Custom Stud Inc.

PrimeStud Series

PRODUCT TECHNICAL INFORMATION

Drywall Framing

ICC ESR-3503

Complies with 2012 and 2009 International Building Code® (IBC)
www.customstud.com

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Product Identification

Nomenclature

PrimeStud products have a four part identification code which identifies the size (both depth and flange width), style and mil thickness of each member.

Member Depth:
(Example: 3-5/8" = 362 x 1/100 inch)
All member depths are taken in 1/100 inches
For all "PS" sections, member depth is outside to outside dimension. For all "PT" sections, member depth is inside to inside dimension.

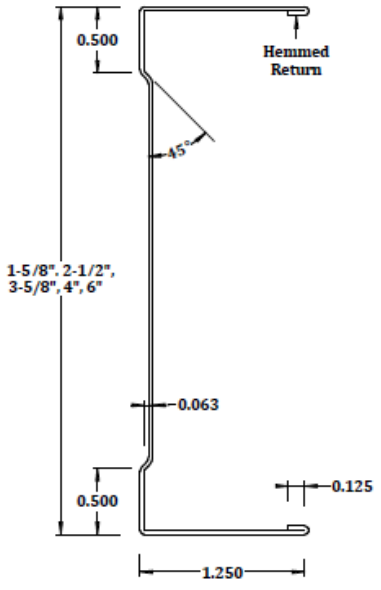
Flange Width:
(Example: 1-3/8" = 1.375" = 137 x 1/100 inch)
All flange widths are taken in 1/100 inches.

362 PS 137 – 24

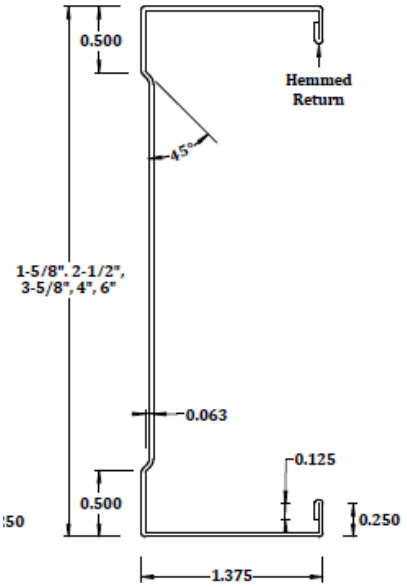
Style:
PS = PrimeStud Stud
PT = PrimeStud Track

Mil Thickness:
(Example: 0.0236 inch = 24 mils; 1 mil = 1/1000")
Mil thickness is the minimum base steel thickness.
Minimum base steel thickness represents 95% of the design thickness

Note: Yield strength of entire PrimeStud Series is 41ksi minimum.



PrimeStud Track = xxxPT125-24



PrimeStud Stud = xxxPS137-24

Custom Stud, Inc.

Mission Statement

Our mission is to produce a quality product and simplify the lives of our customers with personal, hassle free service. We continually review our processes to remain a leader in quality, delivery and service.

Introduction

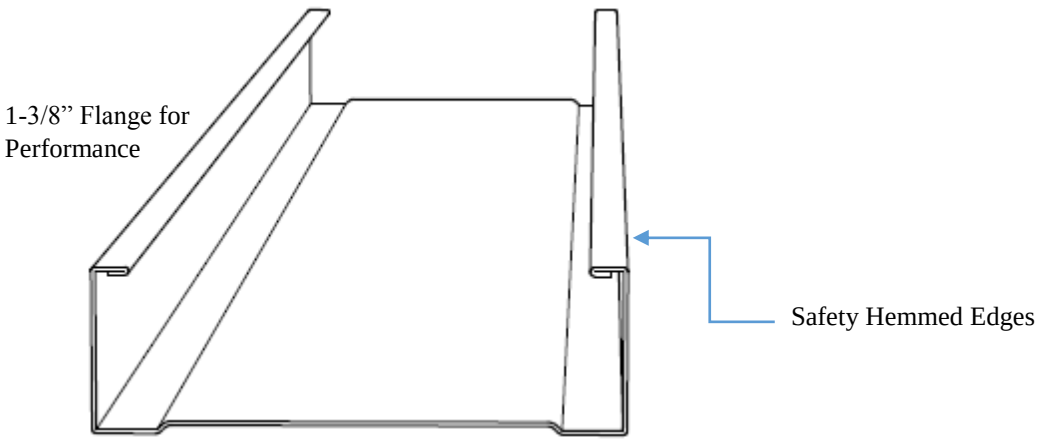
Every once in a while a new product introduces itself into the steel stud market. Some basically get the job done and are not the best at being user friendly, but carry a lesser cost to the customer. In the world of competition it seems wise to go with lesser cost and maintain a much needed profit margin. Custom Stud, Inc. now has not only a new Steel Stud Product but has conquered what the competition has not.

