14'9" e	14'9" e
	24	20' 10"	20' 5"	17' 10"	17'0" e	17'0" e	17'0" e	14'9" e	14'9" e	14'9" e	12'0" e	12'0" e	12'0" e
	12	17' 0"	13' 6"	11' 9"	15' 10"	13' 3"	11' 7"	13' 9"	12' 1"	10' 6"	11' 2"	10' 6"	9' 2"
250TLF125-33	16	15' 5"	12' 3"	10' 8"	13' 9"	12' 1"	10' 6"	11' 11"	10' 11"	9' 7"	9' 8"	9' 7"	8' 4"
	24	13' 6"	10' 8"	9' 4"	11' 2"	10' 6"	9' 2"	9' 8"	9' 7"	8' 4"	7' 11"	7' 11"	7' 4"
	12	22' 8"	18' 0"	15' 8"	19' 2"	17' 8"	15' 5"	16' 7"	16' 1"	14' 0"	13' 6"	13' 6"	12' 3"
362TLF125-33	16	20' 3"	16' 4"	14' 3"	16' 7"	16' 1"	14' 0"	14' 4"	14' 4"	12' 9"	11' 9"	11' 9"	11' 2"
	24	20 3 16' 7"	14' 3"	12' 5"	13' 6"	13' 6"	12' 3"	11'9"	11' 9"	12 3	9' 7"	9' 7"	9' 7"
	12	24' 5"	19' 5"	16' 11"	20' 2"	<u>13_0</u> 19' 1"	16' 8"	17' 6"	<u>17' 4</u> "	15' 2"	14' 3"	<u>3 /</u> 14' 3"	<u>3 /</u> 13' 3"
400TLF125-33	12	24 5 21' 5"	19 3	15' 5"	20 2 17' 6"	17' 4"	15' 2"	15' 2"	15' 2"	13' 9"	14 3	14 3	13 3
	24	21 5 17' 6"	15' 5"	13'5"	14' 3"	14' 3"	13' 3"	12' 4"	12' 4"	12' 0"	10' 1"	12 4	12 0
	12	32' 8"	26' 7"	23' 3"	26' 8"	26' 2"	22' 11"	23' 1"	23' 1"	20' 9"	18'10" e	18'10" e	18'2" e
600TLF125-33	12	32 8 28' 3"	20 7 24' 2"	23 3 21' 2"	20 0 23' 1"	20 2 23' 1"		Í					
100.11.120.00							20' 9"	20'0" e		18'11" e	16'4" e	16'4" e	16'4" e
For SI: 1 inch :	24	23' 1"	21' 2"	18' 5"		18 10" e	18'2" e	16'4" e	16'4" e	16'4" e	13 4" e	13'4" e	13'4" e

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.

^{3.} Web stiffeners are required at the stud/track connection when denoted with an "e".

⁴ Compression flanges must be continuously braced.

^{5.} End bearing must be 1-inch.

TABLE 7—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) 48" o.c. BRACING TRAKLOC FIXED LENGTH STUDS (TLF) ^{3,4,5}

							Lateral	Load (psf)					
MEMBER DESIGNATION	Spacing o/c (in)		5 PSF			7.5 PSF			10 PSF			15 PSF	
5201011711011	0,0 (m)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
	12	12' 7"	11' 0"	9' 8"	10'3" e	10'3" e	9' 6"	8'11" e	8'11" e	8'7" e	7'3" e	7'3" e	7'3" e
250TLF125-18	16	10' 11"	10' 0"	8' 9"	8'11" e	8'11" e	8'7" e	7'8" e	7'8" e	7'8" e	6'3" e	6'3" e	6'3" e
	24	8'11" e	8'9" e	7'8" e	7'3" e	7'3" e	7'3" e	6'3" e	6'3" e	6'3" e	5'2" e	5'2" e	5'2" e
	12	14' 3"	14' 3"	12' 10"	11'7" e	11'7" e	11'7" e	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e
362TLF125-18	16	12'4" e	12'4" e	11'8" e	10'1" e	10'1" e	10'1" e	8'9" e	8'9" e	8'9" e	7'1" e	7'1" e	7'1" e
	24	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e	7'1" e	7'1" e	7'1" e	5'10" e	5'10" e	5'10" e
	12	15' 0"	15' 0"	13' 3"	12'3" e	12'3" e	12'3" e	10'7" e	10'7" e	10'7" e	8'8" e	8'8" e	8'8" e
400TLF125-181	16	12'11" e	12'11" e	12'1" e	10'7" e	10'7" e	10'7" e	9'2" e	9'2" e	9'2" e	7'6" e	7'6" e	7'6" e
	24	10'7" e	10'7" e	10'6" e	8'8" e	8'8" e	8'8" e	7'6" e	7'6" e	7'6" e	6'1" e	6'1" e	6'1" e
	12	19'2" e	19'2" e	18'3" e	15'7" e	15'7" e	15'7" e	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e
600TLF125-18 ²	16	16'7" e	16'7" e	16'7" e	13'6" e	13'6" e	13'6" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e
	24	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e
	12	15' 0"	11' 11"	10' 5"	13' 2"	11' 8"	10' 3"	11' 5"	10' 8"	9' 3"	9' 4"	9' 3"	8' 1"
250TLF125-24	16	13' 7"	10' 10"	9' 5"	11' 5"	10' 8"	9' 3"	9' 11"	9' 8"	8' 5"	8' 1"	8' 1"	7' 4"
	24	11' 5"	9' 5"	8' 3"	9' 4"	9' 3"	8' 1"	8' 1"	8' 1"	7' 4"	6' 7"	6' 7"	6' 5"
	12	17' 11"	15' 11"	13' 11"	14' 8"	14' 8"	13' 8"	12' 8"	12' 8"	12' 5"	10' 4"	10' 4"	10' 4"
362TLF125-24	16	15' 7"	14' 5"	12' 7"	12' 8"	12' 8"	12' 5"	11' 0"	11' 0"	11' 0"	9' 0"	9' 0"	9' 0"
	24	12' 8"	12' 7"	11' 0"	10' 4"	10' 4"	10' 4"	9' 0"	9' 0"	9' 0"	7'4" e	7'4" e	7'4" e
	12	18' 10"	17' 2"	15' 0"	15' 4"	15' 4"	14' 9"	13' 4"	13' 4"	13' 4"	10' 10"	10' 10"	10' 10"
400TLF125-24	16	16' 4"	15' 8"	13' 8"	13' 4"	13' 4"	13' 4"	11' 6"	11' 6"	11' 6"	9' 5"	9' 5"	9' 5"
	24	13' 4"	13' 4"	11' 11"	10' 10"	10' 10"	10' 10"	9' 5"	9' 5"	9' 5"	7' 8"	7' 8"	7' 8"
	12	24' 2"	23' 0"	20' 1"	19' 9"	19' 9"	19' 9"	17' 1"	17' 1"	17' 1"	13'11" e	13'11" e	13'11" e
600TLF125-241	16	20' 11"	20' 11"	18' 3"	17' 1"	17' 1"	17' 1"	14'10" e	14'10" e	14'10" e	12'1" e	12'1" e	12'1" e
	24	17' 1"	17' 1"	15' 11"	13'11" e	13'11" e	13'11" e	12'1" e	12'1" e	12'1" e	9'10" e	9'10" e	9'10" e
	12	16' 5"	13' 1"	11' 5"	13' 9"	12' 10"	11' 3"	11' 11"	11' 8"	10' 2"	9' 9"	9' 9"	8' 11"
250TLF125-30	16	14' 7"	11' 10"	10' 4"	11' 11"	11' 8"	10' 2"	10' 4"	10' 4"	9' 3"	8' 5"	8' 5"	8' 1"
	24	11' 11"	10' 4"	9' 1"	9' 9"	9' 9"	8' 11"	8' 5"	8' 5"	8' 1"	6' 10"	6' 10"	6' 10"
	12	19' 11"	17' 5"	15' 2"	16' 3"	16' 3"	14' 11"	14' 1"	14' 1"	13' 7"	11' 6"	11' 6"	11' 6"
362TLF125-30	16	17' 3"	15' 10"	13' 10"	14' 1"	14' 1"	13' 7"	12' 3"	12' 3"	12' 3"	10' 0"	10' 0"	10' 0"
	24	14' 1"	13' 10"	12' 1"	11' 6"	11' 6"	11' 6"	10' 0"	10' 0"	10' 0"	8' 2"	8' 2"	8' 2"
	12	21' 0"	18' 9"	16' 5"	17' 2"	17' 2"	16' 2"	14' 10"	14' 10"	14' 8"	12' 1"	12' 1"	12' 1"
400TLF125-30	16	18' 2"	17' 1"	14' 11"	14' 10"	14' 10"	14' 8"	12' 10"	12' 10"	12' 10"	10' 6"	10' 6"	10' 6"
	24	14' 10"	14' 10"	13' 0"	12' 1"	12' 1"	12' 1"	10' 6"	10' 6"	10' 6"	8' 7"	8' 7"	8' 7"
	12	27' 7"	25' 8"	22' 5"	22' 7"	22' 7"	22' 1"	19' 6"	19' 6"	19' 6"	15'11" e	15'11" e	15'11" e
600TLF125-30	16	23' 11"	23' 4"	20' 5"	19' 6"	19' 6"	19' 6"	16' 11"	16' 11"	16' 11"	13'10" e	13'10" e	13'10" e
	24	19' 6"	19' 6"	17' 10"	15'11" e	15'11" e	15'11" e	13'10" e	13'10" e	13'10" e	11'3" e	11'3" e	11'3" e
	12	17' 0"	13' 6"	11' 9"	14' 8"	13' 3"	11' 7"	12' 9"	12' 1"	10' 6"	10' 5"	10' 5"	9' 2"
250TLF125-33	16	15' 5"	12' 3"	10' 8"	12' 9"	12' 1"	10' 6"	11' 0"	10' 11"	9' 7"	9' 0"	9' 0"	8' 4"
	24	12' 9"	10' 8"	9' 4"	10' 5"	10' 5"	9' 2"	9' 0"	9' 0"	8' 4"	7' 4"	7' 4"	7' 4"
	12	21' 6"	18' 0"	15' 8"	17' 7"	17' 7"	15' 5"	15' 3"	15' 3"	14' 0"	12' 5"	12' 5"	12' 3"
362TLF125-33	16	18' 8"	16' 4"	14' 3"	15' 3"	15' 3"	14' 0"	13' 2"	13' 2"	12' 9"	10' 9"	10' 9"	10' 9"
	24	15' 3"	14' 3"	12' 5"	12' 5"	12' 5"	12' 3"	10' 9"	10' 9"	10' 9"	8' 9"	8' 9"	8' 9"
100T	12	22' 8"	19' 5"	16' 11"	18' 6"	18' 6"	16' 8"	16' 0"	16' 0"	15' 2"	13' 1"	13' 1"	13' 1"
400TLF125-33	16	19' 8"	17' 8"	15' 5"	16' 0"	16' 0"	15' 2"	13' 11"	13' 11"	13' 9"	11' 4"	11' 4"	11' 4"
	24	16' 0"	15' 5"	13' 5"	13' 1"	13' 1"	13' 1"	11' 4"	11' 4"	11' 4"	9' 3"	9' 3"	9' 3"
	12	29' 11"	26' 7"	23' 3"	24' 5"	24' 5"	22' 11"	21' 2"	21' 2"	20' 9"	17'3" e	17'3" e	17'3" e
600TLF125-33	16	25' 11"	24' 2"	21' 2"	21' 2"	21' 2"	20' 9"	18' 4"	18' 4"	18' 4"	14'11" e	14'11" e	14'11" e
	24	21' 2"	21' 2"	18' 5"	17'3" e	17'3" e	17'3" e	14'11" e	14'11" e	14'11" e	12'2" e	12'2" e	12'2" e

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048 m, 1 psf = 47.88 Pa.

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.

^{3.} Web stiffeners are required at the stud/track connection when denoted with an "e".

⁴ Based on an unbraced length (Lu) of 48" o.c.

^{5.} End bearing must be 1-inch.

TABLE 8—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) FULLY BRACED TRAKLOC ADJUSTABLE STUDS (TLA)

