Built-in cover page

092216-1.2.B-2-0:Product Data

Status	**Open** Submitted
Spec section	092216 NON-STRUCTURAL METAL FRAMING
Manager	**Ryan Schelin** (Je Dunn Construction Company (013735))
Responsible contractor	**Braden Engelken** (E & K Of Kansas City Inc (019435))
Reviewers step 01	**Ryan Schelin** (Je Dunn Construction Company (013735))

515 E. Locust St, Suite 301
Des Moines, IA 50309
tel 515.698.4400
fax 515.288.3049

Reviewed by JE Dunn: Ryan Schelin
Date: 12/30/2025 3:07:05 PM
Job: LSMC ED Expansion
Submittal ID: 092216-002
Bid Package: 100% CD's
Comments: Reviewed - Submitted for Approval

NOTES:
1. Submittal is for interior drywall framing only. All exterior framing was provided in 092216-001.

Stanley D. Lindsey and Associates, Ltd.

Structural Engineer's review is only for general conformance with the structural Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve the Contractor from compliance with the requirements of the Contract Documents and applicable laws, codes and regulations. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with all other trades; and performing all Work in a safe and satisfactory manner.

- [x] Limited Review – This submittal is for a deferred submittal item designed by specialty engineer. Structural Engineer's review is limited to the design criteria and loads imposed to the base structure only.
- [ ] Reviewed – No Exceptions Taken
- [ ] Rejected – Revise and Resubmit
- [ ] Reviewed – With Exceptions as Noted
- [ ] Not Reviewed – Record Copy Only
- [ ] Reviewed – With Exceptions as Noted, Submit Record Copy
- [ ] Not Reviewed – Submittal Not Required by Structural Contract Documents

Date: 1/14/2026
Reviewer: Nishith Sardhara

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092216 Non-Structural Metal Framing Package 002

JE DUNN/E+K BELIEVES THE DELEGATED DESIGN WAS FOR THE COLD FORMED METAL FRAMING/EXTERIOR FRAMING ONLY (092216-001), DESIGN TEAM, PLEASE CONFIRM - RS JE DUNN

Interior walls are also a part of Delegated design. -SDL

BUILDING EXCELLENCE

E & K OF KANSAS CITY, INC.
SINCE 1956

October 10, 2025

Ryan Schelin
JE Dunn Construction
1001 Locust Street
Kansas City, MO 64106

RE: HCA Lee's Summit Medical Center ED Renovations
09 22 16 – Non-Structural Metal Framing

Mr. Schelin,

This letter is regarding the Submittals pertaining to our scopes of work for the above noted project. Listed below is everything included in this submittal package:

- **Product Data**

*We are submitting for your approval the following for **Non-Structural Metal Framing** manufactured by **ClarkDietrich, MarinoWare, and MBA***

- **2.2 Framing Systems**
  - **Studs and Tracks**
    - **2-1/2" 20ga (18 mil) – 1 ¼" flange**
    - **3 5/8" 20ga (18 mil) – 1 ¼" flange**
    - **3 5/8" 20ga (33 mil) – 1 ¼" flange**
    - **6" 20ga (18 mil) – 1 ¼" flange**
    - **6" 20ga (33 mil) – 1 ¼" flange**
  - **Slotted Track**
    - **2 ½" 20ga (33 mil) – 2 ½" flange**
    - **3 5/8" 20ga (33 mil) – 2 ½" flange**
    - **6" 20ga (33 mil) – 2 ½" flange**
- **2.3 Suspension Systems**
  - **Grid Suspension System**
    - **FRAMEALL Flat Drywall Grid Flat Suspension System** manufactured by **Armstrong**

The products in this submittal package should meet or exceed specified requirements. If you have any questions or comments, do not hesitate to call.

Respectfully Submitted,

Braden Engelken

Braden Engelken
Project Engineer

250PDS125-18-P (70ksi, G40EQ, Punched)

2-1/2" ProSTUD® 20 (18mil) Drywall Stud with PDS125 (1-1/4") flange

Coating: G40EQ **Color Code:** Brown

Geometric Properties

Web depth: 2.500 in
Flange width: 1.250 in
Stiffening lip: 0.315 in
Design Thickness: 0.0190 in
Minimum thickness: 0.0181 in
Yield strength, Fy: 70 ksi

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.104 in^2
Member weight per foot of length	0.354 lb/ft
Moment of inertia (Ix)	0.107 in^4
Radius of gyration (Rx)	1.017 in
Gross moment of inerita (Iy)	0.023 in^4
Gross radius of gyration (Ry)	0.470 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.043 in^2
Moment of inertia for deflection (Ixe)	0.099 in^4
Section modulus (Sxe)	0.056 in^3
Allowable bending moment (Ma)	2,361 in-lbs
Allowable shear force in web (Unpunched section) (Vag)	256 lb
Allowable shear force in web (Punched section) (Vanet)	204 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0125 in^4
Warping constant (Cw)	0.031 in^6
Distance from shear center to neutral axis (Xo)	-1.004 in
Radii of gyration (Ro)	1.504 in
Torsional flexural constant (Beta)	0.555
Unbraced length (Lu)	24.5 in

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the studs, away from punchouts.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
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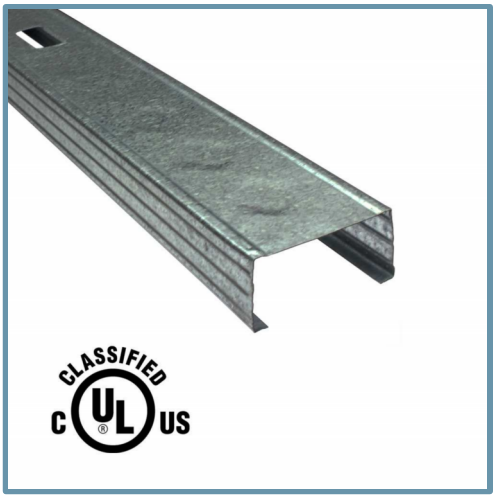
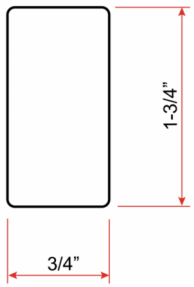
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section A5 Products - Thickness, shapes, tolerances, identification
  - Section C Installation - (Referencing ASTM C754)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories



- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070



Non-Structural Punchout

East Coast / Central punch spacing:
Center of punchouts are
12" from lead end, then 48" o.c.

West Coast punch spacing:
Center of punchouts are
24" from lead end, then 24" o.c.

Center of tail end punchout not less than 12" from end of stud.

If custom punchout patterns are required, contact ClarkDietrich Sales or local plant for requests.

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

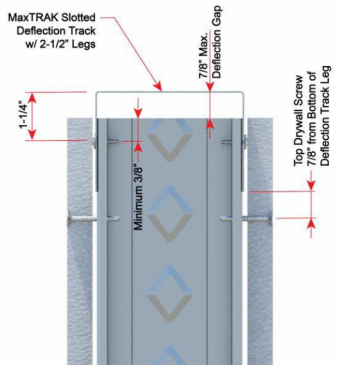
- **LEED v4.1 MR Credit:** Environmental Product Declarations: EPD (1 point) - Sourcing of Raw Materials (up to 2 points) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points)
- **LEED v4 MR Credit:** Building Product Disclosure and Optimization: EPD (1 point)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

2-1/2" ProSTUD 20 (18mil 70ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Leg MaxTRAK + (1 layer) 5/8" Type X Gypsum Board each side

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	17'-5"	14'-8"	12'-10"	15'-3"	12'-10"	11'-2"	13'-10"	11'-8"	10'-2"
16	16'-8"	14'-0"	12'-3"	14'-6"	12'-3"	10'-8"	13'-2"	11'-2" f	9'-6"
24	15'-2"	12'-10"	11'-1"	13'-2" f	11'-2"	9'-6"	11'-5" f	10'-2"	8'-2"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



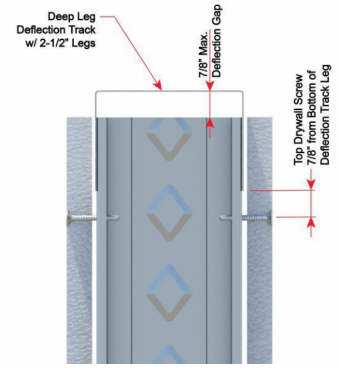
- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X Gypsum Board from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- #8 wafer head screws shall be used for attaching the stud to 30mil 2-1/2" Leg MaxTRAK (as top track) adhering to details below:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the MaxTRAK and end of stud.
  - Slots in the MaxTRAK Legs allows for a total vertical movement of 1-1/2" (+/- 3/4") with screw centered in slots.
  - Screws shall be placed in each flange of the stud at a minimum of 3/8" from the end of the stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the MaxTRAK.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.

2-1/2" ProSTUD 20 (18mil 70ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Deep Leg Deflection Track + (1 layer) 5/8" Type X Gypsum Board each side

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'-6"	14'-1"	12'-4"	14'-6"	12'-4"	10'-9"	13'-3"	11'-2"	9'-9"
16	15'-11"	13'-5"	11'-8"	13'-11"	11'-8"	10'-3"	12'-8"	10'-8"	9'-0"
24	14'-5"	12'-2"	10'-7"	12'-6" f	10'-7"	8'-11"	10'-10" f	9'-6"	-

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- No fasteners are required for attaching the stud to the Deflection Track at the top except as detailed in ASTM C754:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the Deflection Track and end of stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the Deflection Track.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754.
- A Spazzer Spacing Bar (or bridging & bracing) shall be installed in the punchouts immediately adjacent to the top Deflection Track to hold studs in place.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height

2-1/2" ProSTUD 20 (18mil 70ksi) Drywall Stud - FULL COMPOSITE Limiting Heights (AC86-2019)

With 1-1/4" leg non-deflection track + (1 layer) 5/8" Type X Gypsum Board each side

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	17'-5"	14'-8"	12'-11"	15'-3"	12'-10"	11'-3"	13'-10"	11'-8"	10'-3"
16	16'-8"	14'-0"	12'-4"	14'-6"	12'-3"	10'-9"	13'-2"	11'-2" f	9'-9"
24	15'-2"	12'-10"	11'-3"	13'-2" f	11'-2"	9'-10"	11'-5" f	10'-2"	8'-5"

Allowable composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.

- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were also 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
- Screws spaced a maximum of 16 in on-center to framing members (including top & bottom track] spaced at 16 in or 12 in on-center.
- Screws spaced a maximum of 12 in on-center to framing members (including top & bottom track] spaced at 24 in on-center.
- 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.
- 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" ProSTUD 20 (18mil 70ksi) 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	13'-9"	10'-11"	9'-6"	12'-0"	9'-6"	8'-4"	10'-11"	8'-8"	7'-7"
16	12'-6"	9'-11"	8'-8"	10'-11"	8'-8"	7'-7"	9'-11"	7'-10"	6'-10"
24	10'-11"	8'-8"	7'-7"	9'-6"	7'-7"	6'-7"	8'-4"	6'-10"	6'-0"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are applicable when the unbraced length is less than or equal to Lu.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

2-1/2" ProSTUD 20 (18mil 70ksi) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

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	13'-5"	10'-11"	9'-6"	10'-11"	9'-6"	8'-4"	9'-6"	8'-8"	7'-7"
16	11'-7"	9'-11"	8'-8"	9'-6"	8'-8"	7'-7"	8'-3"	7'-10"	6'-10"
24	9'-6"	8'-8"	7'-7"	7'-9"	7'-7"	6'-7"	6'-8"	6'-8"	6'-0"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are based on discreet stud bracing at 4 ft o.c.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

250PDT125-18 (50ksi, G40EQ)

2-1/2" ProTRAK® 20 (18mil) Drywall Track with PDT125 (1-1/4") legs

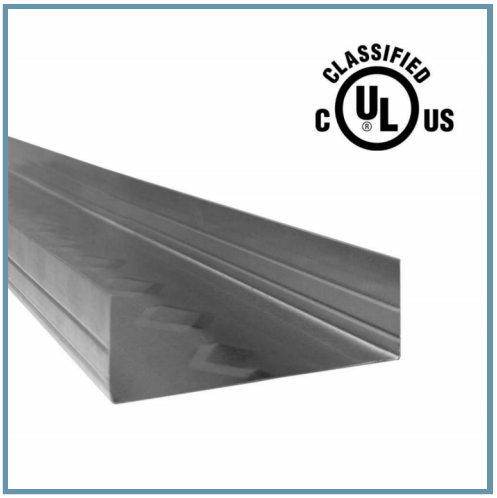
Coating: G40EQ **Color Code:** Brown

Geometric Properties

Web depth: 2.500 in
Leg width: 1.250 in
Yield strength, Fy: 50 ksi
Design Thickness: 0.0190 in
Min. steel thickness: 0.0181 in

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.095 in^2
Member weight per foot of length	0.323 lb/ft
Moment of inertia (Ix)	0.102 in^4
Radius of gyration (Rx)	1.038 in
Gross moment of inertia (Iy)	0.015 in^4
Gross radius of gyration (Ry)	0.400 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.029 in^2
Moment of inertia for deflection (Ixe)	0.073 in^4
Section modulus (Sxe)	0.034 in^3
Allowable bending moment (Ma)	1,029 in-lbs
Allowable shear force in web (Vag)	248 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0114 in^4
Warping constant (Cw)	0.017 in^6
Distance from shear center to neutral axis (Xo)	-0.770 in
Radii of gyration (Ro)	1.353 in
Torsional flexural constant (Beta)	0.676

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the tracks.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
- Web depth for track sections is equal to the nominal height plus two times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.



- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

- **LEED v4.1 MR Credit:** Environmental Product Declarations: EPD (1 point) - Sourcing of Raw Materials (up to 2 points) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points)
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- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

362PDS125-18-P (70ksi, G40EQ, Punched)

3-5/8" ProSTUD® 20 (18mil) Drywall Stud with PDS125 (1-1/4") flange

Coating: G40EQ **Color Code:** Brown

Geometric Properties

Web depth: 3.625 in
Flange width: 1.250 in
Stiffening lip: 0.325 in
Design Thickness: 0.0190 in
Minimum thickness: 0.0181 in
Yield strength, Fy: 70 ksi

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.126 in^2
Member weight per foot of length	0.428 lb/ft
Moment of inertia (Ix)	0.254 in^4
Radius of gyration (Rx)	1.421 in
Gross moment of inerita (Iy)	0.026 in^4
Gross radius of gyration (Ry)	0.456 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.044 in^2
Moment of inertia for deflection (Ixe)	0.234 in^4
Section modulus (Sxe)	0.074 in^3
Allowable bending moment (Ma)	3,102 in-lbs
Allowable shear force in web (Unpunched section) (Vag)	174 lb
Allowable shear force in web (Punched section) (Vanet)	170 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0151 in^4
Warping constant (Cw)	0.070 in^6
Distance from shear center to neutral axis (Xo)	-0.884 in
Radii of gyration (Ro)	1.734 in
Torsional flexural constant (Beta)	0.740
Unbraced length (Lu)	24.3 in

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the studs, away from punchouts.
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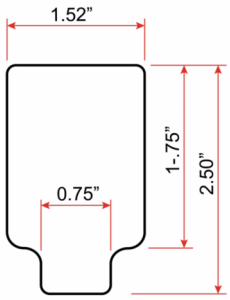
- U.S. Patent No. 9,010,070



Non-Structural Punchout

East Coast / Central punch spacing:
Center of punchouts are
12" from lead end, then 48" o.c.

West Coast punch spacing:
Center of punchouts are
24" from lead end, then 24" o.c.

Center of tail end punchout not less than 12" from end of stud.

If custom punchout patterns are required, contact ClarkDietrich Sales or local plant for requests.

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

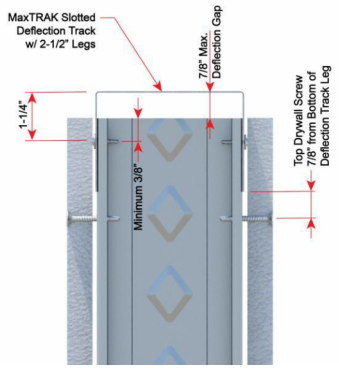
- **LEED v4.1 MR Credit:** Environmental Product Declarations: EPD (1 point) - Sourcing of Raw Materials (up to 2 points) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points)
- **LEED v4 MR Credit:** Building Product Disclosure and Optimization: EPD (1 point)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

3-5/8" ProSTUD 20 (18mil 70ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Leg MaxTRAK + (1 layer) 5/8" Type X Gypsum Board each side

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	21'-2"	17'-8"	15'-5"	18'-6"	15'-6"	13'-5"	16'-10"	14'-1"	12'-3"
16	19'-11"	16'-8"	14'-6"	17'-5"	14'-7"	12'-8"	15'-10"	13'-3"	11'-3"
24	18'-0"	15'-0"	13'-0"	15'-9" f	13'-2"	11'-2"	13'-7" f	11'-11"	9'-9"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



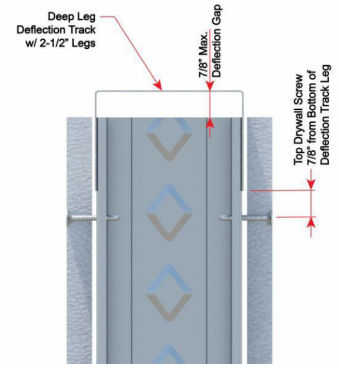
- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X Gypsum Board from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- #8 wafer head screws shall be used for attaching the stud to 30mil 2-1/2" Leg MaxTRAK (as top track) adhering to details below:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the MaxTRAK and end of stud.
  - Slots in the MaxTRAK Legs allows for a total vertical movement of 1-1/2" (+/- 3/4") with screw centered in slots.
  - Screws shall be placed in each flange of the stud at a minimum of 3/8" from the end of the stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the MaxTRAK.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.