INTRODUCING: **PrimeStud Series Drywall Framing Products**

Our new field tested PrimeStud has all the answers:

- Outrageous limiting heights
- Wider flange for better sheet good attachment
- Less weight with .024 mil thickness
- Hemmed edges on BOTH track and stud – Reduced injuries and On Site Safety

All this genius, the PrimeStud, is manufactured with the utmost care by Custom Stud, Inc.



General Product Information

Code Approval

Custom Stud Inc., manufacturer of the PrimeStud Series Drywall Framing System is tested and approved by ICC and maintains the certificate of ICC ESR-3503.

Material Specifications

PrimeStud Series Drywall Framing Products are formed from steel with a minimum yield strength of 41 kips per square inch (ksi). All products are engineered to meet the 2007 edition of the American Iron and Steel Institute (AISI) North American Specification for the Design of Cold-Formed Steel Structural Members and other AISI standards referenced in section 2210 of the 2009 and 2012 International Building Code (IBC). The structural properties included in the brochure have been computed based on allowable strength design (ASD).

Certification of Material

MADE IN THE USA

All Steel Framing material from Custom Stud is manufactured in Lakeville, MN USA

We certify and guarantee that the following materials supplied by us meet or exceed the ASTM Standards and comply with the requirements of the Federal Specifications for each product as indicated.

Custom Stud, Inc. products and specification standards

Product	Federal Specification	ASTM Designation
PrimeStud Series		
Stud...2½", 3⅝", 4", 6" Flange… 1⅜" Yield…41 ksi Thickness…0.019; 0.024 Coating…G40 or equivalent *G60 or G90 when specified	Applicable ASTM Standard	C645 – Non Structural Members A653 – Zinc & Zinc/Iron Alloy Coating A924 – Metallic Coating A792 – Aluminum Zinc Alloy Coating A1003 – Steel

Technical Assistance

Professional technical assistance is available through Custom Stud's Engineer of record.

Disclaimer

All data, specifications and details contained in this publication are intended as a general guide for using PrimeStud Series Drywall Framing Products. These products should not be used in design or construction without an independent evaluation by a qualified engineer or architect to verify the suitability of a particular product for use in a specific application. Custom Stud, Inc. assumes no liability for failure resulting from the use of misapplication of computations, detail drawings and specifications contained herein. This publication contains the latest information available at the time of printing with respect to the referenced building codes and standards. PrimeStud reserves the right to make modifications and/or change materials of any of their products without prior notice or obligation.

General Product Information

Steel Thickness Table

Stud Designation[1]	Track Designation[1]	Minimum Base-Metal Thickness (inch)	Design Thickness (inch)	Minimum Yield Strength (ksi)
xxxPS137-19	xxxPT125-19	0.018	0.0189	41
xxxPS137-24	xxxPT125-24	0.0236	0.0248	41

For SI: 1 inch = 25.4 mm, 1 ksi = 6.895 MPa.
[1]xxx is the web size in 1/100 of an inch and is equal to 162 for 1-5/8inches, 250 for 2-1/2 inches, 362 for 3-5/8 inches, 400 for 4 inches, and 600 for 6 inches.

Definitions of Structural Property Symbols

Gross Properties

I_x: Moment of inertia of the cross section about the X-axis.
S_x: Section modulus about the X-axis.
r_x: Radius of gyration of cross section about the X-axis.
l_y: Moment of inertia of cross section about the Y-axis.
r_y: Radius of gyration of cross section about the Y-axis.

Effective Properties

I_{xe}: Effective moment of inertia about the X-axis.
S_{xe}: Effective section modulus about the X-axis.
M_{al}: Allowable moment based on local buckling.
M_{ad}: Allowable moment based on distortional buckling, assuming $K_\varphi = 0$.
M_a: Allowable moment for track and channel members, based on local buckling only.
V_{ag}: Allowable strong axis shear away from punch-out, calculated in accordance with AISI section C3.2.1.
V_{aNet}: Allowable strong axis shear at the punch out, calculated in accordance with AISI section C3.2.2.