							Lateral	Load (psf)				
MEMBER DESIGNATION	Spacing o/c (in)		5 PSF			7.5 PSF			10 PSF			15 PSF	
	0,0 (,	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
	12	13' 1"	11' 0"	9' 8"	10'8" e	10'8" e	9' 6"	9'3" e	9'3" e	8'7" e	7'7" e	7'7" e	7'6" e
250TLA125-18	16	11'4" e	10' 0"	8' 9"	9'3" e	9'3" e	8'7" e	8'0" e	8'0" e	7'10" e	6'7" e	6'7" e	6'7" e
	24	9'3" e	8'9" e	7'8" e	7'7" e	7'7" e	7'6" e	6'7" e	6'7" e	6'7" e	5'4" e	5'4" e	5'4" e
	12	15'6" e	14' 9"	12' 10"	12'8" e	12'8" e	12'8" e	10'11" e	10'11" e	10'11" e	8'11" e	8'11" e	8'11" e
362TLA125-18	16	13'5" e	13'4" e	11'8" e	10'11" e	10'11" e	10'11" e	9'6" e	9'6" e	9'6" e	7'9" e	7'9" e	7'9" e
	24	10'11" e	10'11" e	10'2" e	8'11" e	8'11" e	8'11" e	7'9" e	7'9" e	7'9" e	6'4" e	6'4" e	6'4" e
	12	15' 6"	15' 2"	13' 3"	12'8" e	12'8" e	12'8" e	10'11" e	10'11" e	10'11" e	8'11" e	8'11" e	8'11" e
400TLA125-181	16	13'5" e	13'5" e	12'1" e	10'11" e	10'11" e	10'11" e	9'6" e	9'6" e	9'6" e	7'9" e	7'9" e	7'9" e
	24	10'11" e	10'11" e	10'6" e	8'11" e	8'11" e	8'11" e	7'9" e	7'9" e	7'9" e	6'4" e	6'4" e	6'4" e
	12	19'2" e		18'3" e	15'7" e	15'7" e	15'7" e	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e
600TLA125-18 ²	16	16'7" e	16'7" e	16'7" e	13'6" e	13'6" e	13'6" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e
	24	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e
	12	15' 0"	11' 11"	10' 5"	14' 9"	11' 8"	10' 3"	13' 4"	10' 8"	9' 3"	10' 11"	9' 3"	8' 1"
250TLA125-24	16	13' 7"	10' 10"	9' 5"	13' 4"	10' 8"	9' 3"	11' 7"	9' 8"	8' 5"	9' 5"	8' 5"	7' 4"
	24	11' 11"	9' 5"	8' 3"	10' 11"	9' 3"	8' 1"	9' 5"	8' 5"	7' 4"	7'9" e	7'4" e	6'5" e
	12	20' 0"	15' 11"	13' 11"	18' 2"	15' 8"	13' 8"	15' 9"	14' 3"	12' 5"	12' 10"	12' 5"	10' 10"
362TLA125-24	16	18' 2"	14' 5"	12' 7"	15' 9"	14' 3"	12' 5"	13' 7"	12' 11"	11' 3"	11'1" e	11'1" e	9' 10"
	24	15' 9"	12' 7"	11' 0"	12' 10"	12' 5"	10' 10"	11'1" e	11'1" e	9' 10"	9'1" e	9'1" e	8'7" e
	12	21' 8"	17' 2"	15' 0"	19' 1"	16' 11"	14' 9"	16' 7"	15' 5"	13' 5"	13' 6"	13' 5"	11' 9"
400TLA125-24	16	19' 8"	15' 8"	13' 8"	16' 7"	15' 5"	13' 5"	14' 4"	14' 0"	12' 2"	11' 9"	11' 9"	10' 8"
	24	16' 7"	13' 8"	11' 11"	13' 6"	13' 5"	11' 9"	11' 9"	11' 9"	10' 8"	9'7" e	9'7" e	9'4" e
	12	27' 9"	23' 0"	20' 1"	22' 8"	22' 7"	19' 9"	19'8" e	19'8" e	17'11" e	16'1" e	16'1" e	15'8" e
600TLA125-241	16	24' 1"	20' 11"	18' 3"	19'8" e	19'8" e	17'11" e	17'0" e	17'0" e	16'4" e		13' 11" e	13'11" e
	24	19'8" e	18'3" e	15' 11"	16'0'0	16'0'0	15'8" e	Ì	13'11" e		11'4" e	11'4" e	11'4" e
	12	16' 5"	13' 1"	11' 5"	14' 10"	12' 10"	11' 3"	12' 10"	11' 8"	10' 2"	10'6"	10' 2"	8' 11"
250TLA125-30	16	14' 11"	11' 10"	10' 4"	12' 10"	11' 8"	10' 2"	11' 1"	10' 7"	9' 3"	9' 1"	9' 1"	8' 1"
	24	12' 10"	10' 4"	9' 1"	10' 6"	10' 2"	8' 11"	9' 1"	9' 1"	8' 1"	7'5" e	7'5" e	7'1" e
	12	21' 8"	17' 5"	15' 2"	17' 9"	17' 1"	14' 11"	15' 4"	15' 4"	13' 7"	12' 6"	12' 6"	11' 10"
362TLA125-30	16	18' 10"	15' 10"	13' 10"	15' 4"	15' 4"	13' 7"	13' 3"	13' 3"	12' 4"	10' 10"	10' 10"	10' 9"
	24	15' 4"	13' 10"	12' 1"	12' 6"	12' 6"	11' 10"	10' 10"	10' 10"	10' 9"	8' 10"	8' 10"	8' 10"
	12	22' 11"	18' 9"	16' 5"	18' 8"	18' 6"	16' 2"	16' 2"	16' 2"	14' 8"	13' 3"	13' 3"	12' 10"
400TLA125-30	16	19' 10"	17' 1"	14' 11"	16' 2"	16' 2"	14' 8"	14' 0"	14' 0"	13' 4"	11' 5"	11' 5"	11' 5"
	24	16' 2"	14' 11"	13' 0"	13' 3"	13' 3"	12' 10"	11' 5"	11' 5"	11' 5"	9'4" e	9'4" e	9'4" e
	12	29' 5"	25' 8"	22' 5"	24' 0"	24' 0"	22' 1"	20' 10"	20' 10"	20' 1"	17'0" e	17'0" e	17'0" e
600TLA125-30	16	25' 6"	23' 4"	20' 5"	20' 10"	20' 10"	20' 1"	18'0" e	18'0" e	18'0" e	14'9" e	14'9" e	14'9" e
	24	20' 10"	20' 5"	17' 10"	17'0" e	17'0" e	17'0" e	14'9" e	14'9" e	14'9" e	12'0" e	12'0" e	12'0" e
	12	17' 0"	13' 6"	11' 9"	15' 10"	13' 3"	11' 7"	13' 9"	12' 1"	10' 6"	11' 2"	10' 6"	9' 2"
250TLA125-33	16	15' 5"	12' 3"	10' 8"	13' 9"	12' 1"	10' 6"	11' 11"	10' 11"	9' 7"	9' 8"	9' 7"	8' 4"
	24	13' 6"	10' 8"	9' 4"	11' 2"	10' 6"	9' 2"	9' 8"	9' 7"	8' 4"	7'11" e		7'4" e
	12	22' 8"	18' 0"	15' 8"	19' 2"	17' 8"	 15' 5"	16' 7"	16' 1"	14' 0"	13' 6"	13' 6"	12' 3"
362TLA125-33	16	20' 3"	16' 4"	14' 3"	16' 7"	16' 1"	14' 0"	14' 4"	14' 4"	12' 9"	11' 9"	11' 9"	11' 2"
	24	16' 7"	14' 3"	12' 5"	13' 6"	13' 6"	12' 3"	11' 9"	11' 9"	11' 2"	9'7" e	9'7" e	9'7" e
	12	24' 5"	19' 5"	16' 11"	20' 2"	19' 1"	16' 8"	17' 6"	17' 4"	15' 2"	14' 3"	14' 3"	13' 3"
400TLA125-33	16	21' 5"	17' 8"	15' 5"	17' 6"	17' 4"	15' 2"	15' 2"	15' 2"	13' 9"	12' 4"	12' 4"	12' 0"
	24	17' 6"	15' 5"	13' 5"	14' 3"	14' 3"	13' 3"	12' 4"	12' 4"	12' 0"		10'1" e	10'1" e
	12	32' 8"	26' 7"	23' 3"	26' 8"	26' 2"	22' 11"	23'1" e	23'1" e	20' 9"		18'10" e	18'2" e
600TLA125-33	16	28' 3"	24' 2"	21' 2"	23' 1" e	23'1" e	20' 9"	20'0" e		18'11" e		16'4" e	16'4" e
	24	23' 1" e	21' 2"	18' 5"	i i	18'10" e		16'4" e		16'4" e		13'4" e	13'4" e
For SI: 1 inch -	25 4 mm		<u>212</u>			10 10 0	102 0	10 + 0	10 4 8	10 4 8	10 4 8	10 + 6	10 + 6

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.
³ Web stiffeners are required at the stud/track connection when denoted with an "e"

Web stiffeners are required at the stud/track connection when denoted with an "e".
 Compression flanges must be continuously braced.

^{5.} End bearing must be 1-inch.

⁶ The minimum overlap of the TSO and TSE must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

TABLE 9—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) 48" o.c. BRACING TRAKLOC ADJUSTABLE STUDS (TLA) ^{3,4,5,6}

							Lateral	Load (psf)					
MEMBER DESIGNATION	Spacing o/c (in)		5 PSF			7.5 PSF			10 PSF			15 PSF	
DESIGNATION	0/C (III)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
	12	12' 7"	11' 0"	9' 8"	10'3" e	10'3" e	9' 6"	8'11" e	8'11" e	8'7" e	7'3" e	7'3" e	7'3" e
250TLA125-18	16	10' 11"	10' 0"	8' 9"	8'11" e	8'11" e	8'7" e	7'8" e	7'8" e	7'8" e	6'3" e	6'3" e	6'3" e
	24	8'11" e	8'9" e	7'8" e	7'3" e	7'3" e	7'3" e	6'3" e	6'3" e	6'3" e	5'2" e	5'2" e	5' 2" e
	12	14' 3"	14' 3"	12' 10"	11'7" e	11'7" e	11'7" e	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e
362TLA125-18	16	12' 4" e	12'4" e	11'8" e	10'1" e	10'1" e	10'1" e	8'9" e	8'9" e	8'9" e	7'1" e	7'1" e	7'1" e
	24	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e	7'1" e	7'1" e	7'1" e	5'10" e	5'10" e	5'10" e
	12	15' 0"	15' 0"	13' 3"	12'3" e	12'3" e	12'3" e	10'7" e	10'7" e	10'7" e	8'8" e	8'8" e	8'8" e
400TLA125-181	16	12'11" e	12'11" e	12'1" e	10'7" e	10'7" e	10'7" e	9'2" e	9'2" e	9'2" e	7'6" e	7'6" e	7'6" e
	24	10'7" e	10'7" e	10'6" e	8'8" e	8'8" e	8'8" e	7'6" e	7'6" e	7'6" e	6'1" e	6'1" e	6'1" e
	12	19'2" e	19'2" e	18'3" e	15'7" e	15'7" e	15'7" e	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e
600TLA125-18 ²	16	16'7" e	16'7" e	16'7" e	13'6" e	13'6" e	13'6" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e
	24	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e
	12	15' 0"	11' 11"	10' 5"	13' 2"	11' 8"	10' 3"	11' 5"	10' 8"	9' 3"	9' 4"	9' 3"	8' 1"
250TLA125-24	16	13' 7"	10' 10"	9' 5"	11' 5"	10' 8"	9' 3"	9' 11"	9' 8"	8' 5"	8' 1"	8' 1"	7' 4"
	24	11' 5"	9' 5"	8' 3"	9' 4"	9' 3"	8' 1"	8' 1"	8' 1"	7' 4"	6'7" e	6'7" e	6'5" e
	12	17' 11"	15' 11"	13' 11"	14' 8"	14' 8"	13' 8"	12' 8"	12' 8"	12' 5"	10' 4"	10' 4"	10' 4"
362TLA125-24	16	15' 7"	14' 5"	12' 7"	12' 8"	12' 8"	12' 5"	11' 0"	11' 0"	11' 0"	9' 0"	9' 0"	9' 0"
	24	12' 8"	12' 7"	11' 0"	10' 4"	10' 4"	10' 4"	9' 0"	9' 0"	9' 0"	7'4" e	7'4" e	7'4" e
	12	18' 10"	17' 2"	15' 0"	15' 4"	15' 4"	14' 9"	13' 4"	13' 4"	13' 4"	10' 10"	10' 10"	10' 10"
400TLA125-24	16	16' 4"	15' 8"	13' 8"	13' 4"	13' 4"	13' 4"	11' 6"	11' 6"	11' 6"	9' 5"	9' 5"	9' 5"
	24	13' 4"	13' 4"	11' 11"	10' 10"	10' 10"	10' 10"	9' 5"	9' 5"	9' 5"	7' 8"	7' 8"	7' 8"
	12	24' 2"	23' 0"	20' 1"	19' 9"	19' 9"	19' 9"	17' 1"	17' 1"	17' 1"	13'11" e	13'11" e	13'11" e
600TLA125-241	16	20' 11"	20' 11"	18' 3"	17' 1"	17' 1"	17' 1"	14'10" e	14'10" e	14'10" e	12'1" e	12'1" e	12'1" e
	24	17' 1"	17' 1"	15' 11"	13'11" e	13'11" e	13'11" e	12'1" e	12'1" e	12'1" e	9'10" e	9'10" e	9'10" e
	12	16' 5"	13' 1"	11' 5"	13' 9"	12' 10"	11' 3"	11' 11"	11' 8"	10' 2"	9' 9"	9' 9"	8' 11"
250TLA125-30	16	14' 7"	11' 10"	10' 4"	11' 11"	11' 8"	10' 2"	10' 4"	10' 4"	9' 3"	8' 5"	8' 5"	8' 1"
	24	11' 11"	10' 4"	9' 1"	9' 9"	9' 9"	8' 11"	8' 5"	8' 5"	8' 1"	6' 10"	6' 10"	6' 10"
	12	19' 11"	17' 5"	15' 2"	16' 3"	16' 3"	14' 11"	14' 1"	14' 1"	13' 7"	11' 6"	11' 6"	11' 6"
362TLA125-30	16	17' 3"	15' 10"	13' 10"	14' 1"	14' 1"	13' 7"	12' 3"	12' 3"	12' 3"	10' 0"	10' 0"	10' 0"
	24	14' 1"	13' 10"	12' 1"	11' 6"	11' 6"	11' 6"	10' 0"	10' 0"	10' 0"	8' 2"	8' 2"	8' 2"
	12	21' 0"	18' 9"	16' 5"	17' 2"	17' 2"	16' 2"	14' 10"	14' 10"	14' 8"	12' 1"	12' 1"	12' 1"
400TLA125-30	16	18' 2"	17' 1"	14' 11"	14' 10"	14' 10"	14' 8"	12' 10"	12' 10"	12' 10"	10' 6"	10' 6"	10' 6"
	24	14' 10"	14' 10"	13' 0"	12' 1"	12' 1"	12' 1"	10' 6"	10' 6"	10' 6"	8' 7"	8' 7"	8' 7"
	12	27' 7"	25' 8"	22' 5"	22' 7"	22' 7"	22' 1"	19' 6"	19' 6"	19' 6"	15'11" e	15'11" e	15'11" e
600TLA125-30	16	23' 11"	23' 4"	20' 5"	19' 6"	19' 6"	19' 6"	16' 11"	16' 11"	16' 11"	13'10" e	13'10" e	13'10" e
	24	19' 6"	19' 6"	17' 10"	15'11" e	15'11" e	15'11" e	13'10" e	13'10" e	13'10" e	11'3" e	11'3" e	11'3" e
	12	17' 0"	13' 6"	11' 9"	14' 8"	13' 3"	11' 7"	12' 9"	12' 1"	10' 6"	10' 5"	10' 5"	9' 2"
250TLA125-33	16	15' 5"	12' 3"	10' 8"	12' 9"	12' 1"	10' 6"	11' 0"	10' 11"	9' 7"	9' 0"	9' 0"	8' 4"
	24	12' 9"	10' 8"	9' 4"	10' 5"	10' 5"	9' 2"	9' 0"	9' 0"	8' 4"	7'4" e	7'4" e	7'4" e
	12	21' 6"	18' 0"	15' 8"	17' 7"	17' 7"	15' 5"	15' 3"	15' 3"	14' 0"	12' 5"	12' 5"	12' 3"
362TLA125-33	16	18' 8"	16' 4"	14' 3"	15' 3"	15' 3"	14' 0"	13' 2"	13' 2"	12' 9"	10' 9"	10' 9"	10' 9"
	24	15' 3"	14' 3"	12' 5"	12' 5"	12' 5"	12' 3"	10' 9"	10' 9"	10' 9"	8' 9"	8' 9"	8' 9"
	12	22' 8"	19' 5"	16' 11"	18' 6"	18' 6"	16' 8"	16' 0"	16' 0"	15' 2"	13' 1"	13' 1"	13' 1"
400TLA125-33	16	19' 8"	17' 8"	15' 5"	16' 0"	16' 0"	15' 2"	13' 11"	13' 11"	13' 9"	11' 4"	11' 4"	11' 4"
	24	16' 0"	15' 5"	13' 5"	13' 1"	13' 1"	13' 1"	11' 4"	11' 4"	11' 4"	9' 3"	9' 3"	9' 3"
	12	29' 11"	26' 7"	23' 3"	24' 5"	24' 5"	22' 11"	21' 2"	21' 2"	20' 9"	17'3" e	17'3" e	17'3" e
600TLA125-33	16	25' 11"	24' 2"	21' 2"	21' 2"	21' 2"	20' 9"	18'4" e	18'4" e	18'4" e	14'11" e	14'11" e	14'11" e
	24	21' 2"	21' 2"	18'5" - 47.99 F		17'3" e	17'3" e	14'11" e	14'11" e	14'11" e	12' 2" e	12'2" e	12' 2" e

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2. 1.

2. Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2. 3.

Web stiffeners are required at the stud/track connection when denoted with an "e". 4. Based on an unbraced length (Lu) of 48" o.c.

5. End bearing must be 1-inch.

6. The minimum overlap of the TSO and TSE must 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

TABLE 10—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) FULLY BRACED TRAKLOC DEFLECTION STUDS (TLD) ^{3,4,5,6}

							Lateral	Load (psf)					
MEMBER DESIGNATION	Spacing o/c (in)		5 PSF			7.5 PSF			10 PSF			15 PSF	
	0,0 (,	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
	12	13' 1"	11' 0"	9' 8"	10'8" e	10'8" e	9' 6"	9'3" e	9'3" e	8'7" e	7'7" e	7'7" e	7'6" e
250TLD125-18	16	11'4" e	10' 0"	8' 9"	9'3" e	9'3" e	8'7" e	8'0" e	8'0" e	7'10" e	6'7" e	6'7" e	6'7" e
	24	9'3" e	8'9" e	7'8" e	7'7" e	7'7" e	7'6" e	6'7" e	6'7" e	6'7" e	5'4" e	5'4" e	5'4" e
	12	15'6" e	14' 9"	12' 10"	12'8" e	12'8" e	12'8" e	10'11" e	10'11" e	10'11" e	8'11" e	8'11" e	8'11" e
362TLD125-18	16	13'5" e	13'4" e	11'8" e	10'11" e	10'11" e	10'11" e	9'6" e	9'6" e	9'6" e	7'9" e	7'9" e	7'9" e
	24	10'11" e	10'11" e	10'2" e	8'11" e	8'11" e	8'11" e	7'9" e	7'9" e	7'9" e	6'4" e	6'4" e	6'4" e
	12	15' 6"	15' 2"	13' 3"	12'8" e	12'8" e	12'8" e	10'11" e	10'11" e	10'11" e	8'11" e	8'11" e	8'11" e
400TLD125-181	16	13'5" e	13'5" e	12'1" e	10'11" e	10'11" e	10'11" e	9'6" e	9'6" e	9'6" e	7'9" e	7'9" e	7'9" e
	24	10'11" e	10'11" e	10'6" e	8'11" e	8'11" e	8'11" e	7'9" e	7'9" e	7'9" e	6'4" e	6'4" e	6'4" e
	12	19'2" e		18'3" e	15'7" e	15'7" e	15'7" e	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e
600TLD125-18 ²	16	16'7" e	16'7" e	16'7" e	13'6" e	13'6" e	13'6" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e
	24	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e
	12	15' 0"	11' 11"	10' 5"	14' 9"	11' 8"	10' 3"	13' 4"	10' 8"	9' 3"	10' 11"	9' 3"	8' 1"
250TLD125-24	16	13' 7"	10' 10"	9' 5"	13' 4"	10' 8"	9' 3"	11' 7"	9' 8"	8' 5"	9' 5"	8' 5"	7' 4"
	24	11' 11"	9' 5"	8' 3"	10' 11"	9' 3"	8' 1"	9' 5"	8' 5"	7' 4"	7'9" e	7'4" e	6' 5"
	12	20' 0"	15' 11"	13' 11"	18' 2"	15' 8"	13' 8"	15' 9"	14' 3"	12' 5"	12' 10"	12' 5"	10' 10"
362TLD125-24	16	18' 2"	14' 5"	12' 7"	15' 9"	14' 3"	12' 5"	13' 7"	12' 11"	11' 3"	11'1" e	11'1" e	9' 10"
	24	15' 9"	12' 7"	11' 0"	12' 10"	12' 5"	10' 10"	11'1" e	11'1" e	9' 10"	9'1" e	9'1" e	8'7" e
	12	21' 8"	17' 2"	15' 0"	19' 1"	16' 11"	14' 9"	16' 7"	15' 5"	13' 5"	13' 6"	13' 5"	11' 9"
400TLD125-24	16	19' 8"	15' 8"	13' 8"	16' 7"	15' 5"	13' 5"	14' 4"	14' 0"	12' 2"	11' 9"	11' 9"	10' 8"
	24	16' 7"	13' 8"	11' 11"	13' 6"	13' 5"	11' 9"	11' 9"	11' 9"	10' 8"	9'7" e	9'7" e	9'4" e
	12	27' 9"	23' 0"	20' 1"	22' 8"	22' 7"	19' 9"	19'8" e	19'8" e	17'11" e	16'1" e	16'1" e	15'8" e
600TLD125-241	16	24' 1"	20' 11"	18' 3"	19'8" e	19'8" e	17'11" e	17'0" e	17'0" e	16'4" e	13'11" e		13'11" e
	24	19'8" e	18'3" e	15' 11"	16'1" e	16'1" e	15'8" e	1			11'4" e	11'4" e	11'4" e
	12	16' 5"	13' 1"	11' 5"	14' 10"	12' 10"	11' 3"	12' 10"	11' 8"	10' 2"	10' 6"	10' 2"	8' 11"
250TLD125-30	16	14' 11"	11' 10"	10' 4"	12' 10"	11' 8"	10' 2"	11' 1"	10' 7"	9' 3"	9' 1"	9' 1"	8' 1"
	24	12' 10"	10' 4"	9' 1"	10' 6"	10' 2"	8' 11"	9' 1"	9' 1"	8' 1"	7'5" e	7'5" e	7' 1"
	12	21' 8"	17' 5"	15' 2"	17' 9"	17' 1"	14' 11"	15' 4"	15' 4"	13' 7"	12' 6"	12' 6"	11' 10"
362TLD125-30	16	18' 10"	15' 10"	13' 10"	15' 4"	15' 4"	13' 7"	13' 3"	13' 3"	12' 4"	10' 10"	10' 10"	10' 9"
	24	15' 4"	13' 10"	12' 1"	12' 6"	12' 6"	11' 10"	10' 10"	10' 10"	10' 9"	8' 10"	8' 10"	8' 10"
	12	22' 11"	18' 9"	16' 5"	18' 8"	18' 6"	16' 2"	16' 2"	16' 2"	14' 8"	13' 3"	13' 3"	12' 10"
400TLD125-30	16	19' 10"	17' 1"	14' 11"	16' 2"	16' 2"	14' 8"	14' 0"	14' 0"	13' 4"	11' 5"	11' 5"	11' 5"
	24	16' 2"	14' 11"	13' 0"	13' 3"	13' 3"	12' 10"	11' 5"	11' 5"	11' 5"	9'4" e	9'4" e	9'4" e
	12	29' 5"	25' 8"	22' 5"	24' 0"	24' 0"	22' 1"	20' 10"	20' 10"	20' 1"	17'0" e	17'0" e	17'0" e
600TLD125-30	16	25' 6"	23' 4"	20' 5"	20' 10"	20' 10"	20' 1"	18'0" e	18'0" e	18'0" e	14'9" e	14'9" e	14'9" e
	24	20' 10"	20' 5"	17' 10"	17'0" e	17'0" e	17'0" e	14'9" e	14'9" e	14'9" e	12'0" e	12'0" e	12'0" e
	12	17' 0"	13' 6"	11' 9"	15' 10"	13' 3"	11' 7"	13' 9"	12' 1"	10' 6"	11' 2"	10' 6"	9' 2"
250TLD125-33	16	15' 5"	12' 3"	10' 8"	13' 9"	12' 1"	10' 6"	11' 11"	10' 11"	9' 7"	9' 8"	9' 7"	8' 4"
	24	13' 6"	10' 8"	9' 4"	11' 2"	10' 6"	9' 2"	9' 8"	9' 7"	8' 4"	7'11" e	7'11" e	7' 4"
	12	22' 8"	18' 0"	15' 8"	19' 2"	17' 8"	15' 5"	16' 7"	16' 1"	14' 0"	13' 6"	13' 6"	12' 3"
362TLD125-33	16	20' 3"	16' 4"	14' 3"	16' 7"	16' 1"	14' 0"	14' 4"	14' 4"	12' 9"	11' 9"	11' 9"	11' 2"
	24	16' 7"	14' 3"	12' 5"	13' 6"	13' 6"	12' 3"	11' 9"	11' 9"	11' 2"	9'7" e	9'7" e	9'7" e
	12	24' 5"	19' 5"	16' 11"	20' 2"	19' 1"	16' 8"	17' 6"	17' 4"	15' 2"	14' 3"	14' 3"	13' 3"
400TLD125-33	16	21' 5"	17' 8"	15' 5"	17' 6"	17' 4"	15' 2"	15' 2"	15' 2"	13' 9"	12' 4"	12' 4"	12' 0"
	24	17' 6"	15' 5"	13' 5"	14' 3"	14' 3"	13' 3"	12' 4"	12' 4"	12' 0"	10'1" e	10'1" e	10'1" e
	12	32' 8"	26' 7"	23' 3"	26' 8"	26' 2"	22' 11"	23'1" e	23'1" e	20' 9"	18'10" e	18'10" e	18'2" e
600TLD125-33	16	28' 3"	24' 2"	21' 2"	23'1" e	23' 1" e	20' 9"	20'0" e	20'0" e	18'11" e	16'4" e	16'4" e	16'4" e
	24	23'1" e	21' 2"	18' 5"	18'10" e	18'10" e	18'2" e	16'4" e	16'4" e	16'4" e	13'4" e	13'4" e	13'4" e
For SI: 1 inch -	25.4 mm			_ 47 00 E									

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

1. Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

2. Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2. 3.

Web stiffeners are required at the stud/track connection when denoted with an "e". 4. Compression flanges must be continuously braced.

5.

End bearing must be 1-inch.

6. The minimum overlap of the TSO and TSE must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

TABLE 11—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) 48" o.c. BRACING TRAKLOC DEFLECTION STUDS (TLD) 3,4,5,6