3-5/8" ProSTUD 20 (18mil 70ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Deep Leg Deflection Track + (1 layer) 5/8" Type X Gypsum Board each side

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	21'-2"	17'-8"	15'-5"	18'-6"	15'-6"	13'-5"	16'-10"	14'-1"	12'-3"
16	19'-11"	16'-8"	14'-6"	17'-5"	14'-7"	12'-8"	15'-10"	13'-3"	11'-3"
24	18'-0"	14'-11"	13'-0"	15'-9"	13'-1"	11'-1"	13'-7" f	11'-10"	9'-9"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- No fasteners are required for attaching the stud to the Deflection Track at the top except as detailed in ASTM C754:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the Deflection Track and end of stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the Deflection Track.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754.
- A Spazzer Spacing Bar (or bridging & bracing) shall be installed in the punchouts immediately adjacent to the top Deflection Track to hold studs in place.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height

3-5/8" ProSTUD 20 (18mil 70ksi) Drywall Stud - FULL COMPOSITE Limiting Heights (AC86-2019)

With 1-1/4" leg non-deflection track + (1 layer) 5/8" Type X Gypsum Board each side

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	22'-0"	18'-2"	15'-8"	19'-3"	15'-10"	13'-8"	17'-6"	14'-5"	12'-5"
16	20'-6"	16'-10"	14'-7"	17'-11"	14'-9"	12'-9"	16'-3"	13'-5"	11'-6"
24	18'-4"	15'-1"	13'-0"	15'-11" f	13'-2"	11'-4"	13'-9" f	12'-0"	10'-1"

Allowable composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.

- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were also 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
- Screws spaced a maximum of 16 in on-center to framing members (including top & bottom track] spaced at 16 in or 12 in on-center.
- Screws spaced a maximum of 12 in on-center to framing members (including top & bottom track] spaced at 24 in on-center.
- 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.
- 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.

3-5/8" ProSTUD 20 (18mil 70ksi) 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	18'-4"	14'-6"	12'-8"	16'-0"	12'-8"	11'-1"	14'-5"	11'-6"	10'-1"
16	16'-8"	13'-2"	11'-6"	14'-5"	11'-6"	10'-1"	12'-5"	10'-6"	9'-2"
24	14'-5"	11'-6"	10'-1"	11'-9"	10'-1"	8'-10"	10'-2"	9'-2"	8'-0"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are applicable when the unbraced length is less than or equal to Lu.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

3-5/8" ProSTUD 20 (18mil 70ksi) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

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'-2"	14'-6"	12'-8"	12'-5"	12'-5"	11'-1"	10'-9"	10'-9"	10'-1"
16	13'-2"	13'-2"	11'-6"	10'-9"	10'-9"	10'-1"	9'-4"	9'-4"	9'-2"
24	10'-9"	10'-9"	10'-1"	8'-9"	8'-9"	8'-9"	7'-7"	7'-7"	7'-7"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are based on discreet stud bracing at 4 ft o.c.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

362PDT125-18 (50ksi, G40EQ)

3-5/8" ProTRAK® 20 (18mil) Drywall Track with PDT125 (1-1/4") legs

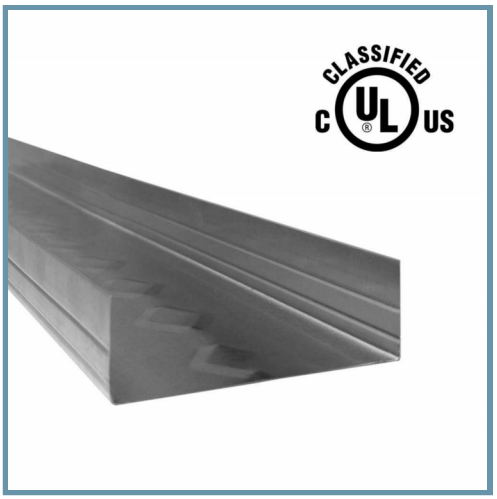
Coating: G40EQ **Color Code:** Brown

Geometric Properties

Web depth: 3.625 in
Leg width: 1.250 in
Yield strength, Fy: 50 ksi
Design Thickness: 0.0190 in
Min. steel thickness: 0.0181 in

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.116 in^2
Member weight per foot of length	0.396 lb/ft
Moment of inertia (Ix)	0.236 in^4
Radius of gyration (Rx)	1.426 in
Gross moment of inertia (Iy)	0.017 in^4
Gross radius of gyration (Ry)	0.380 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.029 in^2
Moment of inertia for deflection (Ixe)	0.173 in^4
Section modulus (Sxe)	0.050 in^3
Allowable bending moment (Ma)	1,497 in-lbs
Allowable shear force in web (Vag)	170 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0140 in^4
Warping constant (Cw)	0.041 in^6
Distance from shear center to neutral axis (Xo)	-0.666 in
Radii of gyration (Ro)	1.619 in
Torsional flexural constant (Beta)	0.831

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the tracks.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
- Web depth for track sections is equal to the nominal height plus two times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.



- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

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

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
  - (Compliant to ASTM C645, but IBC replaced with AISI S220 in IBC 2015)
  - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section A5 Products - Thickness, shapes, tolerances, identification
  - Section C Installation - (Referencing ASTM C754)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

600PDS125-18-P (70ksi, G40EQ, Punched)

6" ProSTUD® 20 (18mil) Drywall Stud with PDS125 (1-1/4") flange

Coating: G40EQ **Color Code:** Brown

Geometric Properties

Web depth: 6.000 in
Flange width: 1.250 in
Stiffening lip: 0.386 in
Design Thickness: 0.0190 in
Minimum thickness: 0.0181 in
Yield strength, Fy: 70 ksi

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.173 in^2
Member weight per foot of length	0.589 lb/ft
Moment of inertia (Ix)	0.855 in^4
Radius of gyration (Rx)	2.223 in
Gross moment of inerita (Iy)	0.032 in^4
Gross radius of gyration (Ry)	0.431 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.046 in^2
Moment of inertia for deflection (Ixe)	0.669 in^4
Section modulus (Sxe)	0.141 in^3
Allowable bending moment (Ma)	5,891 in-lbs
Allowable shear force in web (Unpunched section) (Vag)	104 lb
Allowable shear force in web (Punched section) (Vanet)	104 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0208 in^4
Warping constant (Cw)	0.233 in^6
Distance from shear center to neutral axis (Xo)	-0.739 in
Radii of gyration (Ro)	2.382 in
Torsional flexural constant (Beta)	0.904
Unbraced length (Lu)	23.6 in

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the studs, away from punchouts.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
- Web-height to thickness ratio exceeds 260

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
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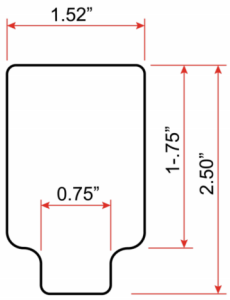
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section A5 Products - Thickness, shapes, tolerances, identification
  - Section C Installation - (Referencing ASTM C754)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070



Non-Structural Punchout

East Coast / Central punch spacing:
Center of punchouts are
12” from lead end, then 48” o.c.

West Coast punch spacing:
Center of punchouts are
24” from lead end, then 24” o.c.

Center of tail end punchout not less than 12” from end of stud.

If custom punchout patterns are required, contact ClarkDietrich Sales or local plant for requests.

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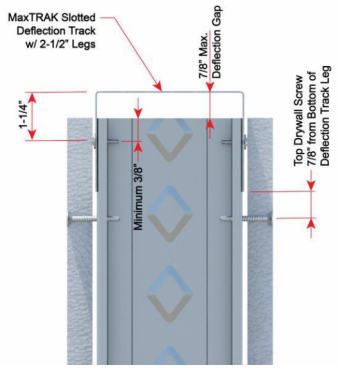
6" ProSTUD 20 (18mil 70ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Leg MaxTRAK + (1 layer) 5/8" Type X Gypsum Board each side

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	30'-1"	25'-1"	21'-11"	26'-4"	21'-11"	19'-1"	23'-11"	19'-11"	17'-4"
16	28'-1"	23'-4"	20'-5"	24'-6"	20'-5"	17'-10"	21'-6" f	18'-7"	16'-2"
24	25'-1"	20'-11"	18'-3"	20'-9" f	18'-3"	15'-11"	18'-0" f	16'-7"	13'-8"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



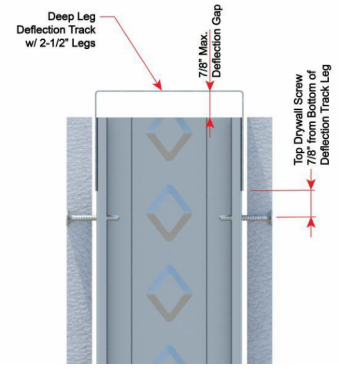
- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X Gypsum Board from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- #8 wafer head screws shall be used for attaching the stud to 30mil 2-1/2" Leg MaxTRAK (as top track) adhering to details below:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the MaxTRAK and end of stud.
  - Slots in the MaxTRAK Legs allows for a total vertical movement of 1-1/2" (+/- 3/4") with screw centered in slots.
  - Screws shall be placed in each flange of the stud at a minimum of 3/8" from the end of the stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the MaxTRAK.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.

6" ProSTUD 20 (18mil 70ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Deep Leg Deflection Track + (1 layer) 5/8" Type X Gypsum Board each side

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	29'-6"	24'-8"	21'-9"	25'-9"	21'-6"	19'-0"	22'-5" f	19'-7"	17'-3"
16	27'-9"	23'-2"	20'-5"	23'-4" f	20'-3"	17'-10"	20'-3" f	18'-5"	16'-2"
24	24'-3" f	20'-11"	18'-3"	19'-10" f	18'-3"	15'-11"	17'-2" f	16'-7"	13'-8"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- No fasteners are required for attaching the stud to the Deflection Track at the top except as detailed in ASTM C754:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the Deflection Track and end of stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the Deflection Track.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754.
- A Spazzer Spacing Bar (or bridging & bracing) shall be installed in the punchouts immediately adjacent to the top Deflection Track to hold studs in place.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height

6" ProSTUD 20 (18mil 70ksi) Drywall Stud - FULL COMPOSITE Limiting Heights (AC86-2019)

With 1-1/4" leg non-deflection track + (1 layer) 5/8" Type X Gypsum Board each side

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	32'-1"	25'-6"	22'-3"	28'-1"	22'-3"	19'-5"	24'-4" f	20'-3"	17'-8"
16	29'-10"	23'-8"	20'-8"	24'-10" f	20'-8"	18'-1"	21'-6" f	18'-9"	16'-5"
24	25'-5" f	21'-1"	18'-5"	20'-9" f	18'-5"	16'-1"	18'-0" f	16'-9"	14'-6"

Allowable composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.

- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were also 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
- Screws spaced a maximum of 16 in on-center to framing members (including top & bottom track] spaced at 16 in or 12 in on-center.
- Screws spaced a maximum of 12 in on-center to framing members (including top & bottom track] spaced at 24 in on-center.
- 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.
- 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.

6" ProSTUD 20 (18mil 70ksi) 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	26'-0"	20'-8"	18'-0"	21'-11"	18'-0"	15'-9"	19'-0"	16'-4"	14'-4"
16	23'-3"	18'-9"	16'-4"	19'-0"	16'-4"	14'-4"	15'-7"	14'-11"	13'-0"
24	19'-0"	16'-4"	14'-4"	13'-10"	13'-10"	12'-6"	10'-5"	10'-5"	10'-5"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are applicable when the unbraced length is less than or equal to Lu.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].
- Web-height to thickness ratio exceeds 260 - Web stiffeners are required at bearing points.

6" ProSTUD 20 (18mil 70ksi) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

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	20'-10"	20'-8"	18'-0"	17'-0"	17'-0"	15'-9"	14'-8"	14'-8"	14'-4"
16	18'-0"	18'-0"	16'-4"	14'-8"	14'-8"	14'-4"	12'-9"	12'-9"	12'-9"
24	14'-8"	14'-8"	14'-4"	12'-0"	12'-0"	12'-0"	10'-5"	10'-5"	10'-5"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are based on discreet stud bracing at 4 ft o.c.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].
- Web-height to thickness ratio exceeds 260 - Web stiffeners are required at bearing points.

600PDT125-18 (50ksi, G40EQ)

6" ProTRAK® 20 (18mil) Drywall Track with PDT125 (1-1/4") legs

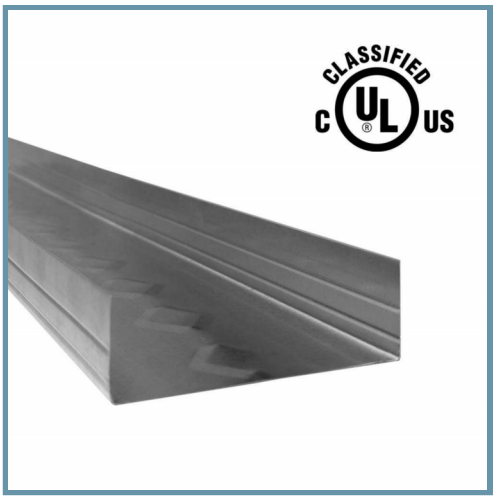
Coating: G40EQ **Color Code:** Brown

Geometric Properties

Web depth: 6.000 in
Leg width: 1.250 in
Yield strength, Fy: 50 ksi
Design Thickness: 0.0190 in
Min. steel thickness: 0.0181 in

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.161 in^2
Member weight per foot of length	0.549 lb/ft
Moment of inertia (Ix)	0.778 in^4
Radius of gyration (Rx)	2.195 in
Gross moment of inertia (Iy)	0.019 in^4
Gross radius of gyration (Ry)	0.342 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.029 in^2
Moment of inertia for deflection (Ixe)	0.469 in^4
Section modulus (Sxe)	0.083 in^3
Allowable bending moment (Ma)	2,473 in-lbs
Allowable shear force in web (Vag)	102 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0194 in^4
Warping constant (Cw)	0.130 in^6
Distance from shear center to neutral axis (Xo)	-0.523 in
Radii of gyration (Ro)	2.282 in
Torsional flexural constant (Beta)	0.947

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the tracks.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
- Web depth for track sections is equal to the nominal height plus two times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.
- Web-height to thickness ratio exceeds 260.



- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

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

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
  - (Compliant to ASTM C645, but IBC replaced with AISI S220 in IBC 2015)
  - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section A5 Products - Thickness, shapes, tolerances, identification
  - Section C Installation - (Referencing ASTM C754)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

362PDS125-33-P (33ksi, G40EQ, Punched)

3-5/8" ProSTUD® 33mil Drywall Stud with PDS125 (1-1/4") flange

Coating: G40EQ **Color Code:** White

Geometric Properties

Web depth: 3.625 in
Flange width: 1.250 in
Stiffening lip: 0.250 in
Design Thickness: 0.0346 in
Minimum thickness: 0.0329 in
Yield strength, Fy: 33 ksi

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.221 in^2
Member weight per foot of length	0.752 lb/ft
Moment of inertia (Ix)	0.439 in^4
Radius of gyration (Rx)	1.409 in
Gross moment of inerita (Iy)	0.041 in^4
Gross radius of gyration (Ry)	0.433 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.127 in^2
Moment of inertia for deflection (Ixe)	0.439 in^4
Section modulus (Sxe)	0.200 in^3
Allowable bending moment (Ma)	3,943 in-lbs
Allowable shear force in web (Unpunched section) (Vag)	1,024 lb
Allowable shear force in web (Punched section) (Vanet)	541 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0882 in^4
Warping constant (Cw)	0.106 in^6
Distance from shear center to neutral axis (Xo)	-0.816 in
Radii of gyration (Ro)	1.685 in
Torsional flexural constant (Beta)	0.766
Unbraced length (Lu)	29.6 in

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the studs, away from punchouts.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.

Code Approvals & Performance Standards

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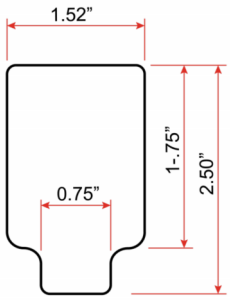
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070



Non-Structural Punchout

East Coast / Central punch spacing:
Center of punchouts are
12” from lead end, then 48” o.c.

West Coast punch spacing:
Center of punchouts are
24” from lead end, then 24” o.c.

Center of tail end punchout not less than 12” from end of stud.

If custom punchout patterns are required, contact ClarkDietrich Sales or local plant for requests.

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

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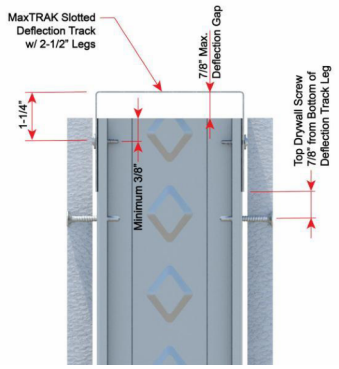
- **LEED v4 MR Credit:** Building Product Disclosure and Optimization: EPD (1 point) - Sourcing of Raw Materials (1 point) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points) - Innovation Credit (up to 2 points).

3-5/8" ProSTUD 33MIL (33ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Leg MaxTRAK + (1 layer) 5/8" Type X Gypsum Board each side

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	24'-10"	19'-8"	17'-2"	21'-8"	17'-2"	15'-0"	19'-8"	15'-7"	13'-8"
16	23'-2"	18'-4"	16'-1"	20'-3"	16'-1"	14'-0"	18'-4"	14'-7"	12'-8"
24	20'-9"	16'-5"	14'-4"	18'-1"	14'-4"	12'-5"	16'-5"	13'-1"	11'-1"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



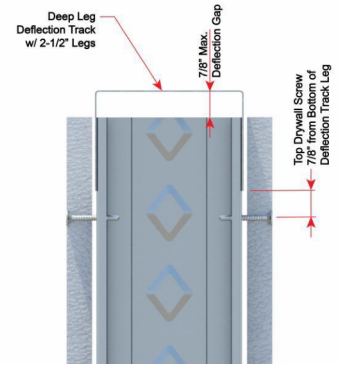
- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X Gypsum Board from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- #8 wafer head screws shall be used for attaching the stud to 30mil 2-1/2" Leg MaxTRAK (as top track) adhering to details below:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the MaxTRAK and end of stud.
  - Slots in the MaxTRAK Legs allows for a total vertical movement of 1-1/2" (+/- 3/4") with screw centered in slots.
  - Screws shall be placed in each flange of the stud at a minimum of 3/8" from the end of the stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the MaxTRAK.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.