Torsional and Other Properties

J: St. Venant torsional constant. The numbers shown in the tables for J, have been multiplied by 1000. The actual values can be obtained by dividing the listed numbers by 1000.
C_w: Torsional warping constant.
X_o: Distance from the shear center to the centroid along the principal X-axis.
m: Distance from shear center to mid-plane of web.
r_o: Polar radius of gyration of cross section about the shear center.
β: Critical unbraced length for lateral-torsional buckling. Members are considered fully braced when unbraced length is less than Lu.

Section Properties

Stud Properties

PrimeStud Stud Properties Table																					
	DESCRIPTION				GROSS SECTION PROPERTIES						EFFECTIVE PROPERTIES					TORSIONAL PROPERTIES					Lu (in)
	Member Designation	Minimum Thickness (inch)	Design Thickness (inch)	Min. Yield Stress (ksi)	Weight (lb/ft)	Area (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (k-in) Fully Braced	M_a (k-in) Braced @ 48" o.c.	V_a (lbs)	X_o (in)	J x 10^3 (in^4)	C_w (in^6)	r_o (in)	β	
19 MIL STUDS	250PS137-19	0.018	0.0189	41	0.36	0.110	0.116	1.024	0.029	0.510	0.104	0.077	1.89	1.66	436	-1.105	0.01313	0.040	1.591	0.517	33.3
	362PS137-19	0.018	0.0189	41	0.43	0.132	0.271	1.435	0.032	0.493	0.240	0.123	3.01	2.67	288	-0.957	0.01566	0.087	1.794	0.715	35.1
	400PS137-19	0.018	0.0189	41	0.45	0.139	0.341	1.568	0.033	0.486	0.301	0.138	3.39	3.00	245	-0.918	0.01651	0.108	1.881	0.762	34.9
	600PS137-19	0.018	0.0189	41	0.18	0.176	0.889	2.244	0.036	0.453	0.766	0.226	5.54	4.72	135	-0.760	0.02101	0.263	2.413	0.901	30.4
24 MIL STUDS	250PS137-24	0.0236	0.0248	41	0.47	0.144	0.150	1.021	0.037	0.508	0.143	0.110	2.70	2.36	318	-1.102	0.02958	0.052	1.586	0.517	32.4
	362PS137-24	0.0236	0.0248	41	0.56	0.172	0.353	1.432	0.041	0.491	0.331	0.176	4.33	3.79	323	-0.954	0.03530	0.113	1.790	0.716	34.5
	400PS137-24	0.0236	0.0248	41	0.59	0.181	0.444	1.565	0.043	0.484	0.416	0.199	4.89	4.31	303	-0.915	0.03721	0.140	1.876	0.762	34.8
	600PS137-24	0.0236	0.0248	41	0.75	0.231	1.161	2.241	0.047	0.451	1.067	0.358	8.06	6.86	351	-0.757	0.04737	0.341	2.408	0.901	30.8
For **SI**: 1 inch = 25.4 mm, 1lb/ft = 14.6 N/m, 1 in-lb = 0.112985 N-m.																					

Track Properties

PrimeStud Track Properties Table																			
	DESCRIPTION				GROSS SECTION PROPERTIES						EFFECTIVE PROPERTIES				TORSIONAL PROPERTIES				
	Member Designation	Minimum Thickness (inch)	Design Thickness (inch)	Min. Yield Stress (ksi)	Weight (lb/ft)	Area (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_{al} (k-in)	M_{ad} (k-in)	X_o (in)	J x 10^3 (in^4)	C_w (in^6)	r_o (in)	β
19 MIL TRACKS	250PT125-19	0.018	0.0189	41	0.32	0.098	0.101	1.018	0.017	0.421	0.091	0.068	-	-	-0.830	0.01164	0.020	1.591	0.517
	362PT125-19	0.018	0.0189	41	0.39	0.119	0.238	1.413	0.019	0.400	0.214	0.111	-	-	-0.708	0.01417	0.047	1.794	0.715
	400PT125-19	0.018	0.0189	41	0.41	0.126	0.299	1.540	0.019	0.393	0.268	0.124	-	-	-0.676	0.01502	0.059	1.881	0.762
	600PT125-19	0.018	0.0189	41	0.53	0.167	0.789	2.194	0.021	0.359	0.674	0.199	-	-	-0.550	0.01952	0.149	2.413	0.901
24 MIL TRACKS	250PT125-24	0.0236	0.0248	41	0.42	0.130	0.141	1.044	0.023	0.418	0.135	0.102	2.50	1.81	-0.818	0.02663	0.028	1.391	0.654
	362PT125-24	0.0236	0.0248	41	0.51	0.158	0.326	1.437	0.025	0.397	0.313	0.165	4.05	2.90	-0.700	0.03235	0.064	1.647	0.819
	400PT125-24	0.0236	0.0248	41	0.54	0.167	0.409	1.564	0.025	0.390	0.391	0.186	4.56	3.30	-0.669	0.03426	0.080	1.745	0.853
	600PT125-24	0.0236	0.0248	41	0.70	0.217	1.065	2.216	0.028	0.357	0.978	0.298	7.31	5.76	-0.544	0.04443	0.200	2.310	0.944
For **SI**: 1 inch = 25.4 mm, 1lb/ft = 14.6 N/m, 1 in-lb = 0.112985 N-m.																			