							Lateral	Load (psf)					
MEMBER DESIGNATION	Spacing o/c (in)		5 PSF			7.5 PSF			10 PSF			15 PSF	
DEGIGINATION	0/0 (iii)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
	12	12' 7"	11' 0"	9' 8"	10'3" e	10'3" e	9' 6"	8'11" e	8'11" e	8'7" e	7'3" e	7'3" e	7'3" e
250TLD125-18	16	10' 11"	10' 0"	8' 9"	8'11" e	8'11" e	8'7" e	7'8" e	7'8" e	7'8" e	6'3" e	6'3" e	6'3" e
	24	8'11" e	8'9" e	7'8" e	7'3" e	7'3" e	7'3" e	6'3" e	6'3" e	6'3" e	5'2" e	5'2" e	5'2" e
	12	14' 3"	14' 3"	12' 10"	11'7" e	11'7" e	11'7" e	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e
362TLD125-18	16	12'4" e	12'4" e	11'8" e	10'1" e	10'1" e	10'1" e	8'9" e	8'9" e	8'9" e	7'1" e	7'1" e	7'1" e
	24	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e	7'1" e	7'1" e	7'1" e	5'10" e	5'10" e	5'10" e
	12	15' 0"	15' 0"	13' 3"	12'3" e	12'3" e	12'3" e	10'7" e	10'7" e	10'7" e	8'8" e	8'8" e	8'8" e
400TLD125-181	16	12'11" e	12'11" e	12'1" e	10'7" e	10'7" e	10'7" e	9'2" e	9'2" e	9'2" e	7'6" e	7'6" e	7'6" e
	24	10'7" e	10'7" e	10'6" e	8'8" e	8'8" e	8'8" e	7'6" e	7'6" e	7'6" e	6'1" e	6'1" e	6'1" e
	12	19'2" e	19'2" e	18'3" e	15'7" e	15'7" e	15'7" e	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e
600TLD125-18 ²	16	16'7" e	16'7" e	16'7" e	13'6" e	13'6" e	13'6" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e
	24	13'6" e	13'6" e	13'6" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e
	12	15' 0"	11' 11"	10' 5"	13' 2"	11' 8"	10' 3"	11' 5"	10' 8"	9' 3"	9' 4"	9' 3"	8' 1"
250TLD125-24	16	13' 7"	10' 10"	9' 5"	11' 5"	10' 8"	9' 3"	9' 11"	9' 8"	8' 5"	8' 1"	8' 1"	7' 4"
	24	11' 5"	9' 5"	8' 3"	9' 4"	9' 3"	8' 1"	8' 1"	8' 1"	7' 4"	6'7" e	6'7" e	6' 5"
	12	17' 11"	15' 11"	13' 11"	14' 8"	14' 8"	13' 8"	12' 8"	12' 8"	12' 5"	10' 4"	10' 4"	10' 4"
362TLD125-24	16	15' 7"	14' 5"	12' 7"	12' 8"	12' 8"	12' 5"	11' 0"	11' 0"	11' 0"	9' 0"	9' 0"	9' 0"
	24	12' 8"	12' 7"	11' 0"	10' 4"	10' 4"	10' 4"	9' 0"	9' 0"	9' 0"	7'4" e	7'4" e	7'4" e
	12	18' 10"	17' 2"	15' 0"	15' 4"	15' 4"	14' 9"	13' 4"	13' 4"	13' 4"	10' 10"	10' 10"	10' 10"
400TLD125-24	16	16' 4"	15' 8"	13' 8"	13' 4"	13' 4"	13' 4"	11' 6"	11' 6"	11' 6"	9' 5"	9' 5"	9' 5"
	24	13' 4"	13' 4"	11' 11"	10' 10"	10' 10"	10' 10"	9' 5"	9' 5"	9' 5"	7' 8"	7' 8"	7' 8"
	12	24' 2"	23' 0"	20' 1"	19' 9"	19' 9"	19' 9"	17' 1"	 17' 1"	 17' 1"	13'11" e	13'11" e	13'11" e
600TLD125-241	16	20' 11"	20' 11"	18' 3"	17' 1"	17' 1"	17' 1"	14'10" e	14'10" e		12'1" e	12'1" e	12'1" e
	24	17' 1"	17' 1"	15' 11"	13'11" e	13'11" e		12'1" e	12'1" e	12'1" e	9'10" e	9'10" e	9'10" e
	12	16' 5"	13' 1"	11' 5"	13' 9"	12' 10"	11' 3"	11' 11"	11' 8"	10' 2"	9'9"	<u> </u>	8' 11"
250TLD125-30	16	14' 7"	11' 10"	10' 4"	11' 11"	11' 8"	10' 2"	10' 4"	10' 4"	9' 3"	8' 5"	8' 5"	8' 1"
	24	11' 11"	10' 4"	9' 1"	9' 9"	9' 9"	8' 11"	8' 5"	8' 5"	8' 1"	6' 10"	6' 10"	6' 10"
	12	19' 11"	17' 5"	15' 2"	16' 3"	16' 3"	14' 11"	14' 1"	14' 1"	13' 7"	11' 6"	11' 6"	11' 6"
362TLD125-30	16	17' 3"	15' 10"	13' 10"	14' 1"	14' 1"	13' 7"	12' 3"	12' 3"	12' 3"	10' 0"	10' 0"	10' 0"
	24	14' 1"	13' 10"	12' 1"	11' 6"	11' 6"	11' 6"	10' 0"	10' 0"	10' 0"	8' 2"	8' 2"	8' 2"
	12	21' 0"	18' 9"	16' 5"	17' 2"	17' 2"	16' 2"	14' 10"	14' 10"	14' 8"	12' 1"	12' 1"	12' 1"
400TLD125-30	16	18' 2"	17' 1"	14' 11"	14' 10"	14' 10"	14' 8"	12' 10"	12' 10"	12' 10"	10' 6"	10' 6"	10' 6"
	24	14' 10"	14' 10"	13' 0"	12' 1"	12' 1"	12' 1"	10' 6"	10' 6"	10' 6"	8' 7"	8' 7"	8' 7"
	12	27' 7"	25' 8"	22' 5"	22' 7"	22' 7"	22' 1"	19' 6"	19' 6"	19' 6"	15'11" e	15'11" e	15'11" e
600TLD125-30	16	23' 11"	23' 4"	20' 5"	19' 6"	19' 6"	19' 6"	16' 11"	16' 11"	16' 11"			13'10" e
	24	19' 6"	19' 6"	17' 10"		15'11" e			13'10" e	13'10" e	11'3" e	11'3" e	11'3" e
	12	17' 0"	13' 6"	11' 9"	14' 8"	13' 3"	11' 7"	12' 9"	12' 1"	10' 6"	10' 5"	10' 5"	9' 2"
250TLD125-33	16	15' 5"	12' 3"	10' 8"	12' 9"	12' 1"	10' 6"	11' 0"	10' 11"	9' 7"	9' 0"	9' 0"	8' 4"
	24	12' 9"	10' 8"	9' 4"	10' 5"	10' 5"	9' 2"	9' 0"	9' 0"	8' 4"	7' 4"	7' 4"	7' 4"
	12	21' 6"	18' 0"	15' 8"	17' 7"	17' 7"	 15' 5"	15' 3"	15' 3"	14' 0"	12' 5"	12' 5"	12' 3"
362TLD125-33	16	18' 8"	16' 4"	14' 3"	15' 3"	15' 3"	14' 0"	13' 2"	13' 2"	12' 9"	10' 9"	10' 9"	10' 9"
	24	15' 3"	14' 3"	12' 5"	12' 5"	12' 5"	12' 3"	10' 9"	10' 9"	10' 9"	8'9" e	8'9" e	8'9" e
	12	22' 8"	19' 5"	16' 11"	18' 6"	18' 6"	16' 8"	16' 0"	16' 0"	15' 2"	13' 1"	13' 1"	13' 1"
400TLD125-33	16	19' 8"	17' 8"	15' 5"	16' 0"	16' 0"	15' 2"	13' 11"	13' 11"	13' 9"	11' 4"	11' 4"	11' 4"
	24	16' 0"	15' 5"	13' 5"	13' 1"	13' 1"	13' 1"	11' 4"	11' 4"	11' 4"	9' 3"	9' 3"	9' 3"
	12	29' 11"	26' 7"	23' 3"	24' 5"	24' 5"	22' 11"	21' 2"	21' 2"	20' 9"	17'3" e	17'3" e	17'3" e
600TLD125-33	16	25' 11"	24' 2"	21' 2"	21' 2"	21' 2"	20' 9"	18'4" e	18'4" e	18'4" e		14'11" e	14'11" e
	24	21' 2"	21' 2"	18' 5"	17'3" e	17'3" e				14'11" e			12'2" e
For SI: 1 inch -	•					11 0 0	11 0 8	1 1 6	14 11 6	1411 6	12 2 8		12 2 5

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.
³ Web stiffeners are required at the stud/track connection when denoted with an "e"

Web stiffeners are required at the stud/track connection when denoted with an "e".
 Based on an unbraced length (1 u) of 48" o c

⁴ Based on an unbraced length (Lu) of 48" o.c.

^{5.} End bearing must be 1-inch.

⁶ The minimum overlap of the TSO and TSE must 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

TABLE 12—NON-COMPOSITE LIMITING HEIGHTS (feet-inches) FULLY BRACED TRAKLOC ELEVATOR STUDS (TLE) ^{3,4,5,6}

			Lateral Load (psf)												
Member	Spacing o/c (in)	5 PSF				7.5 PSF			10 PSF		15 PSF				
	0/0 (III)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360		
250TLE125-18	12	12' 3"	10' 3"	9' 0"	10' 0"	10' 0"	8' 10"	8'8" e	8'8" e	8'0" e	7'1" e	7'1" e	7'0" e		
	16	10' 7"	9' 4"	8' 2"	8'8" e	8'8" e	8'0" e	7'6" e	7'6" e	7'3" e	6'1" e	6'1" e	6'1" e		
	24	8'8" e	8'2" e	7' 1"	7'1" e	7'1" e	7'0" e	6'1" e	6'1" e	6'1" e	5'0" e	5'0" e	5'0" e		
	12	14' 11"	13' 10"	12' 1"	12'2" e	12'2" e	11'11" e	10'6" e	10'6" e	10'6" e	8'7" e	8'7" e	8'7" e		
362TLE125-18	16	12'11" e	12'7" e	11' 0"	10'6" e	10'6" e	10'6" e	9'1" e	9'1" e	9'1" e	7'5" e	7'5" e	7'5" e		
	24	10'6" e	10'6" e	9'7" e	8'7" e	8'7" e	8'7" e	7'5" e	7'5" e	7'5" e	6'1" e	6'1" e	6'1" e		
	12	15'7" e	14' 8"	12' 10"	12'9" e	12'9" e	12'8" e	11'0" e	11'0" e	11'0" e	9'0" e	9'0" e	9'0" e		
400TLE125-181	16	13'6" e	13'4" e	11'8" e	11'0" e	11'0" e	11'0" e	9'7" e	9'7" e	9'7" e	7'10" e	7'10" e	7'10" e		
	24	11'0" e	11'0" e	10' 2" e	9'0" e	9'0" e	9'0" e	7'10" e	7'10" e	7'10" e	6'4" e	6'4" e	6'4" e		
	12	19'2" e	19'2" e		15'8" e	15'8" e	15'8" e	13'7" e	13'7" e	13'7" e	11'1" e	11'1" e	11'1" e		
600TLE125-18 ²	16	16'7" e		15'10" e	13'7" e	13'7" e	13'7" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e		
	24	13'7" e	13'7" e	13'7" e	10 / 0 11'1" e	10 / 0 11'1" e	10'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e		
	12	14' 5"	11' 6"	10' 0"	14' 2"	11' 3"	9' 10"	12' 4"	10' 3"	8' 11"	10' 1"	8' 11"	7' 10"		
250TLE125-24	16	13' 1"	10' 5"	9' 1"	12' 4"	10' 3"	8' 11"	10' 9"	9' 4"	8' 2"	8' 9"	8' 2"	7' 1"		
	24	11'6"	9' 1"	7' 11"	10' 1"	8' 11"	7' 10"	8' 9"	8' 2"	7' 1"	7' 2"	7' 1"	6' 2"		
	12	19' 5"	15' 5"	13' 6"	17' 8"	15' 2"	13' 3"	15' 4"	13' 10"	 12' 1"	12' 6"	 12' 1"	10' 6"		
362TLE125-24	16	17' 8"	14' 0"	12' 3"	15' 4"	13' 10"	12' 1"	13' 3"	12' 6"	10' 11"	10'10" e	10'10" e	9' 7"		
	24	15' 4"	12' 3"	10' 8"	12' 6"	12' 1"	10' 6"	10'10" e	10'10" e	9' 7"	8'10" e	8'10" e	8'4" e		
400TLE125-24	12	21' 1"	16' 9"	14' 7"	18' 9"	16' 5"	14' 4"	16' 3"	14' 11"	<u>3 /</u>	13' 3"	13' 1"			
	16	19' 2"	15' 2"	13' 3"	16' 3"	14' 11"	13' 1"	14' 1"	13' 7"	11' 10"	11'6"	11'6"	10' 4"		
	24	16' 3"	13' 3"	10 0	13' 3"	13' 1"	11' 5"	11' 6"	11'6"	10' 4"	9'5" e	9'5" e	9'1" e		
	12	27' 11"	22' 10"	20' 0"	22'10" e	22' 6"	19' 8"	19'9" e	19'9" e	17'10" e	16'1" e	16'1" e	15'7" e		
600TLE125-241											1				
00012212021	16	24' 2"	20' 9"	18'2"	19'9" e	19'9" e	17'10" e	17'1" e	17'1" e	16'3" e	14'0" e	14'0" e	14'0" e		
	24	19'9" e	18'2" e	15' 10"	16'1" e	16'1" e	15'7" e	14'0" e	14'0" e	14'0" e	11'5" e	11'5" e	11'5" e		
250TLE125-30	12 16	16' 3" 14' 9"	12' 10" 11' 8"	11' 3" 10' 3"	14' 10" 12' 10"	12' 8" 11' 6"	11' 1" 10' 1"	12' 10" 11' 1"	11' 6" 10' 5"	10' 1" 9' 2"	10' 6" 9' 1"	10' 1" 9' 1"	8' 9" 8' 0"		
200122120 00	24	14 9 12' 10"	10' 3"	8' 11"	12 10	10' 1"	8'9"	9' 1"	10 5 9' 1"	9 2 8' 0"	9 1 7' 5"	9 1 7' 5"	8 0 7' 0"		
	12	21' 4"	17' 0"	14' 10"	17' 9"	16' 8"	<u>0_3</u> 14' 7"	15' 4"	 15' 2"	13' 3"	12' 6"		 11' 7"		
362TLE125-30	16	18' 10"	15' 5"	13' 6"	15' 4"	15' 2"	13' 3"	13' 3"	13' 2"	12' 0"	10' 10"	10' 10"	10' 6"		
	24	15' 4"	13' 6"	11' 9"	12' 6"	12' 6"	13 3	10' 10"	10' 10"	12 0	8' 10"	8' 10"	8' 10"		
	12	22' 11"	18' 4"	16' 0"	18' 8"	18' 1"	15' 9"	16' 2"	16' 2"	14' 4"	13' 3"	13' 3"	12' 6"		
400TLE125-30	12	19' 10"	16' 8"	10 0	16'0"	16' 2"	14' 4"	14' 0"	14' 0"	13' 0"	11'5"	13 5	12 0		
	24	16' 2"	14' 7"	12' 9"	13' 3"	13' 3"	12' 6"	11' 5"	11'5"	10 0	9'4" e	9'4" e	9'4" e		
	12	29' 5"	25' 0"	21' 10"	24' 0"	24' 0"	21' 6"	20' 10"	20' 10"	19' 7"	17'0" e	17'0" e	17'0" e		
600TLE125-30	12	25' 6"	23 0 22' 9"	19' 10"	24 0	24 0	19' 7"	18'0" e	18'0" e	17'9" e	14'9" e	14'9" e			
	24	20' 10"	19' 10"	17' 4"	17'0" e	17'0" e	17'0" e	14'9" e	14'9" e	14'9" e	12'0" e	14 9 e 12'0" e	12'0" e		
	12	16' 6"	13' 1"	11' 5"	15' 10"	12' 10"	11' 3"	13' 9"	11' 8"	10' 3"	11' 2"	10' 3"	8' 11"		
250TLE125-33	12	15' 0"	11' 11"	10' 5"	13' 9"	12 10	10' 3"	11' 11"	10' 7"	9' 3"	9'8"	9' 3"	8'1"		
200122120 00			10' 5"	9' 1"	13 9		8' 11"	9' 8"	9' 3"	9 3 8' 1"	Í		от 7'1"		
	24	<u>13' 1"</u> 21' 9"	10 5	<u>9_1</u> 15' 1"	19' 2"	<u>10' 3"</u> 17' 0"	<u>8 11</u> 14' 10"	<u> </u>	9_3 15' 5"	<u>8 1</u> 13' 6"	7' 11"	7' <u>11"</u> 13' 6"	/ I 11' 9"		
362TLE125-33	12 16	21 9 19'9"	17 3	13 9"	19 2 16' 7"	15' 5"	14 10 13' 6"	16 7	15 5 14' 0"	13 6	13' 6" 11' 9"	13 0 11' 9"	10'9"		
552122120 00		19 9 16' 7"	13' 9"	13 9 12' 0"	13' 6"	15 5 13' 6"	13 6	14 4 11' 9"	14 0 11' 9"	12 3 10' 9"	9'7" e	9'7" e	9'4" e		
400TLE125-33	24 12	23' 3"	18'6"	12 0	20' 2"	18' 2"	15' 11"	17' 6"	<u>11 9</u> 16' 6"	<u>10 9</u> 14' 5"	<u>97</u> 14' 3"	<u>97</u> 14' 3"	<u>94</u> 12'7"		
	12	23 3 21' 2"	16' 9"	16 2	20 2 17' 6"	16' 6"	14' 5"	17 8	15'0"	14 5 13' 1"	14 3	14 3 12' 4"	11' 5"		
	24	21 2 17' 6"	14' 8"	14 0	17 0	14' 3"	14 5	12' 4"	12' 4"	13 1	12 4 10' 1"	12 4 10' 1"	10' 0"		
	T							Γ			1				
600TLE125-33	12	31' 11"	25' 4"	22' 2"	26' 8"	24' 11" 22' 8"	21' 10"	23'1" e	22' 8"	19' 10" 18' 0" o	Í	18'10" e			
0001EE120-00	16	28' 3"	23' 1"	20' 2"	23'1" e	22' 8"	19' 10"	20'0" e	20'0" e	18'0" e	16'4" e	16'4" e			
	24	23' 1" e	20' 2"	17' 7"	18'10" e	18'10" e	17'4" e	16'4" e	16'4" e	15'9" e	13'4" e	13'4" e	13'4" e		

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

^{1.} Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

² Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2.
³ Web stiffeners are required at the stud/track connection when denoted with an "e"

Web stiffeners are required at the stud/track connection when denoted with an "e".
 Compression flanges must be continuously braced.