3-5/8" ProSTUD 33MIL (33ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Deep Leg Deflection Track + (1 layer) 5/8" Type X Gypsum Board each side

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	24'-2"	19'-8"	17'-2"	21'-1"	17'-2"	15'-0"	19'-2"	15'-7"	13'-8"
16	22'-6"	18'-4"	16'-1"	19'-8"	16'-1"	14'-0"	17'-10"	14'-7"	12'-8"
24	20'-1"	16'-5"	14'-4"	17'-7"	14'-4"	12'-5"	15'-11"	13'-1"	11'-1"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- No fasteners are required for attaching the stud to the Deflection Track at the top except as detailed in ASTM C754:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the Deflection Track and end of stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the Deflection Track.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754.
- A Spazzer Spacing Bar (or bridging & bracing) shall be installed in the punchouts immediately adjacent to the top Deflection Track to hold studs in place.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height

3-5/8" ProSTUD 33MIL (33ksi) Drywall Stud - FULL COMPOSITE Limiting Heights (AC86-2019)

With 1-1/4" leg non-deflection track + (1 layer) 5/8" Type X Gypsum Board each side

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	26'-7"	21'-2"	18'-5"	23'-3"	18'-5"	16'-1"	21'-2"	16'-9"	14'-8"
16	24'-2"	19'-2"	16'-9"	21'-2"	16'-9"	14'-8"	19'-2"	15'-3"	13'-4"
24	21'-2"	16'-9"	14'-8"	18'-5"	14'-8"	12'-10"	16'-9"	13'-4"	11'-6"

Allowable composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.

- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were also 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
- Screws spaced a maximum of 16 in on-center to framing members (including top & bottom track] spaced at 16 in or 12 in on-center.
- Screws spaced a maximum of 12 in on-center to framing members (including top & bottom track] spaced at 24 in on-center.
- 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.
- 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.

3-5/8" ProSTUD 33MIL (33ksi) 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	22'-7"	17'-11"	15'-8"	18'-9"	15'-8"	13'-8"	16'-3"	14'-3"	12'-5"
16	19'-10"	16'-3"	14'-3"	16'-3"	14'-3"	12'-5"	14'-0"	12'-11"	11'-3"
24	16'-3"	14'-3"	12'-5"	13'-3"	12'-5"	10'-10"	11'-6"	11'-3"	9'-10"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are applicable when the unbraced length is less than or equal to Lu.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

3-5/8" ProSTUD 33MIL (33ksi) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

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	21'-3"	17'-11"	15'-8"	17'-4"	15'-8"	13'-8"	15'-0"	14'-3"	12'-5"
16	18'-5"	16'-3"	14'-3"	15'-0"	14'-3"	12'-5"	13'-0"	12'-11"	11'-3"
24	15'-0"	14'-3"	12'-5"	12'-3"	12'-3"	10'-10"	10'-8"	10'-8"	9'-10"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are based on discreet stud bracing at 4 ft o.c.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

362PDT125-33 (33ksi, G40EQ)

3-5/8" ProTRAK® 33mil Drywall Track with PDT125 (1-1/4") legs

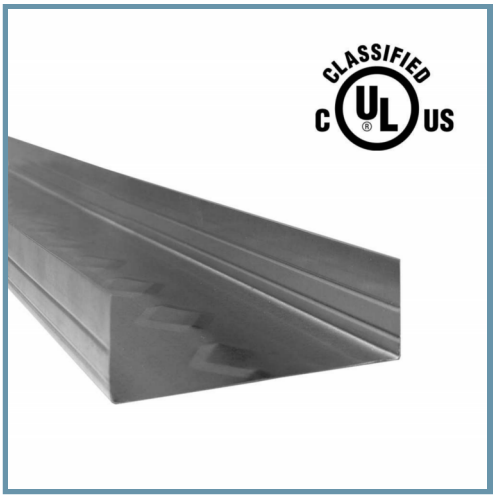
Coating: G40EQ **Color Code:** White

Geometric Properties

Web depth: 3.625 in
Leg width: 1.250 in
Yield strength, Fy: 33 ksi
Design Thickness: 0.0346 in
Min. steel thickness: 0.0329 in

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.212 in^2
Member weight per foot of length	0.720 lb/ft
Moment of inertia (Ix)	0.432 in^4
Radius of gyration (Rx)	1.429 in
Gross moment of inertia (Iy)	0.030 in^4
Gross radius of gyration (Ry)	0.377 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.105 in^2
Moment of inertia for deflection (Ixe)	0.375 in^4
Section modulus (Sxe)	0.170 in^3
Allowable bending moment (Ma)	3,358 in-lbs
Allowable shear force in web (Vag)	1,024 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.0844 in^4
Warping constant (Cw)	0.074 in^6
Distance from shear center to neutral axis (Xo)	-0.659 in
Radii of gyration (Ro)	1.618 in
Torsional flexural constant (Beta)	0.834

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the tracks.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
- Web depth for track sections is equal to the nominal height plus two times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.



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- U.S. Patent No. 9,010,070

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- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

600PDS125-33-P (33ksi, G40EQ, Punched)

6" ProSTUD® 33mil Drywall Stud with PDS125 (1-1/4") flange

Coating: G40EQ **Color Code:** White

Geometric Properties

Web depth: 6.000 in
Flange width: 1.250 in
Stiffening lip: 0.250 in
Design Thickness: 0.0346 in
Minimum thickness: 0.0329 in
Yield strength, Fy: 33 ksi

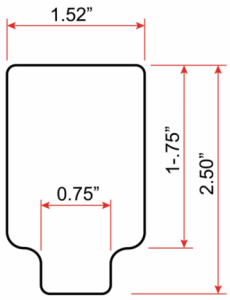
Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.303 in^2
Member weight per foot of length	1.032 lb/ft
Moment of inertia (Ix)	1.463 in^4
Radius of gyration (Rx)	2.196 in
Gross moment of inerita (Iy)	0.047 in^4
Gross radius of gyration (Ry)	0.394 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.130 in^2
Moment of inertia for deflection (Ixe)	1.428 in^4
Section modulus (Sxe)	0.399 in^3
Allowable bending moment (Ma)	7,021 in-lbs
Allowable shear force in web (Unpunched section) (Vag)	630 lb
Allowable shear force in web (Punched section) (Vanet)	630 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.1210 in^4
Warping constant (Cw)	0.332 in^6
Distance from shear center to neutral axis (Xo)	-0.647 in
Radii of gyration (Ro)	2.323 in
Torsional flexural constant (Beta)	0.922
Unbraced length (Lu)	28.6 in

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the studs, away from punchouts.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
  - (Compliant to ASTM C645, but IBC replaced with AISI S220 in IBC 2015)
  - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section A5 Products - Thickness, shapes, tolerances, identification
  - Section C Installation - (Referencing ASTM C754)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070



Non-Structural Punchout

East Coast / Central punch spacing:
Center of punchouts are
12” from lead end, then 48” o.c.

West Coast punch spacing:
Center of punchouts are
24” from lead end, then 24” o.c.

Center of tail end punchout not less than 12” from end of stud.

If custom punchout patterns are required, contact ClarkDietrich Sales or local plant for requests.

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

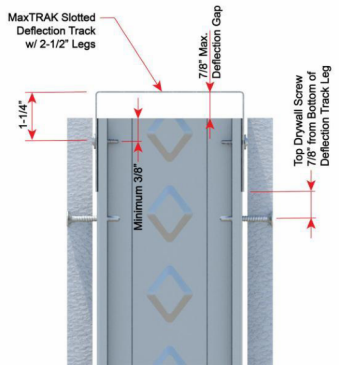
- **LEED v4.1 MR Credit:** Environmental Product Declarations: EPD (1 point) - Sourcing of Raw Materials (up to 2 points) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points)
- **LEED v4 MR Credit:** Building Product Disclosure and Optimization: EPD (1 point)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

6" ProSTUD 33MIL (33ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Leg MaxTRAK + (1 layer) 5/8" Type X Gypsum Board each side

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	34'-5"	28'-2"	24'-11"	30'-1"	24'-7"	21'-9"	27'-4"	22'-4"	19'-9"
16	32'-1"	26'-2"	23'-2"	28'-0"	22'-11"	20'-3"	25'-5"	20'-10"	18'-5"
24	28'-8"	23'-5"	20'-8"	25'-0"	20'-6"	18'-1"	22'-9"	18'-7"	16'-4"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



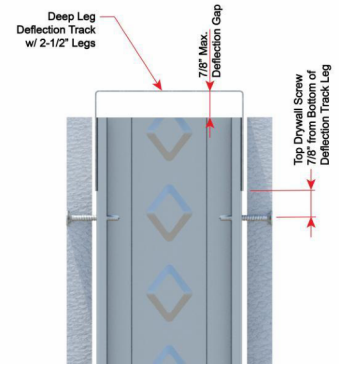
- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X Gypsum Board from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- #8 wafer head screws shall be used for attaching the stud to 30mil 2-1/2" Leg MaxTRAK (as top track) adhering to details below:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the MaxTRAK and end of stud.
  - Slots in the MaxTRAK Legs allows for a total vertical movement of 1-1/2" (+/- 3/4") with screw centered in slots.
  - Screws shall be placed in each flange of the stud at a minimum of 3/8" from the end of the stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the MaxTRAK.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.

6" ProSTUD 33MIL (33ksi) Drywall Stud - Head-of-Wall (HOW) Composite Limiting Heights

With 30mil 2-1/2" Deep Leg Deflection Track + (1 layer) 5/8" Type X Gypsum Board each side

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	34'-5"	28'-2"	24'-11"	30'-1"	24'-7"	21'-9"	27'-4"	22'-4"	19'-9"
16	32'-1"	26'-2"	23'-2"	28'-0"	22'-11"	20'-3"	25'-5"	20'-10"	18'-5"
24	28'-8"	23'-5"	20'-8"	25'-0"	20'-6"	18'-1"	22'-9" f	18'-7"	16'-4"

Allowable HOW composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.



- The tests were modified from the standards with the tracks fastened to the test fixture such that the wall stiffness included the track deformation.
- 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
  - Sheathing screws spaced a maximum of 16 in on-center to framing members (including bottom track) when studs spaced at 16 in or 12 in on-center.
  - Sheathing screws spaced a maximum of 12 in on-center to framing members (including bottom track) when studs spaced at 24 in on-center.
- No fasteners are required for attaching the stud to the Deflection Track at the top except as detailed in ASTM C754:
  - Stud to track connection must be installed as depicted in figure with a maximum gap of 7/8" between the web of the Deflection Track and end of stud.
  - To permit head of wall deflection, gypsum board must not be fastened directly to the Deflection Track.
- No fasteners are required for attaching the stud to the bottom track except as detailed in ASTM C754.
- A Spazzer Spacing Bar (or bridging & bracing) shall be installed in the punchouts immediately adjacent to the top Deflection Track to hold studs in place.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height

6" ProSTUD 33MIL (33ksi) Drywall Stud - FULL COMPOSITE Limiting Heights (AC86-2019)

With 1-1/4" leg non-deflection track + (1 layer) 5/8" Type X Gypsum Board each side

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	36'-8"	30'-1"	26'-6"	32'-0"	26'-3"	23'-2"	29'-1"	23'-10"	21'-0"
16	33'-3"	27'-4"	24'-1"	29'-1"	23'-10"	21'-0"	26'-5"	21'-8"	19'-1"
24	29'-1"	23'-10"	21'-0"	25'-5"	20'-10"	18'-4"	23'-1"	18'-11"	-

Allowable composite limiting heights were tested in accordance with AISI S916 and ICC-ES AC86.

- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were also 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 from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and 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 Drywall screws spaced as listed below:
- Screws spaced a maximum of 16 in on-center to framing members (including top & bottom track] spaced at 16 in or 12 in on-center.
- Screws spaced a maximum of 12 in on-center to framing members (including top & bottom track] spaced at 24 in on-center.
- 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.
- 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.

6" ProSTUD 33MIL (33ksi) 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	30'-7"	26'-7"	23'-2"	25'-0"	23'-2"	20'-3"	21'-8"	21'-1"	18'-5"
16	26'-6"	24'-1"	21'-1"	21'-8"	21'-1"	18'-5"	18'-9"	18'-9"	16'-9"
24	21'-8"	21'-1"	18'-5"	17'-8"	17'-8"	16'-1"	15'-4"	15'-4"	14'-7"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are applicable when the unbraced length is less than or equal to Lu.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

6" ProSTUD 33MIL (33ksi) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

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	28'-4"	26'-7"	23'-2"	23'-2"	23'-2"	20'-3"	20'-1"	20'-1"	18'-5"
16	24'-7"	24'-1"	21'-1"	20'-1"	20'-1"	18'-5"	17'-5"	17'-5"	16'-9"
24	20'-1"	20'-1"	18'-5"	16'-5"	16'-5"	16'-1"	14'-2"	14'-2"	14'-2"

- Heights are based on AISI S100-16 (2020) w/S2-20, North American Specification, and AISI S220-20, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are based on discreet stud bracing at 4 ft o.c.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing].

Marino\WARE® Product Submittal Data

PRODUCT NAME: **Viper20 (250VS125-18)**

MARINO\WARE PART #

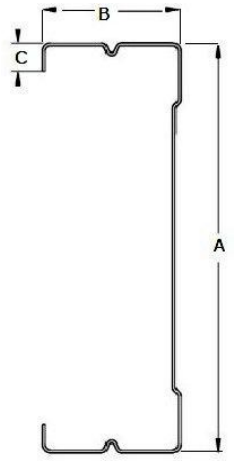
PROPERTIES:

A. Web (in)	2-1/2"	**Yield Strength Fy (KSI)**	70
B. Flange (in)	1-1/4"	**Design Thickness (in)**	0.0190
C. Lip (in)	0.330	**Minimum Thickness (in)**	0.0181
Mils	18	**Gauge EQ**	20 DW
Finish*	G40EQ		

**Or other ASTM A1003 Table 1 Coating*

09.22.16 Non-Structural Metal Stud

VIPERSTUD



SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	0.351
Cross Sectional Area: **A** (in^2)	0.103
Moment of Inertia: **Ix** (in^4)	0.106
Radius of Gyration: **Rx** (in)	1.013
Gross Moment of Inertia: **Iy** (in^4)	0.023
Gross Radius of Gyration: **Ry** (in)	0.469

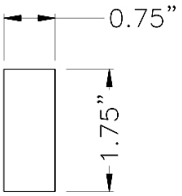
EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ix** (in^4)	0.094
Section Modulus: **Sx** (in^3)	0.058

MOMENTS

Allowable Bending Moment: **Ma** (in-k)	2.090
Local Buckling Nominal Moment: **Mnl** (in-k)	4.07
Distortional Buckling Moment: **Mnd** (in-k)	3.49

Drywall Punchout



LIMITING HEIGHTS - COMPOSITE (ft-in)

	5 psf			7.5 psf			10 psf		
Spacing (in)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	18-2	14-5	12-7	15-10	12-7	11-0	14-5	11-5	9-10
16	16-6	13-1	11-5	14-5	11-5	9-10	13-1	10-4	8-10
24	14-5	11-5	9-10	12-7	9-10	8-5	11-5	8-10	--

1. Gypsum must be vertically oriented, applied full height to both sides, and fastened to each stud and track flange
2. Acceptable wallboards are 5/8" type X from: USG, National, GP, Pabco, American, Continental & CertainTeed.
3. No screws are required between stud and track, except as required by ASTM C754.
4. See CCRR-0154 for additional information. Review fire related assemblies for any additional requirements

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2020
- ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 or A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v4 credits available
- Contact Technical Services for more information

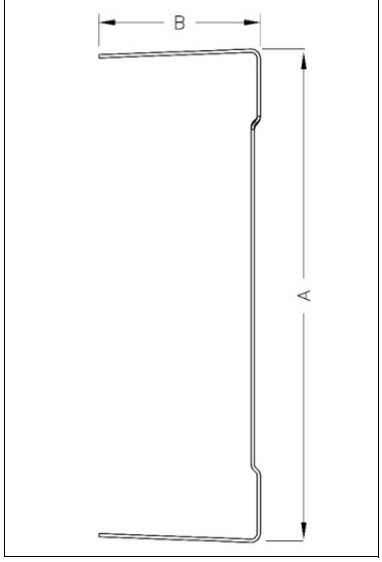
Marino\WARE® Product Submittal Data

PRODUCT NAME: **Viper20 (250VT125-18)**

MARINO\WARE PART # 212VT218

09.22.16 Non-Structural Metal Stud

VIPERTRACK



PROPERTIES:

A. Web (in)	2-1/2	**Yield Strength Fy (KSI)**	50
B. Leg (in)	1-1/4	**Design Thickness (in)**	0.0190
Mils	18	**Minimum Thickness (in)**	0.0181
Finish*	G40EQ	**Gauge EQ**	20 DW

**Or other ASTM A1003 Table 1 Coating*

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: **(lb/ft)**	0.3172
Cross Sectional Area: **A (in^2)**	0.0933
Moment of Inertia: **Ix (in^4)**	0.0906
Section Modulus about the X-axis: **Sx (in^3)**	0.0733
Radius of Gyration: **Rx (in)**	0.9855
Gross Moment of Inertia: **Iy (in^4)**	0.0143
Section Modulus about the Y-axis: **Sy (in^3)**	0.0156
Gross Radius of Gyration: **Ry (in)**	0.3916

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ixd (in^4)**	0.0549
Section Modulus: **Sxe (in^3)**	0.0351
Allowable Moment: **Ma (in-k)**	0.8763

TORSIONAL PROPERTIES

Shear Center to Centroid on Principal X-axis: **Xo (in)**	-0.7472
St. Venant Torsional Constant: **Jx10^3 (in^4)**	0.0011
Torsional Warping Constant: **Cw (in^6)**	0.0161
Radius of Gyration on the Centroid Principal axis: **ro (in)**	1.2972
Torsional Flexural Constant: **$\beta = 1-(xo/ro)^2$**	0.6682

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2017
- Meets or tested to: ASTM C 645, C 754, E 90, E 119 & AISI S220
- Galvanized steel sheet meets ASTM A 1003 & A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v3 & LEED v4 credits available
- Contact Technical Services for more information.