PrimeStud Allowable Span Tables

PrimeStud Stud Allowable Span Table - Fully Braced Non-Composite															
	DESCRIPTION					5 PSF			7.5 PSF			10 PSF			
	Member Designation	Minimum Steel Thickness (inch)	Design Steel Thickness (inch)	Min. Yield Stress (ksi)	Spacing O.C. (in.)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	
19 MIL STUDS	250PS137-19	0.018	0.0189	41	12	-	11' 5"	10' 0"	-	10' 0"	8' 9"	-	9' 2"	7' 11"	
					16	-	10' 4"	9' 2"	-	9' 2"	7' 11"	-	8' 3"	7' 2"	
					24	-	9' 2"	7' 11"	-	7' 11"	6' 11"	-	7' 2"	6' 3"	
	362PS137-19	0.018	0.0189	41	12	-	15' 3"	13' 3"	-	13' 3"	11' 7"	-	12' 1"	10' 7"	
					16	-	13' 10"	12' 1"	-	12' 1"	10' 7"	-	11' 0"	9' 7"	
					24	-	12' 1"	10' 7"	-	10' 7"	9' 2"	-	9' 7"	8' 4"	
	400PS137-19	0.018	0.0189	41	12	-	16' 5"	14' 4"	-	14' 4"	12' 6"	-	13' 0"	11' 5"	
					16	-	14' 11"	13' 0"	-	13' 0"	11' 5"	-	11' 10"	10' 4"	
					24	-	13' 0"	11' 5"	-	11' 5"	9' 11"	-	10' 4"	9' 0"	
	600PS137-19	0.018	0.0189	41	12	-	22' 8"	19' 9"	-	19' 9"	17' 3"	-	18' 0"	15' 8"	
					16	-	20' 7"	18' 0"	-	18' 0"	15' 8"	-	16' 4"	14' 3"	
					24	-	18' 0"	15' 8"	-	15' 8" f	13' 8"	-	13' 7" f	12' 5"	
24 MIL STUDS	250PS137-24	0.0236	0.0248	41	12	15'-6"	12'-3"	10'-9"	13'-6"	10'-9"	9'-4"	12'-4"	9'-9"	8'-6"	
					16	14'-1"	11'-2"	9'-9"	12'-4"	9'-9"	8'-6"	11'-2"	8'-10"	7'-9"	
					24	12'-4"	9'-9"	8'-6"	10'-9"	8'-6"	7'-5"	9'-5" f	7'-9"	6'-9"	
	362PS137-24	0.0236	0.0248	41	12	20'-6"	16'-3"	14'-3"	17'-11"	14'-3"	12'-5"	16'-3"	12'-11"	11'-3"	
					16	18'-8"	14'-9"	12'-11"	16'-3"	12'-11"	11'-3"	14'-8" f	11'-9"	10'-3"	
					24	16'-3"	12'-11"	11'-3"	13'-10" f	11'-3"	9'-10"	12'-0" f	10'-3"	8'-11"	
	400PS137-24	0.0236	0.0248	41	12	22'-2"	17'-7"	15'-4"	19'-4"	15'-4"	13'-5"	17'-7"	13'-11"	12'-2"	
					16	20'-1"	15'-11"	13'-11"	17'-7"	13'-11"	12'-2"	15'-7" f	12'-8"	11'-1"	
					24	17'-7"	13'-11"	12'-2"	14'-8" f	12'-2"	10'-7"	12'-9" f	11'-1"	9'-8"	
	600PS137-24	0.0236	0.0248	41	12	30'-4"	24'-1"	21'-0"	26'-6"	21'-0"	18'-4"	23'-2" f	19'-1"	16'-8"	
					16	27'-7"	21'-10"	19'-1"	23'-2" f	19'-1"	16'-8"	20'-0"	17'-4"	15'-2"	
					24	23'-2" f	19'-1"	16'-8"	18'-11" f	16'-8"	14'-7"	16'-4" f	16'-4" f	13'-3"	