^{5.} End bearing must be 1-inch.

⁶ The minimum overlap of the TSO and TSE must be 11 inches and must be connected with a minimum of (4) #8 x 9/16" long wafer head screws complying with ASTM C1513.

TABLE 13—NON-COMPOSITE LIMITING HEIGHTS (feet-inches)48" o.c. BRACING TRAKLOC ELEVATOR STUDS (TLE)3,4,5,6

		Lateral Load (psf)												
Member	Spacing o/c (in)	5 PSF				7.5 PSF			10 PSF	- 15			5 PSF	
	0,0 (,	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	
	12	12' 3"	10' 3"	9' 0"	10' 0"	10' 0"	8' 10"	8'8" e	8'8" e	8'0" e	7'1" e	7'1" e	7'0" e	
250TLE125-18	16	10' 7"	9' 4"	8' 2"	8'8" e	8'8" e	8'0" e	7'6" e	7'6" e	7'3" e	6'1" e	6'1" e	6'1" e	
	24	8'8" e	8'2" e	7' 1"	7'1" e	7'1" e	7'0" e	6'1" e	6'1" e	6'1" e	5'0" e	5'0" e	5'0" e	
	12	14' 3"	13' 10"	12' 1"	11'7" e	11'7" e	11'7" e	10'1" e	10'1" e	10'1" e	8'3" e	8'3" e	8'3" e	
362TLE125-18	16	12'4" e	12'4" e	11' 0"	10'1" e	10'1" e	10'1" e	8'9" e	8'9" e	8'9" e	7'1" e	7'1" e	7'1" e	
	24	10'1" e	10'1" e	9'7" e	8'3" e	8'3" e	8'3" e	7'1" e	7'1" e	7'1" e	5'10" e	5'10" e	5'10" e	
	12	15' 0"	14' 8"	12' 10"	12'3" e	12'3" e	12'3" e	10'7" e	10'7" e	10'7" e	8'8" e	8'8" e	8'8" e	
400TLE125-181	16	12'11" e	12'11" e	11'8" e	10'7" e	10'7" e	10'7" e	9'2" e	9'2" e	9'2" e	7'6" e	7'6" e	7'6" e	
	24	10'7" e	10'7" e	10'2" e	8'8" e	8'8" e	8'8" e	7'6" e	7'6" e	7'6" e	6'1" e	6'1" e	6'1" e	
	12	19'2" e	19'2" e	17'6" e	15'8" e	15'8" e	15'8" e	13'7" e	13'7" e	13'7" e	11'1" e	11'1" e	11'1" e	
600TLE125-18 ²	16	16'7" e	16'7" e	15'10" e	13'7" e	13'7" e	13'7" e	11'9" e	11'9" e	11'9" e	9'7" e	9'7" e	9'7" e	
	24	13'7" e	13'7" e	13'7" e	11'1" e	11'1" e	11'1" e	9'7" e	9'7" e	9'7" e	6'9" e	6'9" e	6'9" e	
	12	14' 5"	11' 6"	10' 0"	13' 2"	11' 3"	9' 10"	11' 5"	10' 3"	8' 11"	9' 4"	8' 11"	7' 10"	
250TLE125-24	16	13' 1"	10' 5"	9' 1"	11' 5"	10' 3"	8' 11"	9' 11"	9' 4"	8' 2"	8' 1"	8' 1"	7' 1"	
	24	11' 5"	9' 1"	7' 11"	9' 4"	8' 11"	7' 10"	8' 1"	8' 1"	7' 1"	6' 7"	6' 7"	6' 2"	
	12	17' 11"	15' 5"	13' 6"	14' 8"	14' 8"	13' 3"	12' 8"	12' 8"	12' 1"	10' 4"	10' 4"	10' 4"	
362TLE125-24	16	15' 7"	14' 0"	12' 3"	12' 8"	12' 8"	12' 1"	11' 0"	11' 0"	10' 11"	9' 0"	9' 0"	9' 0"	
	24	12' 8"	12' 3"	10' 8"	10' 4"	10' 4"	10' 4"	9' 0"	9' 0"	9' 0"	7'4" e	7'4" e	7'4" e	
	12	18' 10"	16' 9"	14' 7"	15' 4"	15' 4"	14' 4"	13' 4"	13' 4"	13' 1"	10' 10"	10' 10"	10' 10"	
400TLE125-24	16	16' 4"	15' 2"	13' 3"	13' 4"	13' 4"	13' 1"	11' 6"	11' 6"	11' 6"	9' 5"	9' 5"	9' 5"	
	24	13' 4"	13' 3"	11' 7"	10' 10"	10' 10"	10' 10"	9' 5"	9' 5"	9' 5"	7' 8"	7' 8"	7' 8"	
	12	24' 2"	22' 10"	20' 0"	19' 9"	19' 9"	19' 8"	17'1" e	17'1" e	17'1" e		13'11" e	13'11" e	
600TLE125-241	16	20' 11"	20' 9"	18' 2"	17'1" e	17'1" e	17'1" e	14'10" e		14'10" e	12'1" e	12'1" e	12'1" e	
	24	17'1" e	17'1" e	15' 10"		13'11" e	13'11" e	12'1" e	12'1" e	12'1" e	9'10" e	9'10" e	9'10" e	
	12	16' 3"	12' 10"	11' 3"	13' 9"	12' 8"	11' 1"	11' 11"	11' 6"	10' 1"	9' 9"	9' 9"	8' 9"	
250TLE125-30	16	14' 7"	11' 8"	10' 3"	11' 11"	11' 6"	10' 1"	10' 4"	10' 4"	9' 2"	8' 5"	8' 5"	8' 0"	
	24	11' 11"	10' 3"	8' 11"	9' 9"	9' 9"	8' 9"	8' 5"	8' 5"	8' 0"	6' 10"	6' 10"	6' 10"	
	12	19' 11"	17' 0"	14' 10"	16' 3"	16' 3"	14' 7"	14' 1"	14' 1"	13' 3"	11' 6"	11' 6"	11' 6"	
362TLE125-30	16	17' 3"	15' 5"	13' 6"	14' 1"	14' 1"	13' 3"	12' 3"	12' 3"	12' 0"	10' 0"	10' 0"	10' 0"	
	24	14' 1"	13' 6"	11' 9"	11' 6"	11' 6"	11' 6"	10' 0"	10' 0"	10' 0"	8' 2"	8' 2"	8' 2"	
	12	21' 0"	18' 4"	16' 0"	17' 2"	17' 2"	15' 9"	14' 10"	14' 10"	14' 4"	12' 1"	12' 1"	12' 1"	
400TLE125-30	16	18' 2"	16' 8"	14' 7"	14' 10"	14' 10"	14' 4"	12' 10"	12' 10"	12' 10"	10' 6"	10' 6"	10' 6"	
	24	14' 10"	14' 7"	12' 9"	12' 1"	12' 1"	12' 1"	10' 6"	10' 6"	10' 6"	8' 7"	8' 7"	8' 7"	
	12	27' 7"	25' 0"	21' 10"	22' 7"	22' 7"	21' 6"	19' 6"	19' 6"	19' 6"	15'11" e	15'11" e	15'11" e	
600TLE125-30	16	23' 11"	22' 9"	19' 10"	19' 6"	19' 6"	19' 6"	16'11" e	16'11" e	16'11" e			13'10" e	
	24	19' 6"	19' 6"	17' 4"	15'11" e	15'11" e	15'11" e	13'10" e	13'10" e	13'10" e	11'3" e	11'3" e	11'3" e	
	12	16' 6"	13' 1"	11' 5"	14' 8"	12' 10"	11' 3"	12' 9"	11' 8"	10' 3"	10' 5"	10' 3"	8' 11"	
250TLE125-33	16	15' 0"	11' 11"	10' 5"	12' 9"	11' 8"	10' 3"	11' 0"	10' 7"	9' 3"	9' 0"	9' 0"	8' 1"	
	24	12' 9"	10' 5"	9' 1"	10' 5"	10' 3"	8' 11"	9' 0"	9' 0"	8' 1"	7' 4"	7' 4"	7' 1"	
	12	21' 6"	17' 3"	15' 1"	17' 7"	17' 0"	14' 10"	15' 3"	15' 3"	13' 6"	12' 5"	12' 5"	11' 9"	
362TLE125-33	16	18' 8"	15' 8"	13' 9"	15' 3"	15' 3"	13' 6"	13' 2"	13' 2"	12' 3"	10' 9"	10' 9"	10' 9"	
	24	15' 3"	13' 9"	12' 0"	12' 5"	12' 5"	11' 9"	10' 9"	10' 9"	10' 9"	8' 9"	8' 9"	8' 9"	
400TLE125-33	12	22' 8"	18' 6"	16' 2"	18' 6"	18' 2"	15' 11"	16' 0"	16' 0"	14' 5"	13' 1"	13' 1"	12' 7"	
	16	19' 8"	16' 9"	14' 8"	16' 0"	16' 0"	14' 5"	13' 11"	13' 11"	13' 1"	11' 4"	11' 4"	11' 4"	
	24	16' 0"	14' 8"	12' 10"	13' 1"	13' 1"	12' 7"	11' 4"	11' 4"	11' 4"	9' 3"	9' 3"	9' 3"	
	12	29' 11"	25' 4"	22' 2"	24' 5"	24' 5"	21' 10"	21' 2"	21' 2"	19' 10"	17'3" e	17'3" e	17'3" e	
600TLE125-33	16	25' 11"	23' 1"	20' 2"	21' 2"	21' 2"	19' 10"	18'4" e	18'4" e	18'0" e		14'11" e	14'11" e	
	24	21' 2"	20' 2"	17' 7"		17'3" e		i i	14'11" e				12'2" e	
For St. 1 inch.	- 25 4 mm		$\frac{202}{0.49m}$ 1 no								~	0	0	

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

1. Web height-to-thickness ratio exceeds 200. Webs must have bearing stiffeners. See AISI S100 Section B1.2.

2. Web height-to-thickness ratio exceeds 260 but less than 300. Webs must have bearing and intermediate stiffeners. See AISI S100 Section B1.2. 3.

Web stiffeners are required at the stud/track connection when denoted with an "e". 4. Based on an unbraced length (Lu) of 48" o.c.

5. End bearing must be 1-inch.

6.

The minimum overlap of the TSO and TSE must be 11 inches and must be connected with a minimum of (4) #8 x 9/16" long wafer head screws complying with ASTM C1513.

TABLE 14—COMPOSITE LIMITING HEIGHTS^{1,2} (feet-inches) TRAKLOC ADJUSTABLE STUDS (TLA) AND TRAKLOC FIXED LENGTH STUDS (TLF)