Marino\WARE® Product Submittal Data

PRODUCT NAME: **Viper20 (362VS125-18)**

MARINO\WARE PART # 358VS20

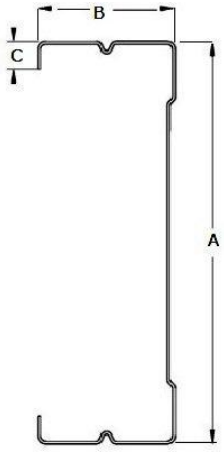
PROPERTIES:

A. Web (in)	3-5/8"	**Yield Strength Fy (KSI)**	70
B. Flange (in)	1-1/4"	**Design Thickness (in)**	0.0190
C. Lip (in)	0.330	**Minimum Thickness (in)**	0.0181
Mils	18	**Gauge EQ**	20 DW
Finish*	G40EQ		

** Or other ASTM A1003 Table 1 Coating*

09.22.16 Non-Structural Metal Stud

VIPERSTUD



SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	0.423
Cross Sectional Area: **A** (in^2)	0.124
Moment of Inertia: **Ix** (in^4)	0.249
Radius of Gyration: **Rx** (in)	1.415
Gross Moment of Inertia: **Iy** (in^4)	0.026
Gross Radius of Gyration: **Ry** (in)	0.454

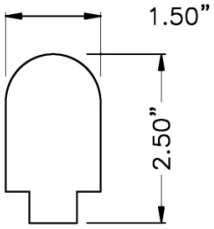
EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ix** (in^4)	0.213
Section Modulus: **Sx** (in^3)	0.076

MOMENTS

Allowable Bending Moment: **Ma** (in-k)	3.08
Local Buckling Nominal Moment: **Mnl** (in-k)	5.28
Distortional Buckling Moment: **Mnd** (in-k)	5.14

Drywall Punchout



LIMITING HEIGHTS - COMPOSITE (ft-in)

	5 psf			7.5 psf			10 psf		
Spacing (in)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	21-11	18-0	15-10	19-1	15-9	13-10	17-5	14-3	12-7
16	19-11	16-4	14-5	17-5	14-3	12-7	15-10	13-0	11-4
24	17-5	14-3	12-7	15-2	12-6	10-10	13-10	11-3	9-9

1. Gypsum must be vertically oriented, applied full height to both sides, and fastened to each stud and track flange.
2. Acceptable wallboards are 5/8" type X from: USG, National, GP, Pabco, American, Continental & CertainTeed.
3. No screws are required between stud and track, except as required by ASTM C754.
4. See CCRR-0154 for additional information. Review fire related assemblies for any additional requirements.

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2020
- ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 or A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v4 credits available
- Contact Technical Services for more information

Marino\WARE® Product Submittal Data

PRODUCT NAME: **Viper20 (362VT125-18)**

MARINO\WARE PART # 358VT18

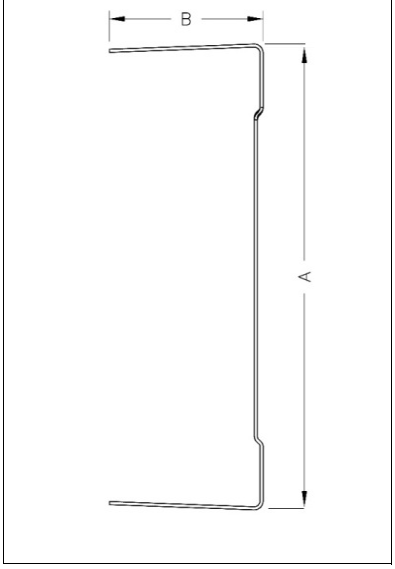
09.22.16 Non-Structural Metal Stud

PROPERTIES:

A. Web (in)	3-5/8	**Yield Strength Fy (KSI)**	50
B. Leg (in)	1-1/4	**Design Thickness (in)**	0.0190
Mils	18	**Minimum Thickness (in)**	0.0181
Finish*	G40EQ	**Gauge EQ**	20 DW

**Or other ASTM A1003 Table 1 Coating*

VIPERTRACK



SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: **(lb/ft)**	0.3898
Cross Sectional Area: **A (in^2)**	0.1147
Moment of Inertia: **Ix (in^4)**	0.2175
Section Modulus about the X-axis: **Sx (in^3)**	0.1210
Radius of Gyration: **Rx (in)**	1.3772
Gross Moment of Inertia: **Iy (in^4)**	0.0157
Section Modulus about the Y-axis: **Sy (in^3)**	0.0162
Gross Radius of Gyration: **Ry (in)**	0.3701

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ixd (in^4)**	0.1323
Section Modulus: **Sxe (in^3)**	0.0573
Allowable Moment: **Ma (in-k)**	1.4334

TORSIONAL PROPERTIES

Shear Center to Centroid on Principal X-axis: **Xo (in)**	-0.6355
St. Venant Torsional Constant: **Jx10^3 (in^4)**	0.0138
Torsional Warping Constant: **Cw (in^6)**	0.0381
Radius of Gyration on the Centroid Principal axis: **ro (in)**	1.5613
Torsional Flexural Constant: **β=1-(xo/ro)^2**	0.8343

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2017
- Meets or tested to: ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 & A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v3 & LEED v4 credits available
- Contact Technical Services for more information.

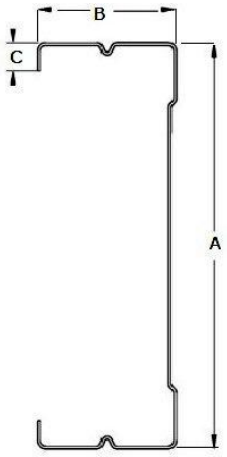
Marino\WARE® Product Submittal Data

PRODUCT NAME: **Viper20 (600VS125-18)**

MARINO\WARE PART #

09.22.16 Non-Structural Metal Stud

VIPERSTUD



PROPERTIES:

A. Web (in)	6	**Yield Strength Fy (KSI)**	70
B. Flange (in)	1-1/4"	**Design Thickness (in)**	0.0190
C. Lip (in)	0.40	**Minimum Thickness (in)**	0.0181
Mils	18	**Gauge EQ**	20 DW
Finish*	G40EQ		

**Or other ASTM A1003 Table 1 Coating*

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	0.586
Cross Sectional Area: **A** (in^2)	0.172
Moment of Inertia: **Ix** (in^4)	0.846
Radius of Gyration: **Rx** (in)	2.216
Gross Moment of Inertia: **Iy** (in^4)	0.032
Gross Radius of Gyration: **Ry** (in)	0.430

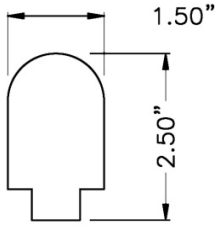
EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ix** (in^4)	0.647
Section Modulus: **Sx** (in^3)	0.151

MOMENTS

Allowable Bending Moment: **Ma** (in-k)	5.41
Local Buckling Nominal Moment: **Mnl** (in-k)	10.56
Distortional Buckling Moment: **Mnd** (in-k)	9.04

Drywall Punchout



LIMITING HEIGHTS - COMPOSITE (ft-in)

	5 psf			7.5 psf			10 psf		
Spacing (in)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	30-6	26-0	23-0	26-7	22-9	20-1	24-2	20-8	18-4
16	27-8	23-7	20-11	24-2	20-8	18-4	22-0	18-9	16-8
24	24-2	20-8	18-4	20-11	18-0	16-0	18-1	16-5	14-7

1. Gypsum must be vertically oriented, applied full height to both sides, and fastened to each stud and track flange
2. Acceptable wallboards are 5/8" type X from: USG, National, GP, Pabco, American, Continental & CertainTeed.
3. No screws are required between stud and track, except as required by ASTM C754.
4. See CCRR-0154 for additional information. Review fire related assemblies for any additional requirements

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2020
- ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 or A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v4 credits available
- Contact Technical Services for more information

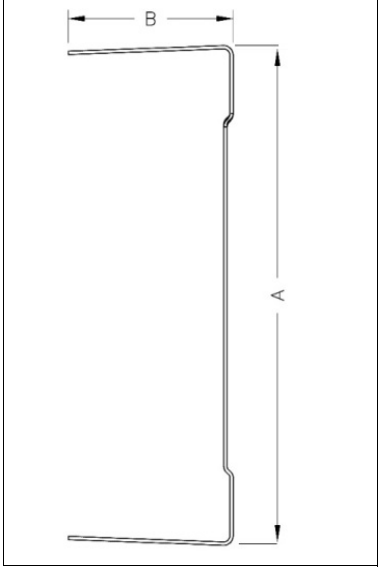
Marino\WARE® Product Submittal Data

PRODUCT NAME: **Viper20 (600VT125-18)**

MARINO\WARE PART # 600VT18

09.22.16 Non-Structural Metal Stud

VIPERTRACK



PROPERTIES:

A. Web (in)	6	**Yield Strength Fy (KSI)**	50
B. Leg (in)	1-1/4	**Design Thickness (in)**	0.0190
Mils	18	**Minimum Thickness (in)**	0.0181
Finish*	G40EQ	**Gauge EQ**	20 DW

**Or other ASTM A1003 Table 1 Coating*

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: **(lb/ft)**	0.5433
Cross Sectional Area: **A (in^2)**	0.1598
Moment of Inertia: **Ix (in^4)**	0.7400
Section Modulus about the X-axis: **Sx (in^3)**	0.2480
Radius of Gyration: **Rx (in)**	2.1521
Gross Moment of Inertia: **Iy (in^4)**	0.0174
Section Modulus about the Y-axis: **Sy (in^3)**	0.0107
Gross Radius of Gyration: **Ry (in)**	0.3303

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ixd (in^4)**	0.4203
Section Modulus: **Sxe (in^3)**	0.1052
Allowable Moment: **Ma (in-k)**	2.6309

TORSIONAL PROPERTIES

Shear Center to Centroid on Principal X-axis: **Xo (in)**	-0.4903
St. Venant Torsional Constant: **Jx10^3 (in^4)**	0.0192
Torsional Warping Constant: **Cw (in^6)**	0.1218
Radius of Gyration on the Centroid Principal axis: **ro (in)**	2.2318
Torsional Flexural Constant: **β=1-(xo/ro)^2**	0.9517

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2017
- Meets or tested to: ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 & A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v3 & LEED v4 credits available
- Contact Technical Services for more information

Marino\WARE® Product Submittal Data

PRODUCT NAME: **362VS125-33**

MARINO\WARE PART # 358VS33

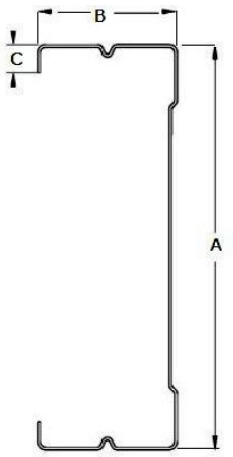
PROPERTIES:

A. Web (in)	3-5/8	**Yield Strength Fy (KSI)**	33
B. Flange (in)	1-1/4	**Design Thickness (in)**	0.0346
C. Lip (in)	1/4"	**Minimum Thickness (in)**	0.0329
Mils	33	**Gauge**	20 STR
Finish*	G40EQ		

** Or other ASTM A1003 Table 1 Coating*

09.22.16 Non-Structural Metal Stud

VIPERSTUD



SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	0.750
Cross Sectional Area: **A** (in^2)	0.220
Moment of Inertia: **Ix** (in^4)	0.432
Radius of Gyration: **Rx** (in)	1.400
Gross Moment of Inertia: **Iy** (in^4)	0.040
Gross Radius of Gyration: **Ry** (in)	0.429

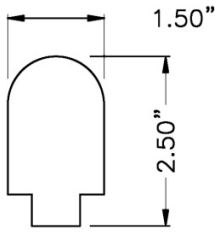
EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ix** (in^4)	0.428
Section Modulus: **Sx** (in^3)	0.201

MOMENTS

Allowable Bending Moment: **Ma** (in-k)	3.960
Local Buckling Nominal Moment: **Mnl** (in-k)	6.620
Distortional Buckling Moment: **Mnd** (in-k)	6.750

Drywall Punchout



LIMITING HEIGHTS - COMPOSITE (ft-in)

	5 psf			7.5 psf			10 psf		
Spacing (in)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	23-10	18-11	16-6	20-10	16-6	14-5	18-11	15-0	13-1
16	21-8	17-2	15	18-11	15-0	13-1	17-2	13-8	11-10
24	18-11	15	13-1	16-6	13-1	11-4	14-4	11-10	10-3

1. Gypsum must be vertically oriented, applied full height to both sides, and fastened to each stud and track flange
2. Acceptable wallboards are 5/8" type X from: USG, National, GP, Pabco, American, Continental & CertainTeed.
3. No screws are required between stud and track, except as required by ASTM C754.
4. See CCRR-0154 for additional information. Review fire related assemblies for any additional requirements

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2020
- ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 or A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

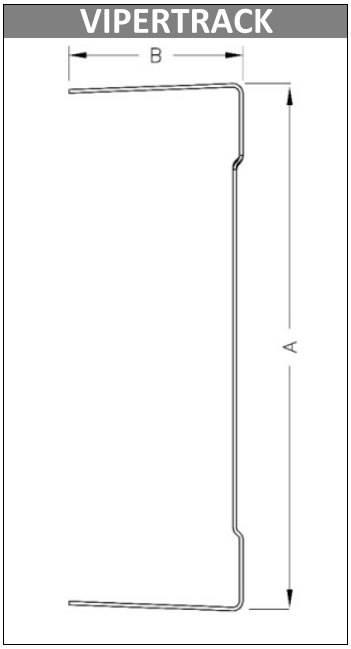
- LEED v4 credits available
- Contact Technical Services for more information

Marino\WARE® Product Submittal Data

PRODUCT NAME: **362VT125-33**

MARINO\WARE PART # 358VT33

09.22.16 Non-Structural Metal Stud



PROPERTIES:

A. Web (in)	3-5/8	**Yield Strength Fy (KSI)**	33
B. Leg (in)	1-1/4	**Design Thickness (in)**	0.0346
Mils	33	**Minimum Thickness (in)**	0.0329
Finish*	G40EQ	**Gauge**	20 STR

**Or other ASTM A1003 Table 1 Coating*

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: **(lb/ft)**	0.720
Cross Sectional Area: **A (in^2)**	0.212
Moment of Inertia: **Ix (in^4)**	0.443
Section Modulus about the X-axis: **Sx (in^3)**	0.234
Radius of Gyration: **Rx (in)**	1.440
Gross Moment of Inertia: **Iy (in^4)**	0.030
Section Modulus about the Y-axis: **Sy (in^3)**	0.0306
Gross Radius of Gyration: **Ry (in)**	0.377

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ixd (in^4)**	0.375
Section Modulus: **Sxe (in^3)**	0.173
Allowable Moment: **Ma (in-k)**	3.430

TORSIONAL PROPERTIES

Shear Center to Centroid on Principal X-axis: **Xo (in)**	-0.657
St. Venant Torsional Constant: **Jx10^3 (in^4)**	0.0848
Torsional Warping Constant: **Cw (in^6)**	0.077
Radius of Gyration on the Centroid Principal axis: **Ro (in)**	1.630
Torsional Flexural Constant: **β=1-(xo/Ro)^2**	0.838

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2017
- Meets or tested to: ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 & A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v3 & LEED v4 credits available
- Contact Technical Services for more information.