Notes:
1. Limiting heights are in accordance with AISI S100-07/S2-10 using all steel non-composite design.
2. Limiting heights are established by considering flexure, shear, web crippling, and deflection.
3. For bending, studs are assumed to be adequately braced to develop full allowable moment. Studs are considered fully braced when unbraced length is less than L_u.
4. Lateral wall loads have not been reduced for strength or deflection. The full wall lateral load is applied.
5. Limiting heights shown in this table are based on the steel properties only. No composite action has been accounted for.
6. No web stiffeners are required for studs with h/t > 200, web crippling and shear values have been confirmed by testing and reported in the PrimeStud properties table.
7. The factory punch outs are in accordance with section C5 of AISI S201-07.

PrimeStud Allowable Span Tables (Continued)

PrimeStud Stud Allowable Span Table - Braced @ 48" o.c.
Non-Composite

	DESCRIPTION					5 PSF			7.5 PSF			10 PSF		
	Member Designation	Minimum Steel Thickness (inch)	Design Steel Thickness (inch)	Min. Yield Stress (ksi)	Spacing O.C. (in.)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
24 MIL STUDS	250PS137-24	0.0236	0.0248	41	12	15'-6"	12'-3"	10'-9"	13'-6"	10'-9"	9'-4"	12'-4"	9'-9"	8'-6"
					16	14'-1"	11'-2"	9'-9"	12'-4"	9'-9"	8'-6"	10'-10" f	8'-10"	7'-9"
					24	12'-4"	9'-9"	8'-6"	10'-2" f	8'-6"	7'-5"	8'-10" f	7'-9"	6'-9"
	362PS137-24	0.0236	0.0248	41	12	20'-6"	16'-3"	14'-3"	17'-11"	14'-3"	12'-5"	15'-10" f	12'-11"	11'-3"
					16	18'-8"	14'-9"	12'-11"	15'-10" f	12'-11"	11'-3"	13'-9" f	11'-9"	10'-3"
					24	15'-10" f	12'-11"	11'-3"	12'-11" f	11'-3"	9'-10"	11'-2" f	10'-3"	8'-11"
	400PS137-24	0.0236	0.0248	41	12	22'-2"	17'-7"	15'-4"	19'-4"	15'-4"	13'-5"	16'-11" f	13'-11"	12'-2"
					16	20'-1"	15'-11"	13'-11"	16'-11" f	13'-11"	12'-2"	14'-8" f	12'-8"	11'-1"
					24	16'-11" f	13'-11"	12'-2"	13'-9" f	12'-2"	10'-7"	11'-11" f	11'-1"	9'-8"
	600PS137-24	0.0236	0.0248	41	12	30'-2" f	24'-1"	21'-0"	24'-8" f	21'-0"	18'-4"	21'-4"	19'-1"	16'-8"
					16	26'-2" f	21'-10"	19'-1"	21'-4" f	19'-1"	16'-8"	18'-6" f	17'-4"	15'-2"
					24	21'-4" f	19'-1"	16'-8"	17'-5" f	16'-8"	14'-7"	15'-1" f	15'-1" f	13'-3"

"f" - flexture controls. If no letter appears, deflection controls.

Notes:

1. Limiting heights are in accordance with AISI S100-07/S2-10 using all steel non-composite design.
2. Limiting heights are established by considering flexure, shear, web crippling, and deflection.
3. Maximum discrete bracing at 48" O.C.
4. Lateral wall loads have not been reduced for strength or deflection. The full wall lateral load is applied.
5. No web stiffeners are required for studs with h/t > 200, web crippling and shear values have been confirmed by testing and reported in the PrimeStud properties table.
6. The factory punch outs are in accordance with section C5 of AISI S201-07.