MEMBER	STUD				-	TI	RANSVE	RSE LOA	D		-		
DESIGNATION	SPACING		5 psf			7.5 psf		15 psf					
TLA	(in)	1.						on Limit					
(TLF)	~ /	Ч ₁₂₀	L/ ₂₄₀	L/ ₃₆₀	L/ ₁₂₀	L/ ₂₄₀	L/ ₃₆₀	Ч ₁₂₀	L/ ₂₄₀	L/ ₃₆₀	L/ ₁₂₀	Ч ₂₄₀	L/ ₃₆₀
250TLA125-18	12	17-2	14-5	12-7	14-6	12-8	11-0	12-7	11-6	10-0	8-3	8-3	8-3
(250TLF125-18)	16	15-10	13-7	11-10	13-0	11-10	10-4	11-3	10-9	9-3			
(/	24	13-4	12-3	10-8	10-11	10-8	9-1	9-5	9-5	7-11			
362TLA125-18	12	21-7	17-11	15-8	18-10	15-8	13-8	16-4	14-3	12-5	10-9	10-9	10-8
(362TLF125-18)	16	20-0	16-8	14-7	16-4	14-7	12-8	14-1	13-3	11-6	9-3	9-3	9-3
(/	24	16-4	14-10	13-0	13-4	13-0	11-2	11-6	11-6	9-10			
400TLA125-18	12	23-4	18-6	16-4	19-5	16-2	14-3	16-10	14-8	12-11	11-1	11-1	11-1
(400TLF125-18)	16	20-7	17-5	15-4	16-10	15-3	13-5	14-7	13-10	12-2	9-7	9-7	9-7
```	24	16-10	15-9	13-10	13-9	13-9	12-1	11-11	11-11	10-9	7-10	7-10	7-10
600TLA125-18	12	30-5	25-3	22-5	24-10	22-0	19-7	21-6	20-0	17-9	14-1	14-1	14-1
(600TLF125-18)	16	26-4	23-4	20-9	21-6	20-5	18-2	18-7	18-7	16-6	12-3	12-3	12-3
· /	24	21-6	20-9	18-5	17-7	17-7	16-1	15-2	15-2	14-5			
250TLA125-24	12	16-10	14-10	13-1	15-0	13-0	11-5	13-9	11-10	10-4	10-8	10-4	9-0
(250TLF125-24)	16	16-8	13-9	12-1	14-7	12-0	10-7	13-3	10-11	9-7	9-7	9-6	8-1
( /	24	14-10	12-3	10-9	13-0	10-8	9-3	11-9	9-8	8-2	8-1	8-1	
362TLA125-24	12	24-1	19-1	16-8	21-0	16-8	14-7	19-1	15-2	13-3	12-7	12-7	11-6
(362TLF125-24)	16	21-10	17-4	15-2	19-1	15-2	13-3	17-4	13-9	12-0	11-6	11-6	10-4
( /	24	19-1	15-2	13-3	16-8	13-3	11-6	15-0	12-0	10-4	9-10	9-10	8-11
400TLA125-24	12	24-4	19-4	16-11	21-3	16-11	14-9	19-4	15-4	13-5	14-0	13-5	11-8
(400TLF125-24)	16	23-1	18-4	16-0	20-2	16-0	14-0	18-4	14-7	12-9	12-6	12-6	11-0
(10012112021)	24	21-0	16-8	14-7	18-4	14-7	12-9	16-0	13-3	11-6	10-6	10-6	9-10
600TLA125-24	12	33-5	27-4	24-2	29-2	23-11	21-1	26-6	21-8	19-2	18-8	18-8	16-9
(600TLF125-24)	16	30-4	24-10	21-11	26-6	21-8	19-2	24-1	19-9	17-5	16-2	16-2	15-2
(******************	24	26-6	21-8	19-2	23-2	18-11	16-9	20-1	17-3	15-2	13-3	13-3	13-1
250TLA125-30	12	18-5	16-0	14-0	16-2	14-0	12-3	14-9	12-8	11-2	12-1	11-1	9-9
(250TLF125-30)	16	17-6	15-0	13-2	15-4	13-1	11-6	13-11	11-11	10-6	10-10	10-5	9-1
( ,	24	15-9	13-5	11-10	13-9	11-9	10-4	12-6	10-8	9-3	9-2	9-2	
362TLA125-30	12	24-7	20-2	17-10	21-6	17-8	15-7	19-6	16-0	14-2	14-2	14-0	12-4
(362TLF125-30)	16	22-8	18-8	16-6	19-10	16-4	14-5	18-0	14-10	13-1	12-11	12-11	11-4
(***********	24	20-1	16-7	14-7	17-7	14-6	12-9	16-0	13-2	11-7	11-1	11-1	10-2
400TLA125-30	12	26-3	20-11	18-4	23-0	18-5	16-3	20-10	16-10	14-11	16-6	14-10	13-2
(400TLF125-30)	16	24-3	19-11	17-5	21-2	17-5	15-3	19-3	15-10	13-11	14-3	13-10	12-2
( ,	24	21-6	17-8	15-7	18-9	15-5	13-7	17-1	14-0	12-4	11-8	11-8	10-9
600TLA125-30	12	35-5	28-1	24-6	30-11	24-6	21-5	28-1	22-4	19-6	20-9	19-6	17-0
(600TLF125-30)	16	33-3	26-4	23-0	29-0	23-0	20-1	26-4	20-11	18-3	18-0	18-0	15-11
()	24	29-11	23-9	20-9	25-10	20-9	18-1	22-4	18-10	16-5			
250TLA125-33	12	20-11	16-7	14-6	18-3	14-6	12-8	16-7	13-2	11-6	12-7	11-6	10-1
(250TLF125-33)	16	19-0	15-1	13-2	16-7	13-2	11-6	15-1	12-0	10-6	11-2	10-6	9-0
· · ·	24	16-7	13-2	11-6	14-6	11-6	10-1	13-2	10-6	9-0	9-4	9-0	
362TLA125-33 (362TLF125-33)	12	25-5	20-2	17-7	22-2	17-7	15-4	20-2	16-0	14-0	15-10	14-0	12-2
	16	23-9	18-10	16-6	20-9	16-6	14-5	18-10	15-0	13-1	13-8	13-1	11-4
(100)	24	21-4	16-11	14-10	18-8	14-10	12-11	16-11	13-5	11-8	11-2	11-2	10-1
400TLA125-33 (400TLF125-33)	12	27-7	22-9	19-11	24-1	19-10	17-6	21-10	18-1	15-11	16-7	15-9	13-11
	16	25-0	20-8	18-2	21-10	18-1	15-11	19-10	16-5	14-5	14-4	14-4	12-8
	24	21-10	18-1	15-11	19-1	15-9	13-11	17-4	14-4	12-8	11-9	11-9	11-1
600TLA125-33	12	36-0	28-7	25-0	31-5	25-0	21-10	28-7	22-8	19-10	20-10	19-10	17-3
(600TLF125-33)	16	33-9	26-9	23-5	29-5	23-5	20-5	26-9	21-3	18-7	18-1	18-1	16-1
(00012112000)	24	30-3	24-0	21-0	25-11	21-0	18-4	22-5	19-1	16-7			

For SI: 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

¹The gypsum board must be applied full height in the vertical orientation to each stud flange using minimum No. 6 Type S Drywall screws spaced as listed below: ٠

Screws spaced maximum 16 inches on-center to studs spaced at 12 inches on-center.

Screws spaced maximum 12 inches on-center to studs spaced at 16 inches or 24 inches on-center.

Screws spaced 16 inches on-center to the top and bottom track. •

²The minimum overlap of the TSO and TSE must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

Member Design ()         5 pc/ III ()         5 pc/ IIII ()			TRANSVERSE LOAD												
Ubbe         Ubbe <th< th=""><th>MEMBER</th><th>STUD</th><th colspan="3">5 psf</th><th></th><th></th><th></th><th></th><th colspan="4">15 psf</th></th<>	MEMBER	STUD	5 psf							15 psf					
12         7 ₁₂₀ 110         110         110         110         110         110         110         110         110         110         110         110 <th< th=""><th>DESIGNATION</th><th></th><th colspan="3"></th><th></th><th></th><th>Deflecti</th><th colspan="4"></th></th<>	DESIGNATION							Deflecti							
12         17.2         14.5         12.7         14.6         12.4         12.7         14.6         12.4         13.0         11.10         11.0         11.2         10.9         9.3                                                                                      <		(11)	Ч ₁₂₀	L/ ₂₄₀	ц. ₃₆₀	Ч ₁₂₀	L/ ₂₄₀	ч _{з60}	Ч ₁₂₀	Ч ₂₄₀	└/ ₃₆₀	Ч ₁₂₀	Ч ₂₄₀	ц. Ч ³⁶⁰	
124         12-3         10-8         9-11         9-11                                                                                                    -		12		14-5	12-7	14-6		11-0	12-7		10-0				
362TLD125-18         16         17-9         17-11         15-8         15-70         15-8         13-8         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10         11-10 <th< td=""><td>250TLD125-18</td><td>16</td><td>15-10</td><td>13-7</td><td>11-10</td><td>13-0</td><td>11-10</td><td>10-4</td><td>11-2</td><td>10-9</td><td>9-3</td><td></td><td></td><td></td></th<>	250TLD125-18	16	15-10	13-7	11-10	13-0	11-10	10-4	11-2	10-9	9-3				
362TLD125-18         16         17-9         16.8         11-10         11-10         7-11         7-11         7-11			13-4	12-3	10-8	9-11	9-11	9-1							
24         11-10         11-10         11-10         11-10         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         7-11         <		12		17-11	15-8		15-8		11-10	11-10	11-10				
12         134         18-6         16-4         19-5         16-5         13-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-5         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12-7         12	362TLD125-18	16	17-9	16-8	14-7	11-10	11-10	11-10	8-11	8-11	8-11				
400TLD125-18         16         20-7         17.5         15.4         16-10         15.5         13.40         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4         11.4		24	11-10	11-10	11-10	7-11	7-11	7-11							
24         18-10         15-9         13-10         11-4         11-4         11-4         18-6         8-6         8-6             600TLD125-18         16         15-6         15-6         15-6         15-6         15-6         15-7		12	23-4	18-6	16-4	19-5	16-2	14-3	16-10	14-8	12-11				
600TLD125-18         12         12-8         20-8         13-10         13-10         13-10	400TLD125-18	16	20-7	17-5	15-4	16-10	15-3	13-5	12-9	12-9	12-2				
600TLD125-18         16         15-6         15-6         15-6         15-6         15-6         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7         15-7		24	16-10	15-9	13-10	11-4	11-4	11-4	8-6	8-6	8-6				
24		12	20-8	20-8	20-8	13-10	13-10	13-10							
12         16-10         14-10         13-1         15-0         13-0         11-5         13-9         11-10         10-4         10-8         10-4           250TLD125-24         16         16-8         13-9         12-1         14-7         12-0         10-7         13-3         10-11         9-7         9-7         9-9         9-6           362TLD125-24         16         24-10         17-4         15-2         13-3         16-8         14-7         19-1         15-2         13-3         12-7         12-7           362TLD125-24         16         21-10         17-4         15-2         13-3         16-6         14-0         18-4         13-5         14-0         13-5           400TLD125-24         16         23-1         18-4         16-7         18-4         14-7         12-9         16-6         13-3         11-6         9-3         9-3         9-3           600TLD125-24         16         30-4         24-10         16-8         14-7         18-4         14-7         12-9         16-6         12-0         14-0         16-3         16-0         16-0         16-3         16-0         16-3         16-1         16-1         16-1         18-1 <td>600TLD125-18</td> <td>16</td> <td>15-6</td> <td>15-6</td> <td>15-6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	600TLD125-18	16	15-6	15-6	15-6										
250TLD125-24         16         16.8         13.9         12.1         14.7         12.0         10.7         13.3         10.11         9.7         9.7         9.6           24         14.10         12.3         10.9         13.0         10.8         9.3         11.9         9.8         8.2              362TLD125-24         16         21.10         17.4         15.2         13.3         16.8         13.3         17.4         13.9         12.0         9.8         9.8           400         24         19.1         15.2         13.3         16.11         14.9         19.4         15.4         13.5         14.0         13.5           400TLD125-24         16         23.1         18.4         16.0         14.0         18.4         14.7         12.9         16.0         13.3         11.6         13.3         11.6         13.3         11.6         13.2         11.6         13.2         11.6         13.2         11.6         13.2         11.6         13.3         11.6         13.4         11.6         13.4         11.6         13.2         11.6         13.2         11.2         1.2         1.2         1.2         1.2															
124         14-10         12-3         10-9         13-0         10-8         9-3         11-9         9-8         8-2             362TLD125-24         16         21-10         17-4         15-2         13-3         17-4         13-9         12-7         12-7         12-7         12-7           362TLD125-24         19-1         15-2         13-3         16-8         13-3         11-6         14-11         12-0         10-4             400TLD125-24         16         24-4         19-4         16-11         21-3         16-11         14-9         19-4         15-6         14-0         13-3         11-6         9-3         13-3         11-6         9-3         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         12-6         13-3         11-6         13-3         11-6         13-3         11-6         13-1         11-1         13-1         13-1         13-1         13-1         13-1         13-1         13-1         13-1         13-1         13-1		12	16-10	14-10	13-1	15-0	13-0	11-5	13-9	11-10	10-4	10-8	10-4	9-0	
12         24-1         19-1         16-8         21-0         16-8         14-7         19-1         15-2         13-3         17-4         13-2         13-3         17-4         13-2         13-3         17-4         13-2         13-3         17-4         13-9         12-0         9-8         9-8           400TLD125-24         161         15-2         13-3         16-8         13-3         11-6         14-11         12-0         10-4	250TLD125-24	16	16-8	13-9	12-1	14-7	12-0	10-7	13-3	10-11	9-7	9-7	9-6	8-1	
362TLD125-24         16         21-10         17-4         15-2         19-1         15-2         13-3         17-4         13-9         12-0         9-8         9-8           400TLD125-24         16         15-2         13-3         16-8         13-3         11-6         14-11         12-0         10-4              400TLD125-24         16         23-1         18-4         16-0         20-2         16-0         14-0         18-4         14-7         12-9         16-0         13-3         11-6         9-3         9-3           600TLD125-24         16         30-4         24-10         21-11         24-2         21-8         19-2         18-1         18-1         17-5             600TLD125-24         16         30-4         24-10         21-11         24-2         21-8         19-2         18-1         18-1         17-5                1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <td></td> <td>24</td> <td>14-10</td> <td>12-3</td> <td>10-9</td> <td>13-0</td> <td>10-8</td> <td>9-3</td> <td>11-9</td> <td>9-8</td> <td>8-2</td> <td></td> <td></td> <td></td>		24	14-10	12-3	10-9	13-0	10-8	9-3	11-9	9-8	8-2				
1         1         15-2         13-3         16-8         13-3         11-6         14-11         12-0         10-4             400TLD125-24         16         23.4         19-4         16-11         21-3         16-0         14-0         19-4         15-4         13-5         12-6         12-6           24         21-0         16-8         14-7         12-9         16-0         13-3         11-6         9-3         9-3           600TLD125-24         16         30-4         24-10         21-11         24-2         22-8         18-1         18-1         17-5             600TLD125-24         16         30-4         24-10         21-11         24-2         21-8         19-2         18-1         18-1         17-5             24         24-2         21-8         19-2         16-1         16-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1 <td></td> <td>12</td> <td>24-1</td> <td>19-1</td> <td>16-8</td> <td>21-0</td> <td>16-8</td> <td>14-7</td> <td>19-1</td> <td>15-2</td> <td>13-3</td> <td>12-7</td> <td>12-7</td> <td>11-6</td>		12	24-1	19-1	16-8	21-0	16-8	14-7	19-1	15-2	13-3	12-7	12-7	11-6	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	362TLD125-24	16	21-10	17-4	15-2	19-1	15-2	13-3	17-4	13-9	12-0	9-8	9-8	9-8	
400TLD125-24         16         23-1         18-4         16-0         20-2         16-0         14-0         18-4         14-7         12-9         16-0         13-3         11-6         9-3         9-3           600TLD125-24         16         30-4         24-10         21-11         24-2         21-8         19-2         18-1         18-1         17.5             24         24-2         21-8         19-2         18-1         18-1         18-1         18-1         17.5             24         24-2         21-8         19-2         18-1         18-1         11-1         12.1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         11-1         11-0         12-3         14-9         12-8         18-4         13-1         11-6         13-11         11-1         11-1         11-1         11-1         11-1         11-1         11-1         12-1         12-1         14-2         14-2         14-2         14-2         14-2         14-2         14-2         14-2         14-2         14-2         14-2         14-2         14-2 <td< td=""><td></td><td></td><td>19-1</td><td>15-2</td><td>13-3</td><td>16-8</td><td>13-3</td><td>11-6</td><td></td><td>12-0</td><td>10-4</td><td></td><td></td><td></td></td<>			19-1	15-2	13-3	16-8	13-3	11-6		12-0	10-4				
24         21-0         16-8         14-7         18-4         14-7         12-9         16-0         13-3         11-6         9-3         9-3           600TLD125-24         16         30-4         24-10         24-2         21-8         19-2         18-1         18-1         17.5             24         24-2         21-8         19-2         18-1         18-1         18-1         17.5              240         24-2         21-8         19-2         18-1         16-1         16-1         12-1         12-1         12-1             250TLD125-30         16         17-6         15-0         13-2         15-4         13-1         11-6         13-11         11-11         10-6         10-10         10-5           260TLD125-30         16         24-7         20-2         17-10         21-6         17-8         15-7         19-6         16-0         14-2         14-2         14-0           362TLD125-30         16         22-8         18-8         16-6         17-8         15-7         19-6         16-0         14-2         14-2         14-0           400TL	400TLD125-24	12	24-4	19-4	16-11	21-3	16-11	14-9	19-4	15-4	13-5	14-0	13-5	11-8	