Marino\WARE® Product Submittal Data

PRODUCT NAME: **600VS125-33**

MARINO\WARE PART # 600VS33

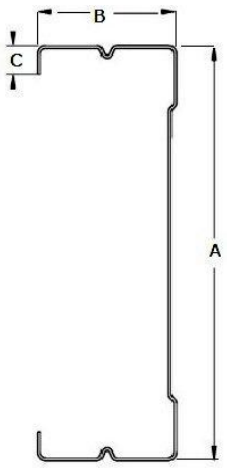
PROPERTIES:

A. Web (in)	6	**Yield Strength Fy (KSI)**	33
B. Flange (in)	1-1/4	**Design Thickness (in)**	0.0346
C. Lip (in)	1/4"	**Minimum Thickness (in)**	0.0329
Mils	33	**Gauge**	20 STR
Finish*	G40EQ		

**Or other ASTM A1003 Table 1 Coating*

09.22.16 Non-Structural Metal Stud

VIPERSTUD



SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	1.02
Cross Sectional Area: **A** (in^2)	0.301
Moment of Inertia: **Ix** (in^4)	1.440
Radius of Gyration: **Rx** (in)	2.190
Gross Moment of Inertia: **Iy** (in^4)	0.046
Gross Radius of Gyration: **Ry** (in)	0.391

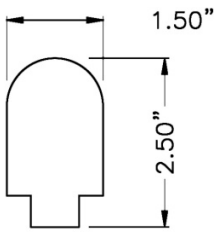
EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ix** (in^4)	1.390
Section Modulus: **Sx** (in^3)	0.400

MOMENTS

Allowable Bending Moment: **Ma** (in-k)	6.930
Local Buckling Nominal Moment: **Mnl** (in-k)	13.20
Distortional Buckling Moment: **Mnd** (in-k)	11.60

Drywall Punchout



LIMITING HEIGHTS - COMPOSITE (ft-in)

	5 psf			7.5 psf			10 psf		
Spacing (in)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
12	34-5	27-7	24-1	28-1	24-1	21-1	24-4	21-11	19-2
16	29-10	25-1	21-11	24-4	21-11	19-2	21-1	19-11	17-5
24	24-4	21-11	19-2	19-11	19-2	16-9	17-3	17-3	15-3

1. Gypsum must be vertically oriented, applied full height to both sides, and fastened to each stud and track flange
2. Acceptable wallboards are 5/8" type X from: USG, National, GP, Pabco, American, Continental & CertainTeed.
3. No screws are required between stud and track, except as required by ASTM C754.
4. See CCRR-0154 for additional information. Review fire related assemblies for any additional requirements

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2020
- ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 or A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v4 credits available
- Contact Technical Services for more information

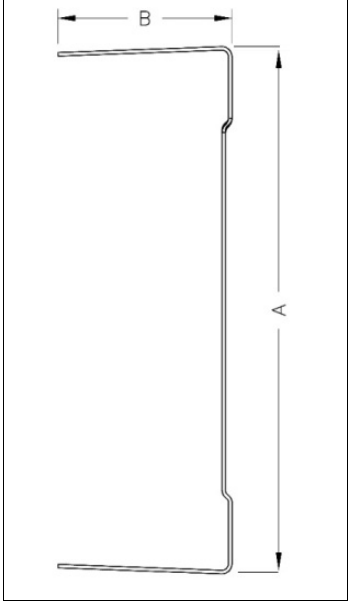
Marino\WARE® Product Submittal Data

PRODUCT NAME: **600VT125-33**

MARINO\WARE PART # 600VT33

09.22.16 Non-Structural Metal Stud

VIPERTRACK



PROPERTIES:

A. Web (in)	6	**Yield Strength Fy (KSI)**	33
B. Leg (in)	1-1/4	**Design Thickness (in)**	0.0346
Mils	33	**Minimum Thickness (in)**	0.0329
Finish*	G40EQ	**Gauge**	20 STR

**Or other ASTM A1003 Table 1 Coating*

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Weight of Member: **(lb/ft)**	1.000
Cross Sectional Area: **A (in^2)**	0.295
Moment of Inertia: **Ix (in^4)**	1.440
Section Modulus about the X-axis: **Sx (in^3)**	0.467
Radius of Gyration: **Rx (in)**	2.210
Gross Moment of Inertia: **Iy (in^4)**	0.034
Section Modulus about the Y-axis: **Sy (in^3)**	0.0321
Gross Radius of Gyration: **Ry (in)**	0.339

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ixd (in^4)**	1.190
Section Modulus: **Sxe (in^3)**	0.298
Allowable Moment: **Ma (in-k)**	5.890

TORSIONAL PROPERTIES

Shear Center to Centroid on Principal X-axis: **Xo (in)**	-0.516
St. Venant Torsional Constant: **Jx10^3 (in^4)**	0.1180
Torsional Warping Constant: **Cw (in^6)**	0.239
Radius of Gyration on the Centroid Principal axis: **Ro (in)**	2.290
Torsional Flexural Constant: **β=1-(xo/Ro)^2**	0.949

CODES & STANDARDS

- Meets IBC 2015, 2018 & FBC 2017
- Meets or tested to: ASTM C 645, C 754, E 90, E 119 & AISI S220
- Steel sheet meets ASTM A 1003 & A 653
- Third Party Code Evaluation Report: CCRR-0154
- Multiple Fire Rated Assemblies

GREEN INFO

- LEED v3 & LEED v4 credits available
- Contact Technical Services for more information

MBA METAL FRAMING
Sales:(888)248-8076
Fax:(847)680-7883
www.mbastuds.com

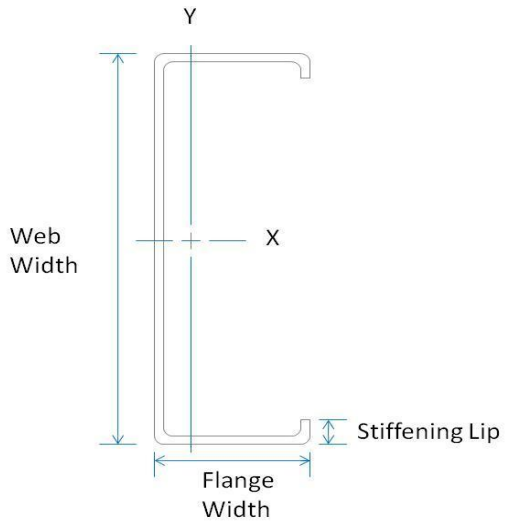
Submittal Data – Drywall Stud

Member Designator 250PS125-18

Coating CP40, G40

Physical Properties

Design Thickness	0.019 in
Mil	18 mil
Gauge	20 Gauge
Web Width	2.500 in
Flange Width	1.25 in
Stiffening Lip	0.315 in
Yield Strength	70 ksi



Gross Properties

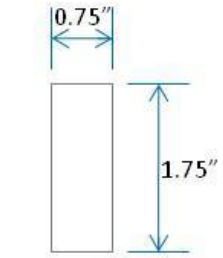
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)
0.104	0.35	0.107	1.017	0.023	0.470

Effective Properties

Ae (in^2)	Ix (in^4)	Sx (in^3)	Ma (in-lbs)	Va_g (lb)	Va_{net} (lb)
0.043	0.099	0.056	2361	256	204

Torsional Properties

Jx1000 (in^2)	Cw (in^4)	Xo (in^3)	Ro (in-lbs)	β
0.0125	0.031	-1.004	1.504	0.555



Keyhole Punch

Composite Limiting Wall Heights (5/8" Type X Generic Gypsum Board)

Member	Spacing	5psf			7.5 psf			10 psf			15 psf		
	(inches)	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	17' 5"	14' 8"	12' 11"	15' 3"	12' 10"	11' 3"	13' 10"	11' 8"	10' 3"	9' 11" f	9' 11" f	8' 7"
250PS125-18	16	16' 8"	14' 0"	12' 4"	14' 6"	12' 3"	10' 9"	13' 2"	11' 2" f	9' 9"	8' 11" f	8' 11" f	7' 11"
	24	15' 2"	12' 10"	11' 3"	13' 2" f	11' 2"	9' 10"	11' 5" f	10' 2"	8' 5"	---	---	---

General Notes

1. Calculated properties are based on AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members and AISI S220-15, North American Standard for Cold-Formed Steel Framing - Nonstructural Members.
2. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
3. Allowable moment includes cold-work of forming.
4. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
7. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
8. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
9. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
10. All delivered material must be kept dry. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.
11. Drywall framing [nonstructural 25 gauge, 22 gauge and 20 gauge] is not permitted in load bearing (i.e. axial load greater than 200 lbs.) or exterior applications (i.e. transverse load greater than 10 PSF). Reference ASTM C 645 section 3.2.2.

LEED Green Building Credits

LEED v4 MR Credit - Building Product Disclosure Optimization: EPD (1 Point), Raw Material Sourcing (1 Point), Material Ingredients (1 Point), Construction and Demolition Waste (up to 2 points), Innovation Credit (up to 2 points)

LEED 2009 Credit - MBA steel products are 100% recyclable with a minimum recycle content of 32.7% (25.5% Post-Consumer and 6.8% Pre-Consumer/Post-Industrial). Higher rates can be achieved for MR5 by pre-planning with MBA sales@mbastuds.com or (888) 248-8076.

MBA METAL FRAMING
Sales:(888)248-8076
Fax:(847)680-7883
www.mbastuds.com

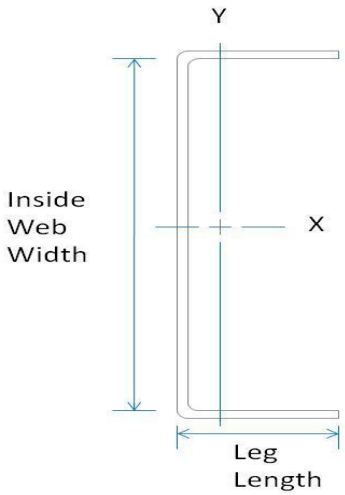
Submittal Data – Drywall Track

Member Designator 250PT125-18

Coating CP40, G40

Physical Properties

Design Thickness	0.019 in
Mil	18mil
Gauge	20 Gauge
Web Width	2.500 in
Flange Width	1.25 in
Yield Strength	50 ksi



Gross Properties

Area (in^2)	Weight (lb/ft)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)
0.095	0.32	0.102	1.038	0.015	0.400

Effective Properties

Ae (in^2)	Ix (in^4)	Sx (in^3)	Ma (in-lbs)	Va_g (lb)
0.029	0.073	0.034	1029	248

Torsional Properties

Jx1000 (in^2)	Cw (in^4)	Xo (in^3)	Ro (in-lbs)	β
0.01143	0.017	-0.77	1.353	0.676

General Notes

1. Calculated properties are based on AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members and AISI S220-15, North American Standard for Cold-Formed Steel Framing - Nonstructural Members.
2. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
3. Allowable moment includes cold-work of forming.
4. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
7. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
8. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
9. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
10. All delivered material must be kept dry. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.
11. Drywall framing [nonstructural 25 gauge, 22 gauge and 20 gauge] is not permitted in load bearing (i.e. axial load greater than 200 lbs.) or exterior applications (i.e. transverse load greater than 10 PSF). Reference ASTM C 645 section 3.2.2.

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www.mbastuds.com

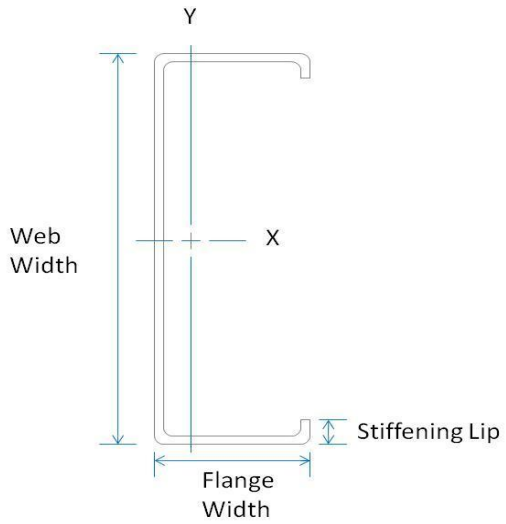
Submittal Data – Drywall Stud

Member Designator 362PS125-18

Coating CP40, G40

Physical Properties

Design Thickness	0.019 in
Mil	18 mil
Gauge	20 Gauge
Web Width	3.625 in
Flange Width	1.25 in
Stiffening Lip	0.325 in
Yield Strength	70 ksi



Gross Properties

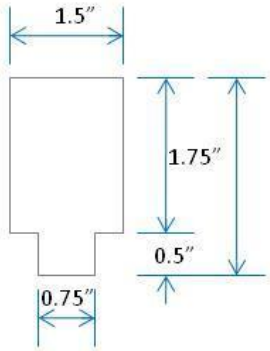
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)
0.126	0.43	0.254	1.421	0.026	0.456

Effective Properties

Ae (in^2)	Ix (in^4)	Sx (in^3)	Ma (in-lbs)	Va_g (lb)	Va_{net} (lb)
0.044	0.234	0.074	3102	174	170

Torsional Properties

Jx1000 (in^2)	Cw (in^4)	Xo (in^3)	Ro (in-lbs)	β
0.01512	0.070	-0.884	1.734	0.74



Keyhole Punch

Composite Limiting Wall Heights (5/8” Type X Generic Gypsum Board)

Member	Spacing	5psf			7.5 psf			10 psf			15 psf		
	(inches)	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	22' 0"	18' 2"	15' 8"	19' 3"	15' 10"	13' 8"	17' 6"	14' 5"	12' 5"	12' 0" f	12' 0" f	10' 8"
362PS125-18	16	20' 6"	16' 10"	14' 7"	17' 11"	14' 9"	12' 9"	16' 3"	13' 5"	11' 6"	10' 9" f	10' 9" f	9' 10"
	24	18' 4"	15' 1"	13' 0"	15' 11" f	13' 2"	11' 4"	13' 9" f	12' 0"	10' 1"	9' 1" f	9' 1" f	8' 8"

General Notes

1. Calculated properties are based on AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members and AISI S220-15, North American Standard for Cold-Formed Steel Framing - Nonstructural Members.
2. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
3. Allowable moment includes cold-work of forming.
4. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
7. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
8. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
9. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
10. All delivered material must be kept dry. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.
11. Drywall framing [nonstructural 25 gauge, 22 gauge and 20 gauge] is not permitted in load bearing (i.e. axial load greater than 200 lbs.) or exterior applications (i.e. transverse load greater than 10 PSF). Reference ASTM C 645 section 3.2.2.

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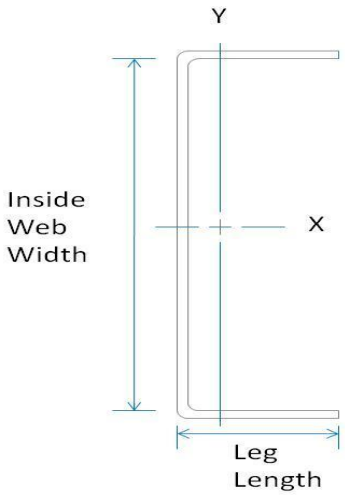
Submittal Data – Drywall Track

Member Designator 362PT125-18

Coating CP40, G40

Physical Properties

Design Thickness	0.019 in
Mil	18mil
Gauge	20 Gauge
Web Width	3.625 in
Flange Width	1.25 in
Yield Strength	50 ksi



Gross Properties

Area (in^2)	Weight (lb/ft)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)
0.116	0.400	0.236	1.426	0.017	0.380

Effective Properties

Ae (in^2)	Ix (in^4)	Sx (in^3)	Ma (in-lbs)	Va_g (lb)
0.029	0.173	0.05	1497	170

Torsional Properties

Jx1000 (in^2)	Cw (in^4)	Xo (in^3)	Ro (in-lbs)	β
0.014	0.041	-0.665	1.619	0.831

General Notes

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2. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
3. Allowable moment includes cold-work of forming.
4. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
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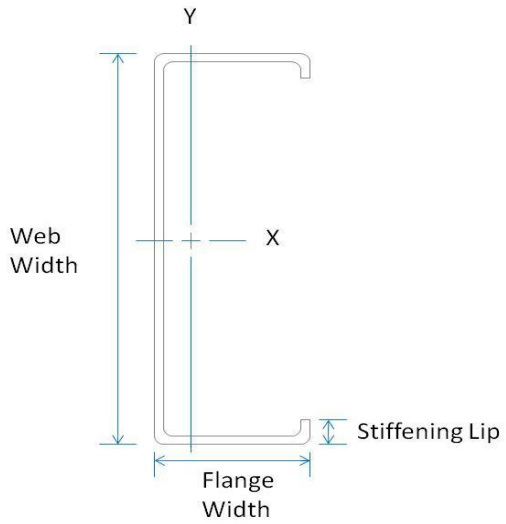
Submittal Data – Drywall Stud

Member Designator 600PS125-18

Coating CP40, G40

Physical Properties

Design Thickness	0.019 in
Mil	18 mil
Gauge	20 Gauge
Web Width	6.000 in
Flange Width	1.25 in
Stiffening Lip	0.386 in
Yield Strength	70 ksi



Gross Properties

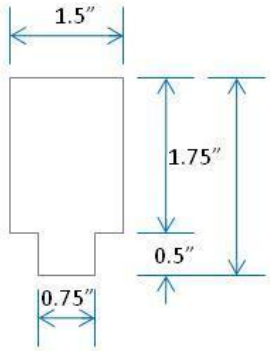
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)
0.173	0.59	0.855	2.223	0.032	0.431

Effective Properties

Ae (in^2)	Ix (in^4)	Sx (in^3)	Ma (in-lbs)	Va_g (lb)	Va_{net} (lb)
0.046	0.669	0.141	5891	104	104

Torsional Properties

Jx1000 (in^2)	Cw (in^4)	Xo (in^3)	Ro (in-lbs)	β
0.02083	0.233	-0.739	2.382	0.904



Keyhole Punch

Composite Limiting Wall Heights (5/8" Type X Generic Gypsum Board)

Member	Spacing	5psf			7.5 psf			10 psf			15 psf		
	(inches)	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	32' 1"	25' 6"	22' 3"	28' 1"	22' 3"	19' 5"	24' 4" f	20' 3"	17' 8"	16' 0" f	16' 0" f	15' 5"
600PS125-18	16	29' 10"	23' 8"	20' 8"	24' 10" f	20' 8"	18' 1"	21' 6" f	18' 9"	16' 5"	14' 2" f	14' 2" f	14' 2" f
	24	25' 5" f	21' 1"	18' 5"	20' 9" f	18' 5"	16' 1"	18' 0" f	16' 9"	14' 6"	11' 10" f	11' 10" f	11' 10" f

General Notes

1. Calculated properties are based on AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members and AISI S220-15, North American Standard for Cold-Formed Steel Framing - Nonstructural Members.
2. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
3. Allowable moment includes cold-work of forming.
4. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
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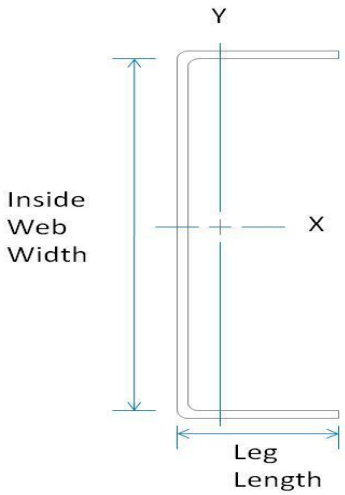
Submittal Data – Drywall Track

Member Designator 600PT125-18

Coating CP40, G40

Physical Properties

Design Thickness	0.019 in
Mil	18mil
Gauge	20 Gauge
Web Width	6.00 in
Flange Width	1.25 in
Yield Strength	50 ksi



Gross Properties

Area (in^2)	Weight (lb/ft)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)
0.161	0.55	0.778	2.195	0.019	0.342

Effective Properties

Ae (in^2)	Ix (in^4)	Sx (in^3)	Ma (in-lbs)	Va_g (lb)
0.029	0.469	0.083	2473	102

Torsional Properties

Jx1000 (in^2)	Cw (in^4)	Xo (in^3)	Ro (in-lbs)	β
0.01943	0.13	-0.523	2.282	0.947

General Notes

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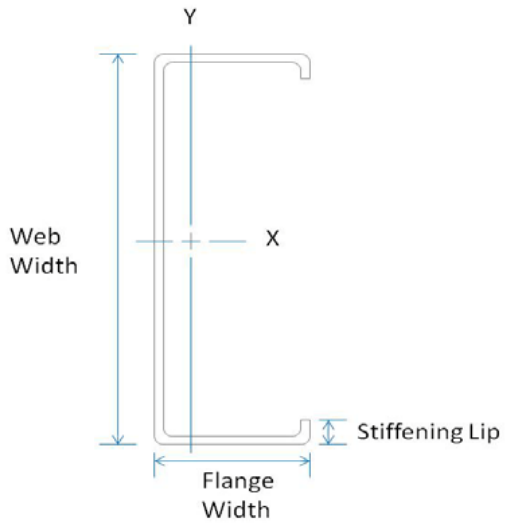
Submittal Data – Drywall Stud

