

**Product category:** (TLA) TRAKLOC Adjustable Stud  
**Product name:** **250TLA125-24 57ksi G40 - Punched**  
2-1/2" TRAKLOC Stud 24 mils (20ga EQ)  
Coating: G40  
Color coding: Pink

### Geometric Properties

Web depth	2.500 in	Weight	0.459 lb/ft
Flange width	1.250 in	Punchout width	0.750 in
Stiffening lip	0.288 in	Punchout length	4.000 in
Design thickness	0.0250 in	Minimum thickness	0.0238 in
Yield stress, Fy	57 ksi		

### Gross Section Properties of Full Section, Strong Axis

Cross sectional area (A)	0.135 in <sup>2</sup>
Moment of inertia (Ix)	0.139 in <sup>4</sup>
Radius of gyration (Rx)	1.014 in
Gross moment of inertia (Iy)	0.029 in <sup>4</sup>
Gross radius of gyration (Ry)	0.464 in

### Effective Section Properties, Strong Axis

Effective area (Ae)	0.067 in <sup>2</sup>
Moment of inertia for deflection (Ixe)	0.128 in <sup>4</sup>
Section modulus (Sxe)	0.086 in <sup>3</sup>
Allowable bending moment - Local buckling (Mal)	2921 in-lbs
Allowable bending moment - Distortional buckling (Mad)	2680 in-lbs
Allowable shear force in web (Unpunched) (Vag)	596 lb
Allowable shear force in web (Punched) (Vanet)	349 lb

### Torsional Properties

St. Venant torsion constant (J x 1000)	0.0281 in <sup>4</sup>
Warping constant (Cw)	0.040 in <sup>6</sup>
Distance from shear center to neutral axis (Xo)	-0.992 in
Radii of gyration (Ro)	1.493 in
Torsional flexural constant (Beta)	0.558

Stud/track end reaction (Rx)	53 lbs
Unbraced Length (Lu)	23.8 in

### Notes:

- Calculated properties are based on AISI S100-07 w/ S2-10 Supplement and AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members.
- Gross and torsional properties are based on full-unreduced cross section of the studs, away from punch-outs.
- The allowable moment based on local buckling (Mal) is based on the compression flange continuously braced.
- The distortional buckling moment (Mad) does not consider the beneficial effect of sheathing to rotational stiffness.
- For deflection calculations, use the effective moment of inertia.
- Stud/Track End Reaction (Rx) is the maximum end reaction (web crippling) capacity based on a minimum bearing length of 1 inch.
- East Coast Punch Pattern: Center of knockouts are 12" from the leading edge then 48" o.c.
- West Coast Punch Pattern: Center of knockouts are 24" from the leading edge then 24" o.c.

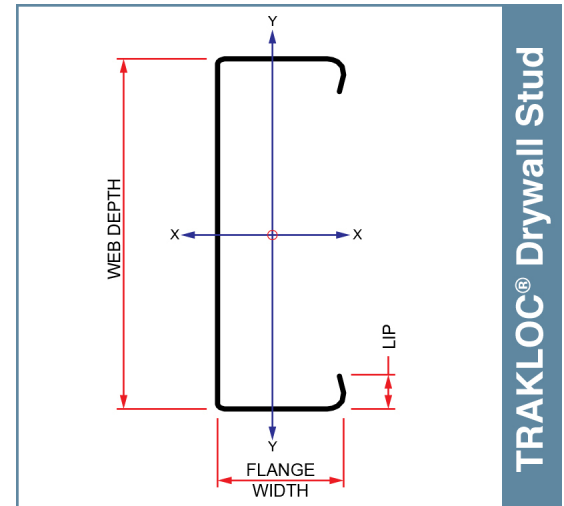
### Sustainability Credits:

For more details and LEED letters contact Technical Services at 888-437-3244 or visit [www.clarkdietrich.com/LEED](http://www.clarkdietrich.com/LEED)

**LEED v4 MR Credit** -- Building Product Disclosure and Optimization: EPD (1 point) - Sourcing of Raw Materials (1 point) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points) - Innovation Credit (up to 2 points).