PrimeStud Stud Allowable Span Table
Composite

	DESCRIPTION					5 PSF			7.5 PSF			10 PSF		
	Member Designation	Minimum Steel Thickness (inch)	Design Steel Thickness (inch)	Min. Yield Stress (ksi)	Spacing O.C. (in.)	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
24 MIL STUDS	250PS137-24	0.0236	0.0248	41	12	-	-	-	-	-	-	-	-	-
					16	-	-	-	-	-	-	-	-	-
					24	14' 3"	12' 6"	11' 3"	12' 6"	11' 0"	9' 9"	11' 6"	10' 0"	9' 0"
	362PS137-24	0.0236	0.0248	41	12	-	-	-	-	-	-	-	-	-
					16	-	-	-	-	-	-	-	-	-
					24	-	16' 3"	14' 6"	-	14' 3"	12' 6"	-	12' 9"	11' 6"
	400PS137-24	0.0236	0.0248	41	12	-	-	-	-	-	-	-	-	-
					16	-	-	-	-	-	-	-	-	-
					24	-	17' 0"	14' 9"	-	14' 9"	12' 9"	-	13' 3"	11' 9"
	600PS137-24	0.0236	0.0248	41	12	-	-	-	-	-	-	-	-	-
					16	-	-	-	-	-	-	-	-	-
					24	-	-	15' 9"	-	-	15' 9"	-	-	15' 9"

Allowable Ceiling Span Charts

Allowable Ceiling Span Charts

L/240		4 PSF						6 PSF					
		Lateral Support of Compression Flange						Lateral Support of Compression Flange					
		Unsupported			Midspan			Unsupported			Midspan		
		Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.		
Member Designation	**Min. Yield Stress (ksi)**	**12**	**16**	**24**	**12**	**16**	**24**	**12**	**16**	**24**	**12**	**16**	**24**
250PS137-24	41	10'-0" f	9'-3" f	8'-4" f	13'-3"	12'-0"	10'-6"	9'-0" f	8'-4" f	7'-6" f	11'-7"	10'-6"	9'-2"
362PS137-24	41	11'-1" f	10'-3" f	9'-3" f	15'-6" f	14'-5" f	13'-0" f	9'-11" f	9'-3" f	8'-4" f	13'-11" f	13'-0" f	11'-8" f
400PS137-24	41	11'-5" f	10'-7" f	9'-6" f	15'-11" f	14'-10" f	13'-4" f	10'-3" f	9'-6" f	8'-7" f	14'-4" f	13'-4" f	12'-0" f
600PS137-24	41	12'-10" f	11'-11" f	10'-8" f	18'-0" f	16'-9" f	15'-0" f	11'-6" f	10'-8" f	9'-8" f	16'-3" f	15'-0" f	13'-6" f

L/360		4 PSF						6 PSF					
		Lateral Support of Compression Flange						Lateral Support of Compression Flange					
		Unsupported			Midspan			Unsupported			Midspan		
		Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.		
Member Designation	**Min. Yield Stress (ksi)**	**12**	**16**	**24**	**12**	**16**	**24**	**12**	**16**	**24**	**12**	**16**	**24**
250PS137-24	41	10'-0" f	9'-3" f	8'-4" f	11'-7"	10'-6"	9'-2"	9'-0" f	8'-4" f	7'-6" f	10'-1"	9'-2"	8'-0"
362PS137-24	41	11'-1" f	10'-3" f	9'-3" f	15'-4"	13'-11"	12'-2"	9'-11" f	9'-3" f	8'-4" f	13'-4"	12'-2"	10'-7"
400PS137-24	41	11'-5" f	10'-7" f	9'-6" f	15'-11" f	14'-10" f	13'-1"	10'-3" f	9'-6" f	8'-7" f	14'-4" f	13'-1"	11'-4"
600PS137-24	41	12'-10" f	11'-11" f	10'-8" f	18'-0" f	16'-9" f	15'-0" f	11'-6" f	10'-8" f	9'-8" f	16'-3" f	15'-0" f	13'-6" f

"f" – flexture controls. If no letter appears, deflection controls.

Notes:

1. Studs are assumed to have no support of the compression flange where "unsupported" is indicated and mid-point support where "mid-span" is indicated.
2. Limiting spans shown in this table are based on the steel properties only. No composite action has been accounted for.