Member Designator 362PS125-33

Coating G40 EQ

Physical Properties

Design Thickness	0.0346 in
Mil	33 mil
Gauge	20 Gauge
Web Width	3.625 in
Flange Width	1.25 in
Stiffening Lip	0.25 in
Yield Strength	33 ksi



Gross Properties

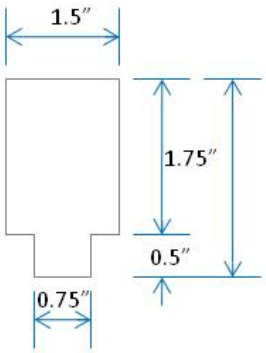
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)
0.221	0.752	0.439	0.242	1.409	0.041	0.433

Effective Properties

Ae (in^2)	Ixe (in^4)	Sxe (in^3)	Ma (in-lbs)
0.127	0.426	0.207	4088

Torsional Properties

J^{x1000} (in^4)	Cw (in^6)	Xo (in)	Ro (in)	β
0.088	0.106	-0.816	1.685	0.766



Keyhole Punch

Composite Limiting Wall Heights (5/8” Type X Gypsum Board)

Section	Spacing (in) o.c.	5 psf			7.5 psf			10 psf			15 psf		
		L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
362PS125-33	12	26' - 1"	20' - 9"	18' - 1"	22' - 10"	18' - 1"	15' - 10"	20' - 9"	16' - 6"	14' - 5"	17' - 4" f	14' - 5"	12' - 6"
362PS125-33	16	23' - 9"	18' - 10"	16' - 6"	20' - 9"	16' - 6"	14' - 5"	18' - 10"	14' - 11"	13' - 1"	15' - 0" f	13' - 1"	11' - 3"
362PS125-33	24	20' - 9"	16' - 6"	14' - 5"	18' - 1"	14' - 5"	12' - 6"	16' - 6"	13' - 1"	11' - 3"	12' - 3" f	11' - 3"	9' - 9"

General Notes

1. MBA Building Supplies is a SSMA member company. MBA adheres to the product standards and quality standards as required by SSMA.
2. Physical properties and load tables have been calculated in conformance with the 2001 NASPEC for the Design of Cold-Formed Steel Structural Members, including the 2004 Supplement, and the IBC 2006, unless noted otherwise.
3. Allowable composite heights are calculated using ICC-ES AC86-2010. The 1/3 stress increase was not used.
4. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
5. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
6. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
7. All delivered material must be kept dry, preferably by being stored inside a building under a roof. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.
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MR Credit 4: Recycled Content – MBA steel framing is formed from no less than 25.5% post-consumer and 6.8% pre-consumer recycled content.
MR Credit 5: Regional Materials – MBA has manufacturing facilities in Illinois and Alabama.

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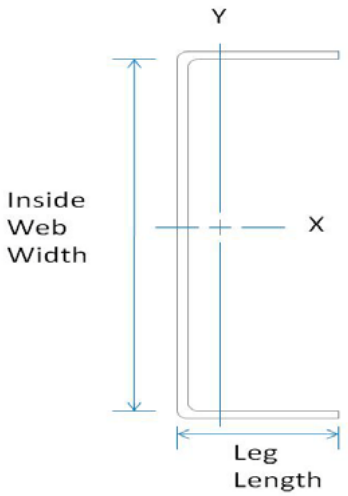
Submittal Data – Drywall Track

Member Designator 362PT125-33

Coating G40 EQ

Physical Properties

Design Thickness	0.0346 in
Mil	33 mil
Gauge	20 Gauge
Web Width	3.625 in
Flange Width	1.25 in
Yield Strength	33 ksi



Gross Properties

Gross Properties						
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)
0.212	0.720	0.432	0.231	1.429	0.030	0.377

Effective Properties

Effective Properties			
Ae (in^2)	Ixe (in^4)	Sxe (in^3)	Ma (in-lbs)
0.105	0.375	0.170	3358

Torsional Properties

Torsional				
J^{x1000} (in^4)	Cw (in^6)	Xo (in)	Ro (in)	β
0.084	0.074	-0.659	1.618	0.834

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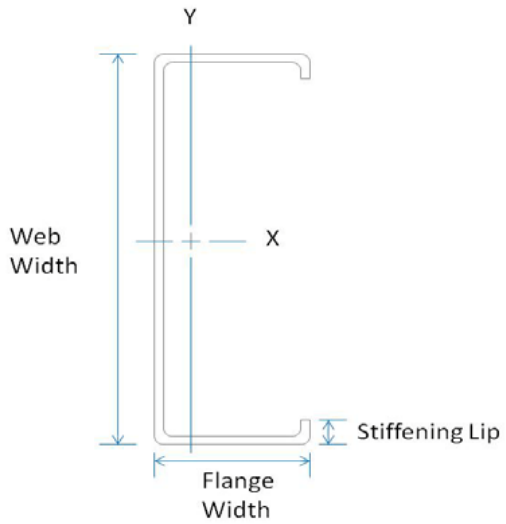
Submittal Data – Drywall Stud

Member Designator 600PS125-33

Coating G40 EQ

Physical Properties

Design Thickness	0.0346 in
Mil	33 mil
Gauge	20 Gauge
Web Width	6.00 in
Flange Width	1.25 in
Stiffening Lip	0.25 in
Yield Strength	33 ksi



Gross Properties

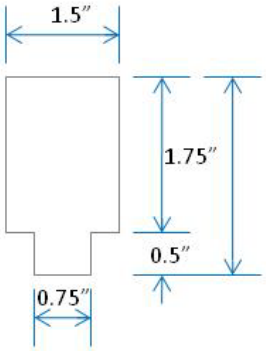
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)
0.303	1.032	1.463	0.488	2.196	0.047	0.394

Effective Properties

Ae (in^2)	Ixe (in^4)	Sxe (in^3)	Ma (in-lbs)
0.130	1.428	0.399	7875

Torsional Properties

J^{x1000} (in^4)	Cw (in^6)	Xo (in)	Ro (in)	β
0.121	0.332	-0.647	2.323	0.922



Keyhole Punch

Composite Limiting Wall Heights (5/8” Type X Gypsum Board)

	Spacing	5 psf			7.5 psf			10 psf			15 psf		
Section	(in) o.c.	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
600PS125-33	12	36' - 9"	29' - 2"	25' - 6"	32' - 1"	25' - 6"	22' - 3"	29' - 2"	23' - 2"	20' - 3"	21' - 1" f	20' - 3"	17' - 8"
600PS125-33	16	33' - 5"	26' - 6"	23' - 2"	29' - 2"	23' - 2"	20' - 3"	26' - 6"	21' - 0"	18' - 5"	18' - 3" f	18' - 3" f	16' - 1"
600PS125-33	24	29' - 2"	23' - 2"	20' - 3"	25' - 6"	20' - 3"	17' - 8"	22' - 8" f	18' - 5"	16' - 1"	14' - 11" f	14' - 11" f	14' - 0"

General Notes

1. MBA Building Supplies is a SSMA member company. MBA adheres to the product standards and quality standards as required by SSMA.
2. Physical properties and load tables have been calculated in conformance with the 2001 NASPEC for the Design of Cold-Formed Steel Structural Members, including the 2004 Supplement, and the IBC 2006, unless noted otherwise.
3. Allowable composite heights are calculated using ICC-ES AC86-2010. The 1/3 stress increase was not used.
4. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
5. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
6. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
7. All delivered material must be kept dry, preferably by being stored inside a building under a roof. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.
8. Drywall framing [nonstructural 25 gauge, 22 gauge and 20 gauge] is not permitted in load bearing (i.e. axial load greater than 200 lbs.) or exterior applications (i.e. transverse load greater than 10 PSF). Reference ASTM C 645 section 3.2.2.

LEED Green Building Credits

MR Credit 2: Construction Waste Management – MBA steel framing is 100% recyclable.
MR Credit 4: Recycled Content – MBA steel framing is formed from no less than 25.5% post-consumer and 6.8% pre-consumer recycled content.
MR Credit 5: Regional Materials – MBA has manufacturing facilities in Illinois and Alabama.

MBA METAL FRAMING
Sales: (888) 248-8076
Fax: (847) 680-7883
www.mbastuds.com

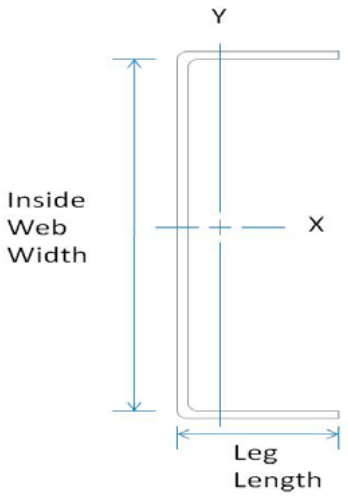
Submittal Data – Drywall Track

Member Designator 600PT125-33

Coating G40 EQ

Physical Properties

Design Thickness	0.0346 in
Mil	33 mil
Gauge	20 Gauge
Web Width	6.00 in
Flange Width	1.25 in
Yield Strength	33 ksi



Gross Properties

Gross Properties						
Area (in^2)	Weight (lb/ft)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)
0.294	1.000	1.418	0.464	2.197	0.034	0.339

Effective Properties

Effective Properties			
Ae (in^2)	Ixe (in^4)	Sxe (in^3)	Ma (in-lbs)
0.109	1.237	0.287	5681

Torsional Properties

Torsional				
J^{x1000} (in^4)	Cw (in^6)	Xo (in)	Ro (in)	β
0.117	0.234	-0.517	2.282	0.949

General Notes

1. MBA Building Supplies is a SSMA member company. MBA adheres to the product standards and quality standards as required by SSMA.
2. Physical properties and load tables have been calculated in conformance with the 2001 NASPEC for the Design of Cold-Formed Steel Structural Members, including the 2004 Supplement, and the IBC 2006, unless noted otherwise.
3. Allowable composite heights are calculated using ICC-ES AC86-2010. The 1/3 stress increase was not used.
4. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
5. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
6. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
7. All delivered material must be kept dry, preferably by being stored inside a building under a roof. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.
8. Drywall framing [nonstructural 25 gauge, 22 gauge and 20 gauge] is not permitted in load bearing (i.e. axial load greater than 200 lbs.) or exterior applications (i.e. transverse load greater than 10 PSF). Reference ASTM C 645 section 3.2.2.

LEED Green Building Credits

MR Credit 2: Construction Waste Management – MBA steel framing is 100% recyclable.
MR Credit 4: Recycled Content – MBA steel framing is formed from no less than 25.5% post-consumer and 6.8% pre-consumer recycled content.
MR Credit 5: Regional Materials – MBA has manufacturing facilities in Illinois and Alabama.

600PDT125-33 (33ksi, G40EQ)

6" ProTRAK® 33mil Drywall Track with PDT125 (1-1/4") legs

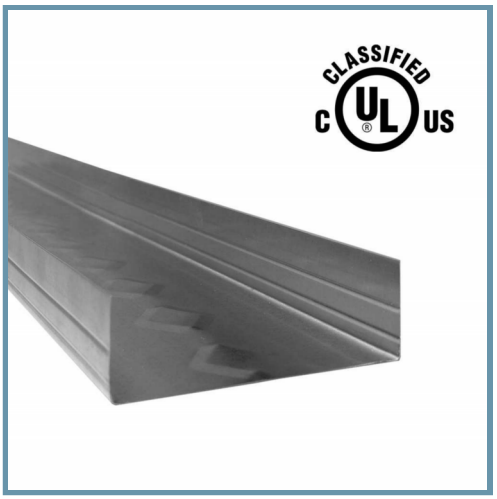
Coating: G40EQ **Color Code:** White

Geometric Properties

Web depth: 6.000 in
Leg width: 1.250 in
Yield strength, Fy: 33 ksi
Design Thickness: 0.0346 in
Min. steel thickness: 0.0329 in

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.294 in^2
Member weight per foot of length	1.000 lb/ft
Moment of inertia (Ix)	1.418 in^4
Radius of gyration (Rx)	2.197 in
Gross moment of inertia (Iy)	0.034 in^4
Gross radius of gyration (Ry)	0.339 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.109 in^2
Moment of inertia for deflection (Ixe)	1.237 in^4
Section modulus (Sxe)	0.287 in^3
Allowable bending moment (Ma)	5,681 in-lbs
Allowable shear force in web (Vag)	619 lb
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.1172 in^4
Warping constant (Cw)	0.234 in^6
Distance from shear center to neutral axis (Xo)	-0.517 in
Radii of gyration (Ro)	2.282 in
Torsional flexural constant (Beta)	0.949

- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2 of AISI S100-16 (2020) w/S2-20.
- Tabulated gross properties, including torsional properties, are based on full-unreduced cross section of the tracks.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.
- Web depth for track sections is equal to the nominal height plus two times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.



- Embossments in web are only placed on sections 2-1/2" and wider.
- U.S. Patent No. 9,010,070

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

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

Code Approvals & Performance Standards

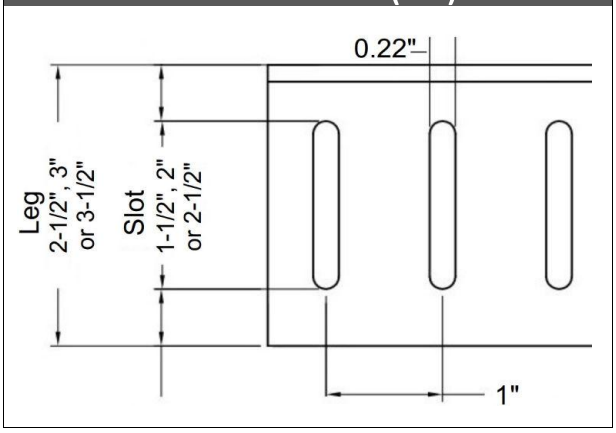
- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
  - (Compliant to ASTM C645, but IBC replaced with AISI S220 in IBC 2015)
  - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section A5 Products - Thickness, shapes, tolerances, identification
  - Section C Installation - (Referencing ASTM C754)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- IBC 2024 International Building Code
- Intertek CCRR-0207 Non-Structural Metal Framing
- UL Designs 263 "Fire Tests of Building Construction and Materials"
- UL File Number CIKV.R19331 ProSTUD fire rated assemblies
- UL File Number CIKV.R19331 ProTRAK fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

Marino\WARE® Product Submittal Data

PRODUCT NAME: **250SLT250-33**

09.22.16 Non-Structural Metal Framing

SLOTTED TRACK (SLT)



PROPERTIES:

Web (in.)	2-1/2	**Yield Strength F_y (ksi)**	40
Flange (in.)	2-1/2	**Design Thickness (in.)**	0.0346
Mils	33	**Minimum Thickness (in.)**	0.0329
Coating	G40EQ, G40, G60	**Gauge**	20
Slot (in.)	1-1/2		

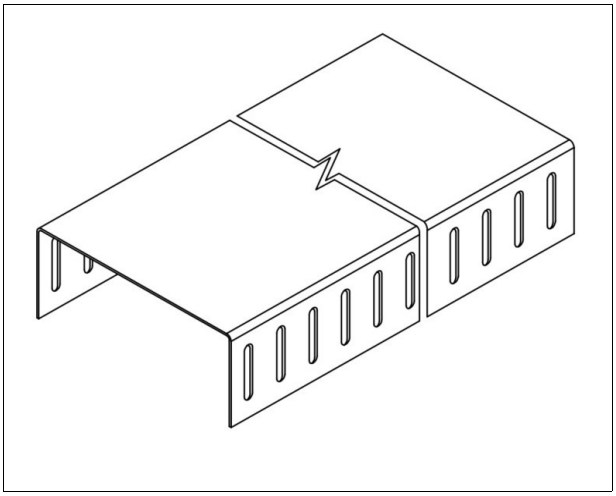
INSTALLATION NOTES:

- Slotted track thickness cannot be less than stud thickness.
- Max gap is 7/8" for 2-1/2" leg, 1-1/8" max gap for 3" leg, and 1-3/8" max gap for 3-1/2" leg.
- Use #8 x 9/16" wafer head screws for 30 mil and thinner track. For 33 mil and heavier gauges use #10 x 9/16" wafer head screw.

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Cross sectional area: **A** ($in.^2$)	0.259
Weight of member: (lb/ft)	0.883
Moment of inertia about x-axis: I_x ($in.^4$)	0.339
Radius of gyration about x-axis: r_x (in.)	1.140
Moment of inertia about y-axis: I_y ($in.^4$)	0.178
Radius of gyration about y-axis: r_y (in.)	0.827



CODES & STANDARDS

- AISI S100 & S220
- ASTM A1003, A653, & C645
- IBC 2015, 2018, 2021

GREEN INFO

- LEED credits available
- Contact Technical Services for more information.