**LEED 2009 Credit MR 2 & MR 4** -- ClarkDietrich's steel products are 100% recyclable and have a national average recycled content of 34.2% (19.8% post-consumer and 14.4% pre-consumer). If seeking a higher number to meet Credit MR 5, please contact us at ([info@clarkdietrich.com](mailto:info@clarkdietrich.com) / 888-437-3244)

### 09.22.16 (Non-Structural Metal Framing)



### ASTM & Code Standards:

- AISI-NASPEC 2007 w/S2-10
- Meets or exceeds ASTM C645
- ICC ESR-1464 - Evaluation Report
- SDS & Product Certification Information available at [www.clarkdietrich.com](http://www.clarkdietrich.com)



### Project Information

Name:  
Address:

### Contractor Information

Name:  
Contact:  
Phone:  
Fax:

### Architect Information

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## 2-1/2" TRAKLOC Stud 24 mils (20ga EQ) Drywall Stud - COMPOSITE Limiting Heights (AC86-2012)

### (1 layer) 5/8" Type X Gypsum Board

Spacing (inches)	5 psf			7.5 psf			10 psf		
	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	16'-10"	14'-10"	13'-1"	15'-0"	13'-0"	11'-5"	13'-9"	11'-10"	10'-4"
16	16'-8"	13'-9"	12'-1"	14'-7"	12'-0"	10'-7"	13'-3"	10'-11"	9'-7"
24	14'-10"	12'-3"	10'-9"	13'-0"	10'-8"	9'-3"	11'-9"	9'-8"	8'-2"

#### Composite Table Notes:

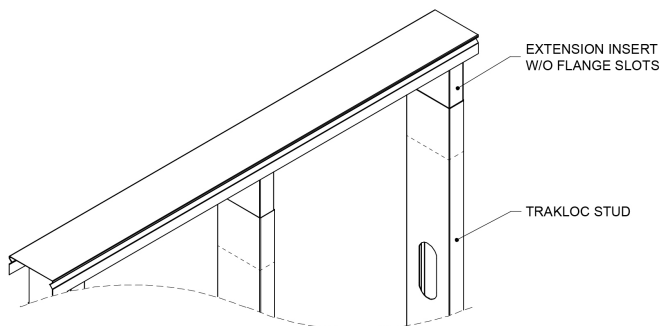
- Allowable composite limiting heights were determined in accordance with ICC-ES AC86-2012.
- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were observed.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X Gypsum Board complying with ASTM C1396 and from the following manufacturers: American Gypsum, CertainTeed, Georgia Pacific, Continental, National Gypsum or USG.
- The gypsum board must be applied full height in the vertical orientation to each stud flange and installed in accordance with ASTM C754 using minimum No. 6 Type S fine thread Drywall bugle head screws spaced as listed below:
  - Screws spaced a maximum of 16 inch on-center to framing members spaced at 12 inch on-center.
  - Screws spaced a maximum of 12 inch on-center to framing members spaced at 16inch or 24 inch on-center.
  - Screws spaced 16 inch on-center to the top and bottom track.
- No fasteners are required for attaching the stud to the track except as detailed in ASTM C754.
- Stud end bearing must be a minimum of 1 inch.
- The minimum overlap of the TSO (Outer Stud) and TSE (Inner Stud) must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.
- s: Adjacent to the height value indicates that shear/end reaction controls the allowable wall height.

## 2-1/2" TRAKLOC Stud 24 mils (20ga EQ) Drywall Stud - NON-COMPOSITE Limiting Heights (FULLY BRACED)

Spacing (inches)	5 psf			7.5 psf			10 psf		
	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	15'-0"	11'-11"	10'-5"	14'-9"	11'-8"	10'-3"	13'-4"	10'-8"	9'-3"
16	13'-7"	10'-10"	9'-5"	13'-4"	10'-8"	9'-3"	11'-7"	9'-8"	8'-5"
24	11'-11"	9'-5"	8'-3"	10'-11"	9'-3"	8'-1"	9'-5"	8'-5"	7'-4"

#### Non-Composite Table Notes:

- Heights are based on AISI S100-07 w/S2-10 Supplement, and AISI S100-12 Specification using steel properties alone.
- Compression flange must be continuously braced.
- End bearing must be 1 inch.
- The minimum overlap of the TSO (Outer Stud) and TSE (Inner Stud) must be 8 inches and the maximum un-lapped length of the TSE must be 4 inches.
- e: Web stiffeners are required at the stud/track connection.



#### Project Information

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