Screw Allowable Loads Chart

SCREW ALLOWBALE LOADS												
Stud Model	Design Thickness (in)	F_y Yield (ksi)	F_u Tensile (ksi)	#6 Screw (0.138" dia; 0.272" head)			#8 Screw (0.164" dia; 0.272" head)			#10 Screw (0.190" dia; 0.34" head)		
				Shear (lbs.)	Pull Out (lbs)	Pull Over (lbs)	Shear (lbs.)	Pull Out (lbs)	Pull Over (lbs)	Shear (lbs.)	Pull Out (lbs)	Pull Over (lbs)
XXXPS137-24	0.0248	41	41	83	40	138	91	47	138	98	55	173

Notes:
1. Capacities are based on Section E4 of the AISI S100-07/S2-10 Specification.
2. Capacities are based on Allowable Stress Design (ASD).
3. Screw pull-out capacities are based on the listed diameter.
4. Two sheets of equal thickness and tensile strength are assumed in the calculated values.
5. When two steel sheets of different thickness and tensile strength are connected, the lower value for shear capacity is used, and for pull-out capacity use the sheet closest to the screw tip. For pull-over capacity use the steel sheet closest to the screw head.
6. Minimum center-to-center screw spacing is 3 nominal screw diameters.
7. Minimum distance from center of screw to edge of steel is 1.5 nominal screw diameters.
8. When screws are subjected to combined shear and tension loads, interaction equation E4.5 of AISI S100/S2-10 shall be used.

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DIVISION: 05 00 00—METALS

SECTION: 05 40 00—COLD-FORMED METAL FRAMING

DIVISION: 09 00 00—FINISHES

SECTION: 09 22 16.3—NON-STRUCTURAL METAL STUD FRAMING

REPORT HOLDER:

OLMAR SUPPLY INC.

2140 RESEARCH DRIVE
LIVERMORE, CALIFORNIA 94550

EVALUATION SUBJECT:

PRIMESTUD DRYWALL FRAMING SYSTEM (NONLOAD-BEARING): PRIMESTUD AND PRIMESTUD TRACK

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

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

REPORT HOLDER:

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ADDTIONAL LISTEES:

CUSTOM STUD INC.
8415 220TH STREET WEST
LAKEVILLE, MINNESOTA 55044
(952) 985-7000
www.customstud.com

FRAMETEK STEEL PRODUCTS INC.
1495 COLUMBIA AVENUE, BUILDING 4
RIVERSIDE, CALIFORNIA 92507
(951) 369-5204
www.frameteksteel.com

EVALUATION SUBJECT:

PRIMESTUD DRYWALL FRAMING SYSTEM (NONLOAD-BEARING): PRIMESTUD STUD AND PRIMESTUD TRACK

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2012 and 2009 *International Building Code®* (IBC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

Structural

2.0 USES

PrimeStud Studs and Tracks are used for the framing of interior nonload-bearing composite walls.

3.0 DESCRIPTION

3.1 General:

The PrimeStud Stud is roll-formed in a "C" shape with an offset in the web (planking) and hemmed return flanges. The PrimeStud Tracks are channel-shaped with offsets (planking) in the web and hemmed return flanges. The studs are manufactured with and without punch-outs for members with depths greater than or equal to 2.5 inches (63.5 mm). Punch-outs are spaced at 24 inches (610 mm) on center along the centerline of the member, with the centerline of the punch-out 12 inches (305 mm) from the end of the member, when provided. See Figures 1 and 2 for stud and track configurations, and Figure 3 for punch-out configurations of the studs. See Table 3 for manufacturing locations.

3.2 Material:

3.2.1 Steel: The studs and tracks are cold-formed from steel coils complying with the Olmar Supply published specification with a minimum yield strength of 41 ksi (283 MPa). The member thicknesses are specified in Table 1. The studs and tracks have a minimum G40 coating in accordance with ASTM A1003-13b.

3.2.2 Gypsum Wallboard: The limiting heights in Table 2 are based on use of gypsum wallboard which is a minimum of $^{5}/_{8}$ inch (15.9 mm) thick, Type X, complying with ASTM C1396, and manufactured by one of the following companies: American Gypsum, CertainTeed, Georgia Pacific, Lafarge, National Gypsum, Temple-Inland, or USG.

3.2.3 Fasteners: Fasteners for attaching the gypsum wallboard to studs and tracks must be No. 6 by $1^{1}/_{4}$–inch-long (32 mm), Type S, fine thread, drywall bugle head screws conforming to ASTM C1002. Fasteners for attaching studs to tracks must be No. 8 by $^{9}/_{16}$-inch-long (14.3 mm), Type A, fine thread wafer head screws conforming to ASTM C1002.