FIRE RATINGS (UL 2079)

Approved for these UL Head Of Wall Assemblies

HW-D-0003, HW-D-0020, HW-D-0021, HW-D-0024, HW-D-0025, HW-D-0029, HW-D-0031, HW-D-0032, HW-D-0033, HW-D-0034, HW-D-0036, HW-D-0042, HW-D-0043, HW-D-0044, HW-D-0045, HW-D-0046, HW-D-0049, HW-D-0054, HW-D-0058, HW-D-0059, HW-D-0062, HW-D-0063, HW-D-0071, HW-D-0072, HW-D-0073, HW-D-0076, HW-D-0077, HW-D-0079, HW-D-0082, HW-D-0083, HW-D-0084, HW-D-0085, HW-D-0087, HW-D-0088, HW-D-0089, HW-D-0099, HW-D-0101, HW-D-0102, HW-D-0103, HW-D-0104, HW-D-0105, HW-D-0106, HW-D-0107, HW-D-0108, HW-D-0111, HW-D-0127, HW-D-0128, HW-D-0129, HW-D-0130, HW-D-0134, HW-D-0136, HW-D-0137, HW-D-0144, HW-D-0146, HW-D-0152, HW-D-0154, HW-D-0162, HW-D-0170, HW-D-0173, HW-D-0179, HW-D-0180, HW-D-0184, HW-D-0185, HW-D-0190, HW-D-0191, HW-D-0194, HW-D-0205, HW-D-0209, HW-D-0210, HW-D-0217, HW-D-0218, HW-D-0221, HW-D-0222, HW-D-0241, HW-D-0242, HW-D-0243, HW-D-0247, HW-D-0249, HW-D-0252, HW-D-0257, HW-D-0259, HW-D-0260, HW-D-0263, HW-D-0264, HW-D-0265, HW-D-0271, HW-D-0272, HW-D-0278, HW-D-0283, HW-D-0288, HW-D-0292, HW-D-0295, HW-D-0297, HW-D-0298, HW-D-0299, HW-D-0313, HW-D-0321, HW-D-0322, HW-D-0324, HW-D-0342, HW-D-0363, HW-D-0365, HW-D-0371, HW-D-0377, HW-D-0380, HW-D-0381, HW-D-0388, HW-D-0396, HW-D-0453, HW-D-0456, HW-D-0457, HW-D-0483, HW-D-0484, HW-D-0485, HW-D-0486, HW-D-0514, HW-D-0515, HW-D-0518, HW-D-0523, HW-D-0524, HW-D-0541, HW-D-0542, HW-D-0545, HW-D-0546, HW-D-0547, HW-D-0548, HW-D-0549, HW-D-0550, HW-D-0551, HW-D-0553, HW-D-0554, HW-D-0556, HW-D-0653, HW-D-0564, HW-D-0569, HW-D-0570, HW-D-0571, HW-D-0572, HW-D-0573, HW-D-0577, HW-D-0579, HW-D-0580, HW-D-0582, HW-D-0583, HW-D-0584, HW-D-0596, HW-D-0620, HW-D-0621, HW-D-0622, HW-D-0623, HW-D-0644. HW-D-0645, HW-D-0646, HW-D-0652, HW-D-0653, HW-D-0687, HW-D-0705, HW-D-0740, HW-D-0741, HW-D-0747, HW-D-0748, HW-D-0749, HW-D-0750, HW-D-0778, HW-D-0801, HW-D-0826, HW-D-0863, HW-D-0868, HW-D-0871, HW-D-0872, HW-D-0873, HW-D-0874, HW-D-0875, HW-D-0876, HW-D-0880, HW-D-0884, HW-D-0886, HW-D-0905, HW-D-0906, HW-D-0907, HW-D-0923, HW-D-0925, HW-D-0936, HW-D-0937, HW-D-0940, HW-D-0941, HW-D-0942, HW-D-0945, HW-D-0946, HW-D-0947, HW-D-0959, HW-D-0960, HW-D-0964, HW-D-1155, HW-D-1158, HW-S-0133.

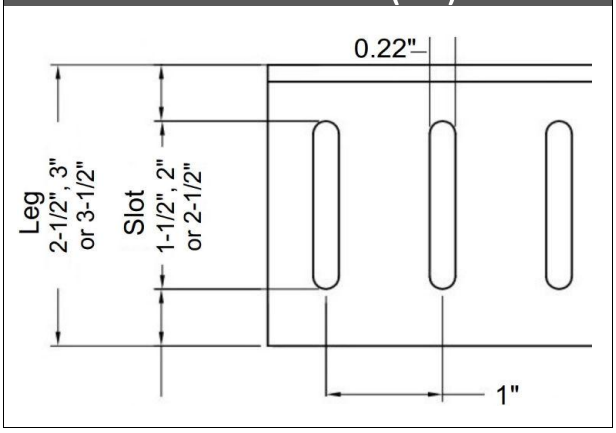
For more information, please contact Marino\WARE Technical Services at 866-545-1545.

Marino\WARE® Product Submittal Data

PRODUCT NAME: **362SLT250-33**

09.22.16 Non-Structural Metal Framing

SLOTTED TRACK (SLT)



PROPERTIES:

Web (in.)	3-5/8	**Yield Strength F_y (ksi)**	40
Flange (in.)	2-1/2	**Design Thickness (in.)**	0.0346
Mils	33	**Minimum Thickness (in.)**	0.0329
Coating	G40EQ, G40, G60	**Gauge**	20
Slot (in.)	1-1/2		

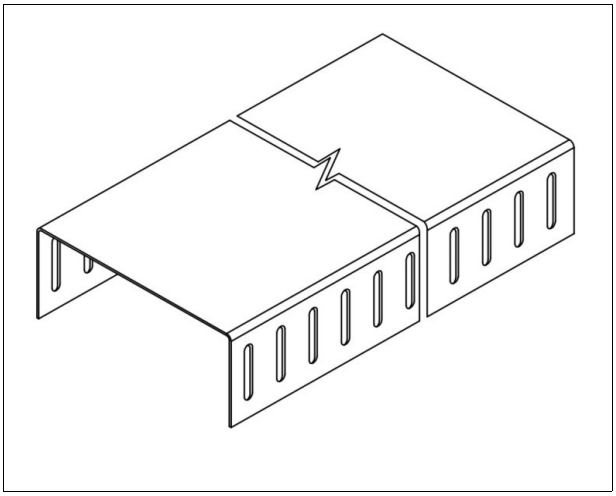
INSTALLATION NOTES:

- Slotted track thickness cannot be less than stud thickness.
- Max gap is 7/8" for 2-1/2" leg, 1-1/8" max gap for 3" leg, and 1-3/8" max gap for 3-1/2" leg.
- Use #8 x 9/16" wafer head screws for 30 mil and thinner track. For 33 mil and heavier gauges use #10 x 9/16" wafer head screw.

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Cross sectional area: **A** ($in.^2$)	0.298
Weight of member: (lb/ft)	1.020
Moment of inertia about x-axis: I_x ($in.^4$)	0.740
Radius of gyration about x-axis: r_x (in.)	1.580
Moment of inertia about y-axis: I_y ($in.^4$)	0.200
Radius of gyration about y-axis: r_y (in.)	0.820



CODES & STANDARDS

- AISI S100 & S220
- ASTM A1003, A653, & C645
- IBC 2015, 2018, 2021

GREEN INFO

- LEED credits available
- Contact Technical Services for more information.

FIRE RATINGS (UL 2079)

Approved for these UL Head Of Wall Assemblies

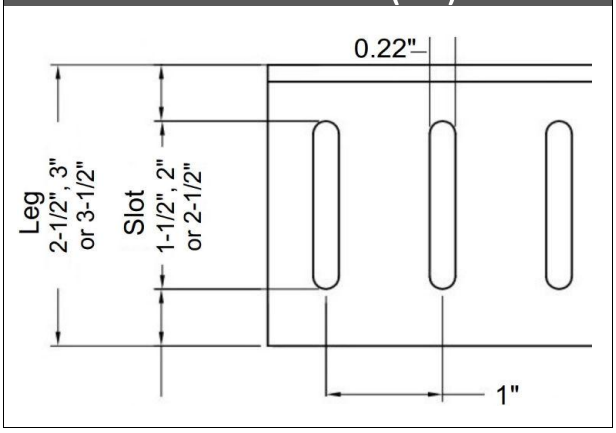
HW-D-0003, HW-D-0020, HW-D-0021, HW-D-0024, HW-D-0025, HW-D-0029, HW-D-0031, HW-D-0032, HW-D-0033, HW-D-0034, HW-D-0036, HW-D-0042, HW-D-0043, HW-D-0044, HW-D-0045, HW-D-0046, HW-D-0049, HW-D-0054, HW-D-0058, HW-D-0059, HW-D-0062, HW-D-0063, HW-D-0071, HW-D-0072, HW-D-0073, HW-D-0076, HW-D-0077, HW-D-0079, HW-D-0082, HW-D-0083, HW-D-0084, HW-D-0085, HW-D-0087, HW-D-0088, HW-D-0089, HW-D-0099, HW-D-0101, HW-D-0102, HW-D-0103, HW-D-0104, HW-D-0105, HW-D-0106, HW-D-0107, HW-D-0108, HW-D-0111, HW-D-0127, HW-D-0128, HW-D-0129, HW-D-0130, HW-D-0134, HW-D-0136, HW-D-0137, HW-D-0144, HW-D-0146, HW-D-0152, HW-D-0154, HW-D-0162, HW-D-0170, HW-D-0173, HW-D-0179, HW-D-0180, HW-D-0184, HW-D-0185, HW-D-0190, HW-D-0191, HW-D-0194, HW-D-0205, HW-D-0209, HW-D-0210, HW-D-0217, HW-D-0218, HW-D-0221, HW-D-0222, HW-D-0241, HW-D-0242, HW-D-0243, HW-D-0247, HW-D-0249, HW-D-0252, HW-D-0257, HW-D-0259, HW-D-0260, HW-D-0263, HW-D-0264, HW-D-0265, HW-D-0271, HW-D-0272, HW-D-0278, HW-D-0283, HW-D-0288, HW-D-0292, HW-D-0295, HW-D-0297, HW-D-0298, HW-D-0299, HW-D-0313, HW-D-0321, HW-D-0322, HW-D-0324, HW-D-0342, HW-D-0363, HW-D-0365, HW-D-0371, HW-D-0377, HW-D-0380, HW-D-0381, HW-D-0388, HW-D-0396, HW-D-0453, HW-D-0456, HW-D-0457, HW-D-0483, HW-D-0484, HW-D-0485, HW-D-0486, HW-D-0514, HW-D-0515, HW-D-0518, HW-D-0523, HW-D-0524, HW-D-0541, HW-D-0542, HW-D-0545, HW-D-0546, HW-D-0547, HW-D-0548, HW-D-0549, HW-D-0550, HW-D-0551, HW-D-0553, HW-D-0554, HW-D-0556, HW-D-0653, HW-D-0564, HW-D-0569, HW-D-0570, HW-D-0571, HW-D-0572, HW-D-0573, HW-D-0577, HW-D-0579, HW-D-0580, HW-D-0582, HW-D-0583, HW-D-0584, HW-D-0596, HW-D-0620, HW-D-0621, HW-D-0622, HW-D-0623, HW-D-0644. HW-D-0645, HW-D-0646, HW-D-0652, HW-D-0653, HW-D-0687, HW-D-0705, HW-D-0740, HW-D-0741, HW-D-0747, HW-D-0748, HW-D-0749, HW-D-0750, HW-D-0778, HW-D-0801, HW-D-0826, HW-D-0863, HW-D-0868, HW-D-0871, HW-D-0872, HW-D-0873, HW-D-0874, HW-D-0875, HW-D-0876, HW-D-0880, HW-D-0884, HW-D-0886, HW-D-0905, HW-D-0906, HW-D-0907, HW-D-0923, HW-D-0925, HW-D-0936, HW-D-0937, HW-D-0940, HW-D-0941, HW-D-0942, HW-D-0945, HW-D-0946, HW-D-0947, HW-D-0959, HW-D-0960, HW-D-0964, HW-D-1155, HW-D-1158, HW-S-0133.

Marino\WARE® Product Submittal Data

PRODUCT NAME: **600SLT250-33**

09.22.16 Non-Structural Metal Framing

SLOTTED TRACK (SLT)



PROPERTIES:

Web (in.)	6	**Yield Strength F_y (ksi)**	40
Flange (in.)	2-1/2	**Design Thickness (in.)**	0.0346
Mils	33	**Minimum Thickness (in.)**	0.0329
Coating	G40EQ, G40, G60	**Gauge**	20
Slot (in.)	1-1/2		

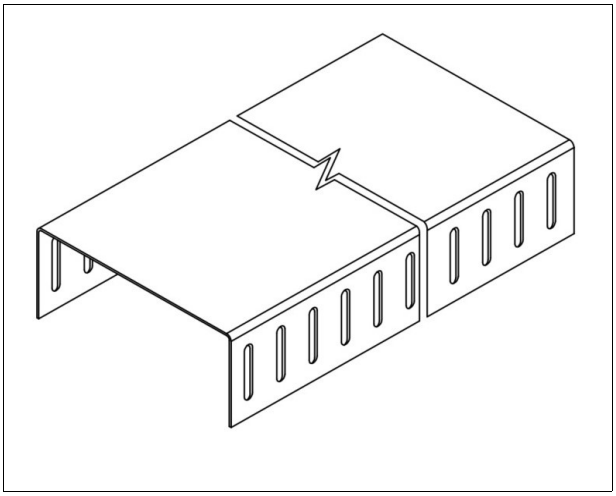
INSTALLATION NOTES:

- Slotted track thickness cannot be less than stud thickness.
- Max gap is 7/8" for 2-1/2" leg, 1-1/8" max gap for 3" leg, and 1-3/8" max gap for 3-1/2" leg.
- Use #8 x 9/16" wafer head screws for 30 mil and thinner track. For 33 mil and heavier gauges use #10 x 9/16" wafer head screw.

SECTION PROPERTIES

GROSS SECTION PROPERTIES

Cross sectional area: **A** ($in.^2$)	0.381
Weight of member: (lb/ft)	1.300
Moment of inertia about x-axis: I_x ($in.^4$)	2.240
Radius of gyration about x-axis: r_x (in.)	2.420
Moment of inertia about y-axis: I_y ($in.^4$)	0.233
Radius of gyration about y-axis: r_y (in.)	0.783



CODES & STANDARDS

- AISI S100 & S220
- ASTM A1003, A653, & C645
- IBC 2015, 2018, 2021

GREEN INFO

- LEED credits available
- Contact Technical Services for more information.

FIRE RATINGS (UL 2079)

Approved for these UL Head Of Wall Assemblies

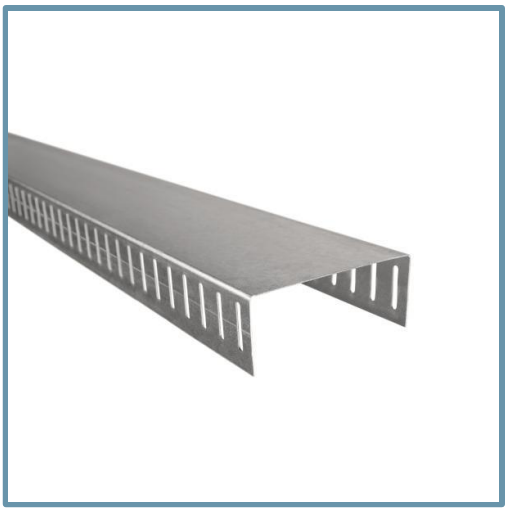
HW-D-0003, HW-D-0020, HW-D-0021, HW-D-0024, HW-D-0025, HW-D-0029, HW-D-0031, HW-D-0032, HW-D-0033, HW-D-0034, HW-D-0036, HW-D-0042, HW-D-0043, HW-D-0044, HW-D-0045, HW-D-0046, HW-D-0049, HW-D-0054, HW-D-0058, HW-D-0059, HW-D-0062, HW-D-0063, HW-D-0071, HW-D-0072, HW-D-0073, HW-D-0076, HW-D-0077, HW-D-0079, HW-D-0082, HW-D-0083, HW-D-0084, HW-D-0085, HW-D-0087, HW-D-0088, HW-D-0089, HW-D-0099, HW-D-0101, HW-D-0102, HW-D-0103, HW-D-0104, HW-D-0105, HW-D-0106, HW-D-0107, HW-D-0108, HW-D-0111, HW-D-0127, HW-D-0128, HW-D-0129, HW-D-0130, HW-D-0134, HW-D-0136, HW-D-0137, HW-D-0144, HW-D-0146, HW-D-0152, HW-D-0154, HW-D-0162, HW-D-0170, HW-D-0173, HW-D-0179, HW-D-0180, HW-D-0184, HW-D-0185, HW-D-0190, HW-D-0191, HW-D-0194, HW-D-0205, HW-D-0209, HW-D-0210, HW-D-0217, HW-D-0218, HW-D-0221, HW-D-0222, HW-D-0241, HW-D-0242, HW-D-0243, HW-D-0247, HW-D-0249, HW-D-0252, HW-D-0257, HW-D-0259, HW-D-0260, HW-D-0263, HW-D-0264, HW-D-0265, HW-D-0271, HW-D-0272, HW-D-0278, HW-D-0283, HW-D-0288, HW-D-0292, HW-D-0295, HW-D-0297, HW-D-0298, HW-D-0299, HW-D-0313, HW-D-0321, HW-D-0322, HW-D-0324, HW-D-0342, HW-D-0363, HW-D-0365, HW-D-0371, HW-D-0377, HW-D-0380, HW-D-0381, HW-D-0388, HW-D-0396, HW-D-0453, HW-D-0456, HW-D-0457, HW-D-0483, HW-D-0484, HW-D-0485, HW-D-0486, HW-D-0514, HW-D-0515, HW-D-0518, HW-D-0523, HW-D-0524, HW-D-0541, HW-D-0542, HW-D-0545, HW-D-0546, HW-D-0547, HW-D-0548, HW-D-0549, HW-D-0550, HW-D-0551, HW-D-0553, HW-D-0554, HW-D-0556, HW-D-0653, HW-D-0564, HW-D-0569, HW-D-0570, HW-D-0571, HW-D-0572, HW-D-0573, HW-D-0577, HW-D-0579, HW-D-0580, HW-D-0582, HW-D-0583, HW-D-0584, HW-D-0596, HW-D-0620, HW-D-0621, HW-D-0622, HW-D-0623, HW-D-0644. HW-D-0645, HW-D-0646, HW-D-0652, HW-D-0653, HW-D-0687, HW-D-0705, HW-D-0740, HW-D-0741, HW-D-0747, HW-D-0748, HW-D-0749, HW-D-0750, HW-D-0778, HW-D-0801, HW-D-0826, HW-D-0863, HW-D-0868, HW-D-0871, HW-D-0872, HW-D-0873, HW-D-0874, HW-D-0875, HW-D-0876, HW-D-0880, HW-D-0884, HW-D-0886, HW-D-0905, HW-D-0906, HW-D-0907, HW-D-0923, HW-D-0925, HW-D-0936, HW-D-0937, HW-D-0940, HW-D-0941, HW-D-0942, HW-D-0945, HW-D-0946, HW-D-0947, HW-D-0959, HW-D-0960, HW-D-0964, HW-D-1155, HW-D-1158, HW-S-0133.