12         33-5         27-4         24-2         29-2         23-11         21-1         24-2         21-8         19-2         18-1         18-1         17-5             24         24-2         21-8         19-2         16-1         16-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         12-1         11-1           250TLD125-30         16         17-6         15-0         13-2         17-7         14-6         13-7         19-6         16-0         14-2         14-0         14-0           362TLD125-30         16         22-7         17-10         21-6         17-7         14-6         12-9         16-0         14-2         14-0         14-0           362TLD125-30         16         22-47         12-7         14-7         17-7         14-6         12-9         16-0         14-11         14-3         14-0           400TLD125-30         16         24-3         19-11         17-7         14-6         12-9		16	23-1	18-4	16-0	20-2	16-0	14-0	18-4	14-7	12-9	12-6	12-6	11-0	
600TLD125-24         16         30-4         24-10         21-11         24-2         21-8         19-2         18-1         18-1         18-1         17-5             24         24-2         21-8         19-2         16-1         16-1         16-1         12-1         12-1         12-1         12-1         1            250TLD125-30         16         17-6         15-0         13-2         15-4         13-1         11-16         13-11         11-11         10-6         10-10         10-5         24         15-9         13-5         11-10         13-9         11-9         10-4         12-6         10-8         9-3         9-2         9-2           362TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11           400TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         15-10         13-1         14-13         13-1         12-11         12-11           400TLD125-30         16         32-3         20-11         18-7         18-5 <td< td=""><td></td><td>24</td><td>21-0</td><td>16-8</td><td>14-7</td><td>18-4</td><td>14-7</td><td>12-9</td><td>16-0</td><td>13-3</td><td>11-6</td><td>9-3</td><td>9-3</td><td>9-3</td></td<>		24	21-0	16-8	14-7	18-4	14-7	12-9	16-0	13-3	11-6	9-3	9-3	9-3	
24         24-2         21-8         19-2         16-1         16-1         12-1         12-1         12-1             250TLD125-30         16         17-6         15-0         13-2         15-4         13-1         11-6         13-11         11-11         10-6         10-0         10-10         10-5           24         15-9         13-5         11-10         13-9         11-9         11-9         10-4         12-6         10-8         9-3         9-2         9-2         9-2           362TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11         12-11           400TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         13-15         13-11         14-13         13-15         13-15         13-15         13-15         11-11         13-15		12	33-5	27-4	24-2	29-2	23-11	21-1	24-2	21-8	19-2				
12         18-5         16-0         14-0         16-2         14-0         12-3         14-9         12-8         11-2         12-1         11-1           250TLD125-30         16         17-6         15-0         13-2         15-4         13-1         11-6         13-11         11-11         10-6         10-0         10-5           24         15-9         13-5         11-10         13-9         11-9         10-4         12-6         10-8         9-2         9-2           362TLD125-30         16         24-7         20-2         17.10         21-6         17.8         15-7         19-6         13-2         14-0         13-1         12-11         12-11         12-11           24         20-1         16-7         14-7         17-7         14-6         12-9         16-0         13-2         11-7             400TLD125-30         16         24-3         19-11         17-5         21-2         17-5         15-3         19-3         15-1         13-1         14-0         12-4         10-6         10-6           400TLD125-30         16         33-3         26-4         23-0         29-1         26-5         13-7	600TLD125-24	16	30-4	24-10	21-11	24-2	21-8	19-2	18-1	18-1	17-5				
250TLD125-30         16         17-6         15-9         13-5         11-10         13-9         11-9         10-4         12-6         10-8         9-3         9-2         9-2           362TLD125-30         16         24-7         20-2         17-10         21-6         17.8         15-7         19-6         16-0         14-2         14-2         14-0           362TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11           400TLD125-30         16         22-3         20-11         18-4         23-0         18-5         16-3         20-10         16-10         14-11         16-6         14-10           400TLD125-30         16         24-3         19-11         17-5         21-2         17-5         15-3         19-3         15-10         13-11         14-3         13-10           400TLD125-30         16         33-3         26-4         23-0         23-7         20-9         16-1         14-0         12-4         10-6         10-6           600TLD125-33         16         19-0         15-1         13-2         16-7         13-2 <td></td> <td>24</td> <td>24-2</td> <td>21-8</td> <td>19-2</td> <td>16-1</td> <td>16-1</td> <td>16-1</td> <td>12-1</td> <td>12-1</td> <td>12-1</td> <td></td> <td></td> <td></td>		24	24-2	21-8	19-2	16-1	16-1	16-1	12-1	12-1	12-1				
24         15-9         13-5         11-10         13-9         11-9         10-4         12-6         10-8         9-3         9-2         9-2           362TLD125-30         16         24-7         20-2         17-10         21-6         17-8         15-7         19-6         16-0         14-2         14-2         14-0           362TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11         12-11           24         20-1         16-7         14-7         17-7         14-6         12-9         16-0         13-2         11-7             400TLD125-30         16         24-3         19-11         17-5         21-2         17-5         15-3         19-3         15-10         13-11         14-3         13-10         13-14         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-10         13-14         13-14         13-16         13-14		12	18-5	16-0	14-0	16-2	14-0	12-3	14-9	12-8	11-2	12-1	11-1	9-9	
12         24-7         20-2         17-10         21-6         17-8         15-7         19-6         16-0         14-2         14-2         14-2         14-0           362TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         12-11         13-11         14-0         13-1         13-11         14-0         13-1         13-11         14-0         13-1         13-11         14-0         13-1         12-11         16-1<	250TLD125-30	16	17-6	15-0	13-2	15-4	13-1	11-6	13-11	11-11	10-6	10-10	10-5	9-1	
362TLD125-30         16         22-8         18-8         16-6         19-10         16-4         14-5         18-0         14-10         13-1         12-11         12-11           24         20-1         16-7         14-7         17-7         14-6         12-9         16-0         13-2         11-7             400TLD125-30         16         24-3         19-11         17-5         21-2         17-5         15-3         19-3         15-10         13-11         14-3         13-10           24         21-6         17-8         15-7         18-9         15-5         13-7         17-1         14-0         12-4         10-6         10-6           24         21-6         17-8         15-7         18-9         15-5         13-7         17-1         14-0         12-4         10-6         10-6           600TLD125-30         16         35-5         28-1         24-6         30-11         24-6         21-5         28-1         22-4         19-6             600TLD125-33         16         19-0         15-1         13-2         10-6         14-7         14-6         14-7         14-6         14-7			15-9		11-10	13-9	11-9		12-6	10-8		9-2	9-2		
24         20-1         16-7         14-7         17-7         14-6         12-9         16-0         13-2         11-7             400TLD125-30         16         26-3         20-11         18-4         23-0         18-5         16-3         20-10         16-10         14-11         16-6         14-10           400TLD125-30         16         24-3         19-11         17-5         21-2         17-5         15-3         19-3         15-10         13-11         14-3         13-10           24         21-6         17-8         15-7         18-9         15-5         13-7         17-1         14-0         12-4         10-6         10-6           600TLD125-30         16         33-3         26-4         23-0         29-0         23-0         20-1         26-4         20-11         18-3             600TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         15-1         12-0         10-6         11-2         10-6           250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         15-1         12-0 <td></td> <td>12</td> <td>24-7</td> <td>20-2</td> <td>17-10</td> <td>21-6</td> <td>17-8</td> <td>15-7</td> <td>19-6</td> <td>16-0</td> <td>14-2</td> <td>14-2</td> <td>14-0</td> <td>12-4</td>		12	24-7	20-2	17-10	21-6	17-8	15-7	19-6	16-0	14-2	14-2	14-0	12-4	
400TLD125-30         12         26-3         20-11         18-4         23-0         18-5         16-3         20-10         16-10         14-11         16-6         14-10           24         21-6         17-8         15-7         18-9         15-5         15-3         19-3         15-10         13-11         14-3         13-10           24         21-6         17-8         15-7         18-9         15-5         13-7         17-1         14-0         12-4         10-6         10-6           600TLD125-30         16         33-3         26-4         23-0         29-0         23-0         20-1         26-4         20-11         18-3              24         29-11         23-9         20-9         23-7         20-9         18-1         17-8         17-8         16-5                                    <	362TLD125-30	16	22-8	18-8	16-6	19-10	16-4	14-5	18-0	14-10	13-1	12-11	12-11	11-4	
400TLD125-30         16         24-3         19-11         17-5         21-2         17-5         15-3         19-3         15-10         13-11         14-3         13-10           24         21-6         17-8         15-7         18-9         15-5         13-7         17-1         14-0         12-4         10-6         10-6           600TLD125-30         16         33-3         26-4         23-0         29-0         23-0         20-1         26-4         20-11         18-3             24         29-11         23-9         20-9         23-7         20-9         18-1         17-8         17-8         16-5             24         29-11         16-7         14-6         18-3         14-6         12-8         16-7         13-2         11-6         11-6         10-1         13-2         11-6         12-7         11-6           250TLD125-33         16         19-0         15-1         13-2         16-6         12-7         12-7         14-0         13-1         13-1         13-1         14-0           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6		24	20-1	16-7	14-7	17-7	14-6	12-9	16-0	13-2	11-7				
24         21-6         17.8         15.7         18-9         15.5         13.7         17.1         14-0         12.4         10-6         10-6           600TLD12530         16         33-3         26-4         23-0         29-0         23-0         20-1         26-4         20-11         18-3             24         29-11         23-9         20-9         23-7         20-9         18-1         17.8         17.8         16-5             24         29-11         16-7         14-6         18-3         14-6         12.8         16-7         13-2         11-6         12.7         11-6           250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         14-7         13-2         11-6         10-1         13-2         10-6         11-2         10-6           250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         14-0         14-0         13-2         10-6         9-0         9-4         9-0           362TLD125-33         16         23-9         18-10         16-6         20-9		12	26-3	20-11	18-4	23-0	18-5	16-3	20-10	16-10	14-11	16-6	14-10	13-2	
12         35-5         28-1         24-6         30-11         24-6         21-5         28-1         22-4         19-6             600TLD125-30         16         33-3         26-4         23-0         29-0         23-0         20-1         26-4         20-11         18-3              24         29-11         23-9         20-9         23-7         20-9         18-1         17-8         17-8         16-5             250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         15-1         12-0         10-6         11-2         10-6           24         16-7         13-2         11-6         14-6         11-6         10-1         13-2         10-6         9-0         9-4         9-0           250TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-0         13-1         13-8         13-1           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-0         13	400TLD125-30	16	24-3	19-11	17-5	21-2	17-5	15-3	19-3	15-10	13-11	14-3	13-10	12-2	
600TLD125-30         16         33-3         26-4         23-0         29-0         23-0         20-1         26-4         20-11         18-3             24         29-11         23-9         20-9         23-7         20-9         18-1         17-8         17-8         16-5             250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         15-1         12-0         10-6         11-2         10-6           250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         10-1         13-2         10-6         9-0         9-4         9-0           362TLD125-33         16         25-5         20-2         17-7         22-2         17-7         15-4         20-2         16-0         14-0         14-0         14-0         13-2         10-6         9-0         9-4         9-0           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-10         13-1         13-8         13-1           362TLD125-33         16         23-9 </td <td></td> <td></td> <td></td> <td>17-8</td> <td></td> <td></td> <td>15-5</td> <td></td> <td></td> <td></td> <td></td> <td>10-6</td> <td>10-6</td> <td>10-6</td>				17-8			15-5					10-6	10-6	10-6	
24         29-11         23-9         20-9         23-7         20-9         18-1         17-8         17-8         16-5             250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         12-7         11-6           250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         15-1         12-0         10-6         11-2         10-6           24         16-7         13-2         11-6         14-6         11-6         10-1         13-2         10-6         9-0         9-4         9-0           362TLD125-33         16         25-5         20-2         17-7         22-2         17-7         15-4         20-2         16-0         14-0         15-10         14-0           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-0         13-1         13-8         13-1           362TLD125-33         16         23-9         18-10         18-8         14-10         12-11         16-11         13-5         11-8            400TLD125-33<															
12         20-11         16-7         14-6         18-3         14-6         12-8         16-7         13-2         11-6         12-7         11-6           250TLD125-33         16         19-0         15-1         13-2         16-7         13-2         11-6         15-1         12-0         10-6         11-2         10-6           24         16-7         13-2         11-6         14-6         11-6         10-1         13-2         10-6         9-0         9-4         9-0           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-0         13-1         13-8         13-1           24         21-4         16-11         14-10         18-8         14-10         12-11         16-11         13-5         11-8             362TLD125-33         16         23-9         19-11         24-1         19-10         17-6         21-10         18-1         13-8         13-1           24         21-4         16-11         14-10         18-8         14-10         12-11         16-11         13-5         11-8             4	600TLD125-30	16	33-3	26-4		29-0	23-0		26-4	20-11	18-3				
250TLD125-33       16       19-0       15-1       13-2       16-7       13-2       11-6       15-1       12-0       10-6       11-2       10-6         24       16-7       13-2       11-6       14-6       11-6       10-1       13-2       10-6       9-0       9-4       9-0         362TLD125-33       16       25-5       20-2       17-7       22-2       17-7       15-4       20-2       16-0       14-0       15-10       14-0         362TLD125-33       16       23-9       18-10       16-6       20-9       16-6       14-5       18-10       15-0       13-1       13-8       13-1         24       21-4       16-11       14-10       18-8       14-10       12-11       16-11       13-5       11-8           400TLD125-33       16       25-0       20-8       18-2       21-10       18-1       15-11       19-10       16-5       14-5       14-4       14-4         400TLD125-33       16       25-0       20-8       18-2       21-10       18-1       15-11       19-10       16-5       14-5       14-4       14-4         24       21-10       18-1       15-11 <td></td>															
24         16-7         13-2         11-6         14-6         11-6         10-1         13-2         10-6         9-0         9-4         9-0           362TLD125-33         12         25-5         20-2         17-7         22-2         17-7         15-4         20-2         16-0         14-0         15-10         14-0           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-0         13-1         13-8         13-1           24         21-4         16-11         14-10         18-8         14-10         12-11         16-11         13-5         11-8             400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           24         21-10         18-1         15-11         19-1         15-9         13-11         17-4         14-4         12-8 <td></td> <td>12-7</td> <td></td> <td>10-1</td>												12-7		10-1	
12         25-5         20-2         17-7         22-2         17-7         15-4         20-2         16-0         14-0         15-10         14-0           362TLD125-33         16         23-9         18-10         16-6         20-9         16-6         14-5         18-10         15-0         13-1         13-8         13-1           24         21-4         16-11         14-10         18-8         14-10         12-11         16-11         13-5         11-8             400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           24         21-10         18-1         15-11         19-10         17-6         21-10         18-1         15-11         16-7         15-9           400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           24         21-10         18-1         15-11         19-1         15-9         13-11         17-4         14-4         12-8         11-0         11-0	250TLD125-33	16	19-0	15-1	13-2	16-7	13-2	11-6	15-1	12-0	10-6	11-2	10-6	9-0	
362TLD125-33       16       23-9       18-10       16-6       20-9       16-6       14-5       18-10       15-0       13-1       13-8       13-1         24       21-4       16-11       14-10       18-8       14-10       12-11       16-11       13-5       11-8           400TLD125-33       16       25-0       20-8       18-2       21-10       18-1       15-11       19-10       16-5       14-5       14-4       14-4         24       21-10       18-1       15-11       19-10       17-6       21-10       18-1       15-11       16-7       15-9         400TLD125-33       16       25-0       20-8       18-2       21-10       18-1       15-11       19-10       16-5       14-5       14-4       14-4         24       21-10       18-1       15-11       19-1       15-9       13-11       17-4       14-4       12-8       11-0       11-0         400TLD125-33       12       36-0       28-7       25-0       31-5       25-0       21-10       28-7       22-8       19-10       15-9         600TLD125-33       16       33-9       26-9       23-5       29-5       <															
24         21-4         16-11         14-10         18-8         14-10         12-11         16-11         13-5         11-8             400TLD125-33         12         27-7         22-9         19-11         24-1         19-10         17-6         21-10         18-1         15-11         16-7         15-9           400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           24         21-10         18-1         19-11         15-9         13-11         17-4         14-4         12-8         11-0         11-0           24         21-10         18-1         19-11         15-9         13-11         17-4         14-4         12-8         11-0         11-0           400TLD125-33         16         36-0         28-7         25-0         31-5         25-0         21-10         28-7         22-8         19-10         15-9           600TLD125-33         16         33-9         26-9         23-5         29-5         23-5         20-5         26-9         21-3         18-7 <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>12-2</td>						1								12-2	
12         27-7         22-9         19-11         24-1         19-10         17-6         21-10         18-1         15-11         16-7         15-9           400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           24         21-10         18-1         19-11         15-9         13-11         17-4         14-4         12-8         11-0         11-0           400TLD125-33         16         36-0         28-7         25-0         31-5         25-0         21-10         28-7         22-8         19-10         15-9         15-9           600TLD125-33         16         33-9         26-9         23-5         29-5         23-5         20-5         26-9         21-3         18-7	362TLD125-33													11-4	
400TLD125-33         16         25-0         20-8         18-2         21-10         18-1         15-11         19-10         16-5         14-5         14-4         14-4           24         21-10         18-1         15-11         19-1         15-9         13-11         17-4         14-4         12-8         11-0         11-0           600TLD125-33         16         33-9         26-9         23-5         29-5         23-5         20-5         26-9         21-3         18-7															
24         21-10         18-1         15-11         19-1         15-9         13-11         17-4         14-4         12-8         11-0         11-0           100         12         36-0         28-7         25-0         31-5         25-0         21-10         28-7         22-8         19-10         15-9         15-9           600TLD125-33         16         33-9         26-9         23-5         29-5         23-5         20-5         26-9         21-3         18-7	400TLD125-33													13-11	
12         36-0         28-7         25-0         31-5         25-0         21-10         28-7         22-8         19-10         15-9         15-9           600TLD125-33         16         33-9         26-9         23-5         29-5         23-5         20-5         26-9         21-3         18-7				20-8										12-8	
600TLD125-33 16 33-9 26-9 23-5 29-5 23-5 20-5 26-9 21-3 18-7				18-1			15-9		17-4			11-0	11-0	11-0	
		12		28-7	25-0	31-5	25-0		28-7	22-8	19-10	15-9	15-9	15-9	
	600TLD125-33														
		24	30-3	24-0	21-0	24-8	21-0	18-4	18-6	18-6	16-7				

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048m, 1 psf = 47.88 Pa.

¹The gypsum board must be applied full height in the vertical orientation to each stud flange using minimum No. 6 Type S Drywall screws spaced as listed below: • Screws spaced maximum 16 inches on-center to studs spaced at 12 inches on-center.

Screws spaced maximum 12 inches on-center to studs spaced at 16 inches or 24 inches on-center.

Screws spaced 16 inches on-center to the bottom track only.

²The minimum overlap of the TSO and TSE must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.

### TABLE 16—COMPOSITE LIMITING HEIGHTS^{1,2} (feet-inches) TRAKLOC ELEVATOR STUDS (TLE)

	07110	TRANSVERSE LOAD 5 psf 7.5 psf 10 psf 15 psf												
MEMBER	STUD SPACING		5 psf			7.5 psf	15 psf							
DESIGNATION	(in)						Deflecti	on Limit						
		Ч ₁₂₀	L/ ₂₄₀	L/ ₃₆₀	Ч ₁₂₀	└/ ₂₄₀	Ч ₃₆₀	Ч ₁₂₀	Ч ₂₄₀	Ч ₃₆₀	Ч ₁₂₀	Ч ₂₄₀	Ч ₃₆₀	
	12	17-0	15-1	12-11	14-11	13-2	11-4	13-6	12-0	10-3	9-1	9-1	8-6	
250TLE125-18	16	15-6	13-9	11-9	13-6	12-0	10-3	12-0	10-11	9-0	7-11	7-11		
	24	13-6	12-0	10-3	11-4	10-6	8-6	9-10	9-5					
	12	20-7	17-2	14-6	18-0	15-0	12-8	16-1	13-7	11-5	10-7	10-7	9-8	
362TLE125-18	16	18-9	15-7	13-2	16-1	13-7	11-5	13-11	12-4	10-2	9-2	9-2	8-7	
	24	16-1	13-7	11-5	13-2	11-11	9-8	11-5	10-8	8-7				
	12	21-1	18-3	15-4	18-5	15-11	13-5	16-8	14-6	12-2	11-2	11-2	10-3	
400TLE125-18	16	19-1	16-7	13-11	16-8	14-6	12-2	14-8	13-2	10-10	9-8	9-8	9-1	
	24	16-8	14-6	12-2	13-10	12-8	10-3	12-0	11-5	9-1	7-11	7-11		
	12		22-7	20-7		19-8	17-11		17-1	16-4				
600TLE125-18	16		20-8	18-8		17-1	16-4		14-9	14-9				
	24		17-1	16-3		13-11	13-11		12-1	12-1				
	12	18-9	15-9	13-8	16-5	13-9	12-0	14-11	12-6	10-11	11-5	10-11	9-4	
250TLE125-24	16	17-1	14-4	12-5	14-11	12-6	10-11	13-6	11-4	9-11	9-10	9-10	7-10	
	24	14-11	12-6	10-11	13-0	10-11	9-4	11-10	9-11	7-10	8-1	7-10		
	12	22-6	17-10	15-7	19-8	15-7	13-7	17-10	14-2	12-5	13-8	12-5	10-7	
362TLE125-24	16	20-5	16-3	14-2	17-10	14-2	12-5	16-3	12-10	11-1	11-10	11-1	9-5	
	24	17-10	14-2	12-5	15-7	12-5	10-7	14-2	11-1	9-5	9-8	9-5	8-0	
	12	24-9	19-8	17-2	21-8	17-2	15-0	19-8	15-7	13-8	13-4	13-4	11-11	
400TLE125-24	16	22-6	17-10	15-7	19-8	15-7	13-8	17-8-f	14-2	12-5	11-6	11-6	10-6	
	24	19-8	15-7	13-8	16-8-f	13-8	11-11	14-5-f	12-5	10-6	9-5	9-5	8-10	
	12	28-9	25-11	21-8	23-6	22-8	19-1	20-4	20-4	17-5	13-4	13-4	13-4	
600TLE125-24	16	24-11	23-6	19-10	20-4	20-4	17-5	17-7	17-7	15-11				
	24	20-4	20-4	17-5	16-7	16-7	15-4	14-4	14-4	13-11				
	12	20-0	16-9	14-7	17-6	14-7	12-8	15-11	13-3	11-7	12-8	11-7	10-1	
250TLE125-30	16	18-2	15-2	13-3	15-11	13-3	11-7	14-5	12-1	10-6	10-11	10-6	8-9	
	24	15-11	13-3	11-7	13-11	11-7	10-1	12-7	10-6	8-9	8-11	8-9		
	12	24-5	19-5	16-11	21-4	16-11	14-10	19-5	15-5	13-5	15-9	13-5	11-7	
362TLE125-30	16	22-3	17-8	15-5	19-5	15-5	13-5	17-8	14-0	12-1	13-8	12-1	10-4	
	24	19-5	15-5	13-5	16-11	13-5	11-7	15-5	12-1	10-4	11-2	10-4		
	12	27-3	21-7	18-10	23-9	18-10	16-6	21-7	17-2	15-0	16-6	15-0	13-1	
400TLE125-30	16	24-9	19-8	17-2	21-7	17-2	15-0	19-8	15-7	13-7	14-3	13-7	11-9	
	24	21-7	17-2	15-0	18-10	15-0	13-1	17-2	13-7	11-9	11-8	11-8	10-2-	
	12	33-3	27-0	23-11	27-6	23-11	21-1	23-10	21-10	19-3				
600TLE125-30	16	29-2	24-9	21-10	23-10	21-10	19-3	20-8	20-0	17-7				
	24 12	23-10 20-0	21-10	19-3 14-7	19-6 17-6	19-3 14-7	16-11	16-10 15-11	16-10		 12-8	11-7		
250TLE125-33	12	20-0 18-2	16-9 15-2	14-7	15-11	14-7	12-8 11-7	15-11	13-3 12-1	10-6	12-8	10-6	8-9	
2001LE120-00	24		13-2	13-3	13-11	13-3	10-1	14-5	12-1	8-9	8-11	8-9	0-9	
	12	15-11 25-4	20-1	17-7	22-2	17-7	10-1	20-1	15-11	13-11	15-9	13-11	12-1	
	12	23-4		15-11	22-2	15-11	13-11	18-3	14-6	12-8		12-8	10-11	
362TLE125-33	24	23-0	18-3 15-11	13-11	17-7	13-11	12-1		14-6	10-11	13-8 11-2	12-8		
	12	20-1	21-6	18-10	23-8	18-10	12-1	15-11 21-6	12-8	14-11	16-3	14-11	13-0	
400TI E425 22	12	27-1	21-6 19-7	18-10	23-8	18-10	16-5	21-6 19-7	17-1	14-11	16-3	14-11	13-0	
400TLE125-33	24	24-8 21-6	19-7	17-1	21-6 18-10	17-1	14-11	19-7	13-6	13-7	14-1	13-7	10-2	
	12	33-3	27-0	23-11	27-6	23-11	21-1	23-10	21-10	11-9				
600TI E125 22	12	29-2	27-0	23-11	27-6	23-11	19-3	23-10	21-10	19-3				
600TLE125-33	24	29-2	24-9	19-3	19-6	19-3	16-11	20-8 16-10	20-0 16-10	17-7				
			1  psf = 47		19-0	19-5	10-11	10-10	10-10					

For **SI:** 1 inch = 25.4 mm, 1 ft = 0.3048 m, 1 psf = 47.88 Pa.

¹The gypsum board must be applied full height in the vertical orientation to each stud flange using minimum No. 6 Type S Drywall screws spaced as listed below:
 Screws spaced maximum 12 inches on-center to studs.

Screws spaced 16 inches on-center to the top and bottom track.

 $^{7.\ 2}$  The minimum overlap of the TSO and TSE must be 11 inches.

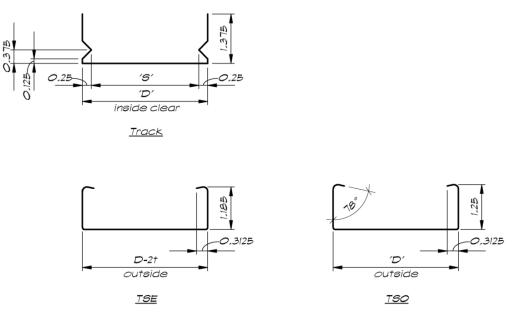
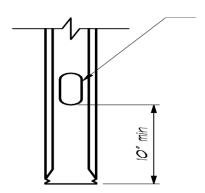


FIGURE 1—TRAKLOC MEMBERS



4 inch x 1-1/2 inch (102 mm x 38 mm) web holes @ 24 inch (610 mm) minimum for stud depths greater than 3 inch (76 mm)

4 inch x ¾ inch (102 mm x 19 mm) web holes @ 24 inch (610 mm) minimum for stud depths less than 3 inch (76 mm)

### FIGURE 2—HOLE CONFIGURATION



*TSE without flange slots for TLA studs - Minimum 33-mil x 12 inches (305 mm)* 



*TSE with 3 inch x ¾ inch (76 mm x 19 mm) flange slots for TLD studs - Minimum 33-mil x 12 inches (305 mm)* 

FIGURE 3—SHORT TSE CONFIGURATIONS



### **ICC-ES Evaluation Report**

### **ESR-1464 CBC Supplement**

Reissued January 2020 Revised April 2020 This report is subject to renewal January 2022.

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DIVISION: 05 00 00—METALS Section: 05 40 00—Cold-Formed Metal Framing

DIVISION:09 00 00—FINISHES Section: 09 22 16.13—Non-Structural Metal Stud Framing

**REPORT HOLDER:** 

### **CLARKDIETRICH® BUILDING SYSTEMS**

### **EVALUATION SUBJECT:**

### TRAKLOC® NONLOAD-BEARING WALL STUD FRAMING SYSTEM

### 1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the TRAKLOC[®] Nonload Bearing Wall Stud Framing System, recognized in ICC-ES evaluation report ESR-1464, has also been evaluated for compliance with the code noted below.

#### Applicable code edition:

■ 2016 California Building Code (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1 and 2.2 below.

### 2.0 CONCLUSIONS

The TRAKLOC[®] nonload-bearing wall stud framing system, described in Sections 2.0 through 7.0 of the evaluation report ESR-1464, complies with CBC Chapter 22, provided the design and installation are in accordance with the 2015 *International Building Code*[®] provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 17 and 22, as applicable.

- 2.1 OSHPD: The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.
- 2.2 DSA: The applicable DSA Sections of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued January 2020 and revised April 2020.





### **ICC-ES Evaluation Report**

### **ESR-1464 FBC Supplement**

Reissued January 2020 Revised April 2020 This report is subject to renewal January 2022.

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DIVISION: 09 00 00—FINISHES Section: 09 22 16.13—Non-Structural Metal Stud Framing

### **REPORT HOLDER:**

CLARKDIETRICH® BUILDING SYSTEMS

### **EVALUATION SUBJECT:**

### TRAKLOC® NONLOAD-BEARING WALL STUD FRAMING SYSTEM

### 1.0 REPORT PURPOSE AND SCOPE

### Purpose:

The purpose of this evaluation report supplement is to indicate that the TRAKLOC nonload-bearing wall stud framing system, recognized in ICC-ES evaluation report ESR-1464, has also been evaluated for compliance with the code noted below.

#### Applicable code edition:

2017 Florida Building Code—Building

#### 2.0 CONCLUSIONS

The TRAKLOC nonload-bearing wall stud framing system, described in Sections 2.0 through 7.0 of the evaluation report ESR-1464, complies with the *Florida Building Code—Building*, provided the design and installation are in accordance with the 2015 *International Building Code*[®] (IBC) provisions noted in the evaluation report.

Use of the TRAKLOC nonload-bearing wall stud framing system for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 9N-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued January 2020 and revised April 2020.