MaxTrak® (SLT)

Slotted Deflection Track for non-structural drywall framing

The ClarkDietrich MaxTrak (SLT) system is a head-of-wall deflection track that is used for framing exterior curtain walls and non-load bearing interior walls. This system allows for vertical live load movement of the primary structure without transferring axial loads to the wall studs. The MaxTrak system is attached to the wall studs through vertical slots using waferhead screws creating a positive connection that allows for vertical movement and also eliminates the requirement for lateral bracing near the top of the wall stud.

The slots in the track's legs are designed for a total allowable vertical movement of 1-1/2” (3/4" +/-). The MaxTrak system must be designed to take the end reaction of the wall studs (point loads) by using the allowable loads below.



- Allows up to 1-1/2" (3/4" +/-) vertical deflection
- Intertek CCRR-0205 (33mil system only)
- UL tested 1 & 2 hour systems
- Guideline at center of vertical slots

Product Data & Ordering Information:

Material:	Grade 33ksi min. yield strength
Coating:	G40EQ (G40 or G60 Available) for 30mil, CP60 for 33mil (G90 Available)
Thickness:	30mils: 20ga DW, 0.0312" Design Thickness, 0.0296" Min. Thickness 33mils: 20ga, 0.0346" Design Thickness, 0.0329" Min. Thickness
Dimensions:	2-1/2" legs with an inside depth equal to the depth of the stud Available in 2-1/2", 3-5/8", 4", 5-1/2", 6" and 8" wide systems Vertical slots are 0.22" wide x 1-1/2" long and spaced every 1" o.c.
Track length:	10'-0"

MaxTrak Allowable Loads with ProSTUD® Drywall Framing:

30mil MaxTrak	ProSTUD 25 (15mil, 50ksi)	ProSTUD 20 (18mil, 70ksi)	ProSTUD 30mil (33ksi)	ProSTUD 33mil (33ksi)
Allowable Load	45 lbs	76 lbs	148 lbs	148 lbs
Wall Height	13'-6"	22'-10"	44'-4"	44'-4"

33mil MaxTrak	ProSTUD 25 (15mil, 50ksi)	ProSTUD 20 (18mil, 70ksi)	ProSTUD 30mil (33ksi)	ProSTUD 33mil (33ksi)
Allowable Load	52 lbs	88 lbs	156 lbs	156 lbs
Wall Height	15'-7"	26'-5"	46'-10"	46'-10"

- Allowable loads are based on screws through the slots located 1-1/4” from the track web.
- #8 wafer head screws shall be used for stud-track connection.
- The above table is applicable to ProSTUD members only.
- ProSTUD allowable heights must be checked also.
- Allowable heights are based on 5psf and wall stud spacing at 16”o.c. with a max. gap of 7/8”.

For MaxTrak 2D connection details, and fire rated assembly details on either of these systems, refer to www.clarkdietrich.com/MaxTrak.

Calculating MaxTrak point load:
Point Load (P) =
(wind pressure PSF) x (spacing FT)
x (wall length FT) / 2

Example:
(5 PSF) X (1.33 FT) x (9.5 FT) / 2 = 31.7lbs

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S220-20 North American Standard for Cold-Formed Steel Framing - Nonstructural Members
  - (Compliant to ASTM C645, but IBC replaced with AISI S220 in IBC 2015)
  - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
- Intertek CCRR-0205 MaxTrak - Code Compliance Research Report
  - For Structural Stud Framing (33mil and thicker)
- Intertek CCRR-0207 Non-Structural Metal Framing
  - For Non-Structural Stud Framing (30 mil and thinner)
- UL Designs 2079 Fifth Edition Tests for Fire Resistance of Building Joint Systems
- UL File Number XHLI.R26034 CD MaxTRAK types SLT and SLT-H fire rated assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

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

FRAMEALL® Flat Drywall Grid

Flat Suspension System
drywall / stucco / plaster / AcoustiBuilt®

A FrameAll® Drywall Grid Solution

SUSTAIN™
High Performance
Sustainable
Ceiling Systems

FrameAll Grid suspension system

FrameAll® Drywall Grid is 3x faster than traditional track and channel framing – saving you time and labor.

MADE IN THE USA

KEY SELECTION ATTRIBUTES

- Some components available in High Recycled Content (HRC): Total Recycled Content 61%, Post-consumer 53%, Pre-consumer 8%
- Non-HRC items have 30% recycled content
- PeakForm® profile increases strength and stability for improved performance during installation
- XL® (staked-on end detail) cross tees provide secure locked connection; fast and easy to install
- SuperLock™ main beam clip is engineered for a strong, secure connection and fast, accurate alignment confirmed with an audible click; easy to remove and relocate
- ScrewStop™ reverse hem prevents screw spin off on 1-1/2" wide face
  Knurled Ridges on cross tees improve screw grab during board application
- LAM for soffits available to speed up soffit installation
- FrameAll Drywall Grid is part of the Sustain™ portfolio and meets the most stringent industry sustainability compliance standards today
- All FrameAll Grid is rotary stitched during manufacturing for strength and durability
- All drywall components minimum 0.018 steel thickness and minimum G40 hot-dipped galvanized coating, per ASTM C645
- Wind uplift construction available
- Accommodates stud, track, hat channel, wood, or other supplemental framing
- Fire Guard™ components meet broad range of UL® design assemblies (XL7936G90 is not fire rated)
- 10-Year Limited System Warranty, 30-Year Limited Ceiling Systems Warranty
- G90 hot-dipped galvanized coating is available for exterior applications (HD8906G90, XL8945PG90, XL8947PG90, XL8965G90, XL7936G90)
- HD8906IIC main beam accepts integral Impact Isolation Clips (IIC) to provide up to eight points of IIC improvement.
- Reduces embodied carbon up to 76% versus traditional framing
- Sourced and manufactured in the USA

TYPICAL APPLICATIONS

- Indoor/outdoor applications
- Soffits/special transitions
- High visibility areas
- Combination drywall and acoustical panel or tile ceilings
- Barrel vaults and domes
- Wet installations (stucco/plaster)

MATERIALS

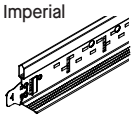
Meets ASTM A653 for zinc-coated hot dipped galvanized steel. Surfaces are chemically cleansed, zinc-coated, and prefinished. Materials also conform to the performance standard ASTM C645 (Standard Specification for Rigid Furring Channels for Screw Applications of Gypsum Board) and ASTM C635 for Specification for manufacturing and performance of Metal Suspension systems.

FIRE RESISTANCE RATING

Meets a broad range of UL design assemblies: D501, D502, G523, G524, G526, G527, G528, G529, I504, I512, I518, J502, L502, L508, L513, L515, L525, L526, L529, L564, P501, P506, P507, P508, P509, P510, P513, P514, P516 (XL7936G90 and SP135 are not fire rated).

NOTE: See UL Directory for details on specific designs.

VISUAL SELECTION



PACKAGING

	Item No.	Length	Height	Pcs./ Ctn.	LF./ Ctn.	LOAD TEST DATA (LBS./LF) L/240 Simple Span 24"	36"	48"	L/360 Simple Span 24"	36"	48"
Drywall Main Beams – Imperial	HD8906 HD8906HRC HD8906G90 HD8906IIC	144"	1-11/16"	12	144	120.0	48.95	28.14	95.5	43.19	18.66
	HD890610	120"	1-11/16"	12	120	120.0	48.95	28.14	95.5	43.19	18.66
	SP135 (G90 Stucco)	135"	1-11/16"	12	135	139.85	52.59	28.71	95.5	43.19	18.66

	Item No.	Length	Height	Pcs./ Ctn.	LF/ Ctn.	LOAD TEST DATA (KG./LM) L/240 Simple Span 24" 609.60mm	36" 914.40mm	48" 1219.20mm	L/360 Simple Span 24" 609.60mm	36" 914.40mm	48" 1219.20mm
Drywall Main Beams – Metric	HD7940*	3600mm	43mm	12	138.80	213.2	72.83	72.83	142.12	64.27	27.77
	7940G*	3600mm	43mm	12	141.73	153.8	73.57	73.57	102.52	49.05	21.24

Red Numbers are Fire Guard items. For fire-rated assemblies, use Type C gypsum board as noted in the UL® fire-rated assembly designs.
NOTE: All load test data based on flat installation per ASTM C635.
* These items are NOT Type F fixture compatible

ASTM Class
HD – Heavy-duty
ID – Intermediate-duty
LD – Light-duty

TechLine 877 276-7876
armstrongceilings.com/drywall

Armstrong® World Industries

FRAMEALL® DRYWALL GRID – Standard

FRAMEALL® Drywall Grid

Flat Drywall Suspension System

drywall / stucco / plaster

SUSTAIN™ High Performance Sustainable Ceiling Systems

Declare.

RECYCLED CONTENT

UP TO 61%

LEED V5

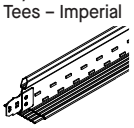
Ecomedes Data

COMMON MATERIALS FRAMEWORK

Human Health	Declare Label	Climate Health	EPD
	HPD	Ecosystem Health	EPD
	3rd Party CDPH	Circular Economy	✓

VISUAL SELECTION

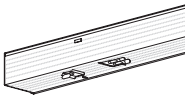
PACKAGING

	Item No.	Length	Height	Pcs./ Ctn.	LF/ Ctn.	LOAD TEST DATA (LBS./LF) L/240 Simple Span	L/360 Simple Span
Drywall Cross Tees – Imperial 	XL8965 XL8965HRC XL8965G90	72"	1-1/2"	36	216	6.87 @ 72"	4.58 @ 72"
	XL8947P XL8947PG90	50"	1-1/2"	36	150	19.5 @ 50"	12.79 @ 50"
	XL8945P XL8945PHRC XL8945PG90	48"	1-1/2"	36	144	22.5 @ 48"	14.27 @ 48"
	XL8940	40"	1-1/2"	36	119	36.22 @ 40"	24.15 @ 40"
	XL7936G90*	36"	1-1/2"	36	108	45.7 @ 36"	31.33 @ 36"
	XL8926 XL8926G90	24"	1-1/2"	36	72	119.0 @ 24"	90.25 @ 24"

	Item No.	Length	Height	Pcs./ Ctn.	LF/ Ctn.	LOAD TEST DATA (LBS./LF) L/240 Simple Span	L/360 Simple Span	LOAD TEST DATA (KG./LM) L/240 Simple Span	L/360 Simple Span
Drywall Cross Tees – Metric	XL7961*	1600mm	38mm	36	188.90	10.25 @ 72"	6.84 @ 72"	15.21 @ 1600mm	10.15 @ 1600mm
	XL7930*	1200mm	38mm	36	138.80	22.4 @ 48"	14.93 @ 48"	33.48 @ 1200mm	21.24 @ 1200 mm
	XL7925*	900mm	38mm	36	108	51.92 @ 36"	34.61 @ 36"	68.01 @ 900 mm	46.62 @ 900mm
	XL7920*	600mm	38mm	36	69.40	114.59 @ 24"	79.39 @ 24"	177.15 @ 600mm	134.31 @ 600mm

Red Numbers are Fire Guard items. For fire-rated assemblies, use Type C gypsum board as noted in the UL® fire-rated assembly designs.
NOTE: All load test data based on flat installation per ASTM C635.
* These items are NOT Type F fixture compatible

ASTM Class
HD – Heavy-duty
ID – Intermediate-duty
LD – Light-duty

	Item No.	Length	Height	Metal Thickness	Pcs./ Ctn.	LF/ Ctn.
Locking Angle Molding 	7858	144"	15/16"	0.018"	20	240
	LAM12	144"	1-1/4"	0.018"	20	240
	LAM12HRC	144"	1-1/4"	0.018"	20	240
	LAM151220E	144"	1-1/2"	0.028"	10	120

FRAMEALL® DRYWALL GRID – Standard

FRAMEALL® Flat Drywall Grid

Flat Suspension System

drywall / stucco / plaster / AcoustiBuilt®

SUSTAIN™ High Performance Sustainable Ceiling Systems

Declare.

RECYCLED CONTENT

UP TO 61%

LEED V5

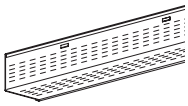
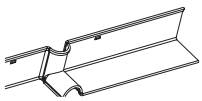
Ecomedes Data

COMMON MATERIALS FRAMEWORK

Human Health	Declare Label	Climate Health	EPD
	HPD	Ecosystem Health	EPD
	3rd Party CDPH	Circular Economy	✓

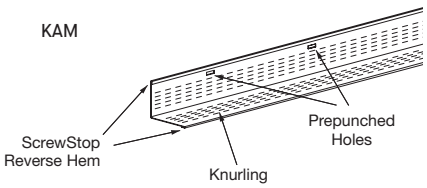
VISUAL SELECTION

PACKAGING

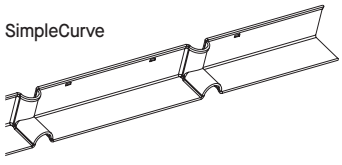
	Item No.	Length	Height	Metal Thickness	Pcs./ Ctn.	LF/ Ctn.
Locking Angle Molding for Soffits 	new **LAM151220ES**	144"	1-1/2"	0.028"	10	120
Knurled Angle Molding 	**KAM10**	120"	1-1/4"	0.018"	10	100
	KAM12	144"	1-1/4"	0.018"	10	120
	KAM12G90	144"	1-1/4"	0.018"	10	120
	KAM1510	120"	1-1/2"	0.018"	10	100
	KAM1512	144"	1-1/2"	0.018"	10	120
	KAM151020E	120"	1-1/2"	0.028"	10	100
	KAM151220E	144"	1-1/2"	0.028"	10	120
	KAM151020	120"	1-1/2"	0.033"	10	100
	KAM1525G90	120"	1-1/2"	0.018"	10	100
	KAM1520G90	120"	1-1/2"	0.033"	10	100
	KAM21025	120"	2"	0.018"	10	100
	KAM21020EQ	120"	2"	0.028"	10	100
	KAM21020	120"	2"	0.033"	10	100
SimpleCurve® KAM 	**SC151220EQ** (37" Radius)	148"	1-1/2"	0.028"	10	124
	SC151225 (32" Radius)	148"	1-1/2"	0.018"	10	124
	SC21220EQ (55" Radius)	148"	2"	0.028"	10	124
	SC21225 (40" Radius)	148"	2"	0.018"	10	124

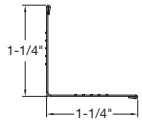
NOTE: .018" metal thickness meets ASTM C645 for framing

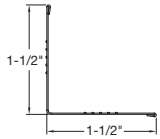
KAM

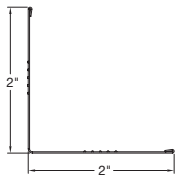


SimpleCurve

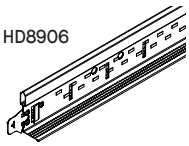


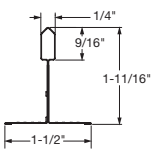




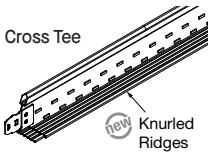


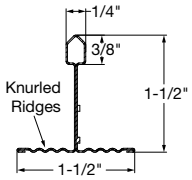
HD8906





Cross Tee





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Armstrong® World Industries

FRAMEALL® Drywall Grid

Flat Drywall Suspension System

drywall / stucco / plaster

SUSTAIN™
High Performance
Sustainable Ceiling Systems

Declare.

RECYCLED CONTENT
UP TO 61%

LEED V5
Ecomedes Data

COMMON MATERIALS FRAMEWORK

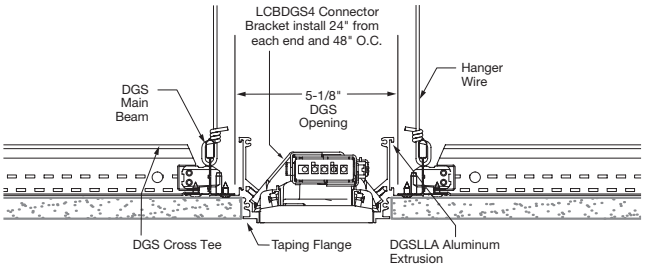
Human Health	Declare Label	Climate Health	EPD
	HPD	Ecosystem Health	EPD
	3rd Party CDPH	Circular Economy	✓

FRAMEALL® DRYWALL GRID – Standard

DRYWALL LINEAR LIGHTING

Item No.	Description	Fixture Length
DGSLLTK24	2' Linear Light Trim Kit	24" × 4"
DGSLLTK30	2' – 6" Linear Light Trim Kit	30" × 4"
DGSLLTK48	4' Linear Light Trim Kit	48" × 4"
DGSLLTK60	5' Linear Light Trim Kit	60" × 4"
DGSLLTK72	6' Linear Light Trim Kit	72" × 4"
DGSLLTK90	7' – 6" Linear Light Trim Kit	90" × 4"
DGSLLTK96	8' Linear Light Trim Kit	96" × 4"
DGSLLTK120	10' Linear Light Trim Kit	120" × 4"
DGSLLTKCON	10' Continuous Linear Light Trim Kit	10'

NOTE: Linear Light Trim Kits designed to work with 5/8" drywall



SEISMIC PERFORMANCE

Main Beams	Minimum Lbs. To Pull Out Compression/Tension
HD8906/HD890610 / HD8906HRC	332.3
HD8906IIC	332.3
XL8926, XL7936G90, XL8945PHRC, XL8945P, XL8947P, XL8965HRC	380.1

ICC REPORTS

For areas under ICC jurisdiction, see ICC evaluation report number ESR-1289 for allowable values and/or conditions of use concerning the suspension system components listed on this page. The report is subject to reexamination, revisions, and possible cancellation.

For fixture weight and UL® listings, see Drywall Grid Systems for Flat Applications Technical Guide BPCS-3539.

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