4.0 DESIGN AND INSTALLATION

Limiting heights for interior, nonload-bearing, composite walls are shown in Table 2. Installation of studs and tracks must be in accordance with the approved plans and this report. The approved plans must be available on the jobsite at all times during installation. See the footnotes to Table 2 for installation details.

5.0 CONDITIONS OF USE

The studs and tracks described in this report comply with, or are suitable alternatives to what is specified in, those codes indicated in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with the approved plans and this report. In the event of a conflict, this report governs.

5.2 Minimum uncoated base-metal thickness of the framing members delivered to the jobsite must be at least 95 percent of the design base-metal thickness (see Table 1).

5.3 Use of the studs and tracks is limited to interior nonload-bearing wall assemblies where the superimposed axial load is zero pounds and transverse loads are less than or equal to 10 pounds per square foot (0.479 kPa). Any other use is outside the scope of this report.

5.4 Design of the attachment of the wall to the surrounding structure is outside the scope of this report.

5.5 Installation of the gypsum wallboard must comply with the requirements of ASTM C840 or GA-216.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Cold-formed Steel Framing Members—Interior Nonload-bearing Wall Assemblies (AC86), dated May 2012 (editorially revised August 2013).

7.0 IDENTIFICATION

Each PrimeStud stud or track must have a legible label or stamp, at a maximum spacing of 96 inches (2438 mm) on center, indicating the member designation, manufacturer's name (Custom Stud, Frametek Steel Products, or Olmar Supply), the minimum yield strength in ksi, the coating designation, and the evaluation report number (ESR-3503).

TABLE 1—MEMBER THICKNESSES

STUD DESIGNATION[1]	TRACK DESIGNATION[1]	MINIMUM BASE-METAL THICKNESS (inch)	DESIGN THICKNESS (inch)	MINIMUM YIELD STRENGTH (ksi)
xxxPS125-15	xxxPT125-15	0.0150	0.0158	41
xxxPS137-24	xxxPT125-24	0.0236	0.0248	41

For **SI:** 1 inch = 25.4 mm, 1 ksi = 6.895 MPa.

[1]xxx is the web size in $^{1}/_{100}$ of an inch and is equal to 162 for $1^{5}/_{8}$ inches, 250 for $2^{1}/_{2}$ inches, 362 for $3^{5}/_{8}$ inches, 400 for 4 inches, and 600 for 6 inches.

TABLE 2—LIMITING HEIGHTS—COMPOSITE WALLS[1,2,3,4,5] (ft-in)

STUD DESIGNATION	STUD SPACING (inches o.c.)	TRANSVERSE LOAD								
		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
162PS125-15	24	9'-9"	8'-6"	7'-9"	8'-6"	7'-6"	6'-9"	8'-9"	6'-9"	6'-3"
250PS125-15	24	-	10'-6"	9'-6"	-	9'-3"	8'-3"	-	8'-3"	7'-6"
362PS125-15	24	-	-	12'-9"	-	-	11'-3"	-	-	10'-0"
400PS125-15	24	-	-	12'-9"	-	-	11'-3"	-	-	10'-0"
162PS137-24	24	10'-9"	8'-9"	7'-9"	9'-3"	7'-9"	6'-9"	8'-6"	7'-0"	6'-0"
250PS137-24	24	14'-3"	12'-6"	11'-3"	12'-6"	11'-0"	9'-9"	11'-6"	10'-0"	9'-0"
362PS137-24	24	-	16'-3"	14'-6"	-	14'-3"	12'-6"	-	12'-9"	11'-6"
400PS137-24	24	-	17'-0"	14'-9"	-	14'-9"	12'-9"	-	13'-3"	11'-9"
600PS137-24	24	-	-	15'-9"	-	-	15'-9"	-	-	15'-9"

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

[1]Gypsum wallboard, complying with Section 3.2.2, must be attached on both sides of the wall framing for the full height of the wall with the long dimension of the gypsum wallboard parallel to the studs.

[2]Placement of the joints in the gypsum sheathing must be in accordance with Sections 4.6.3 and 4.6.4 of GA-216 (Gypsum Association Application and Finishing of Gypsum Panel Products) or Section 7.5 of ASTM C840.

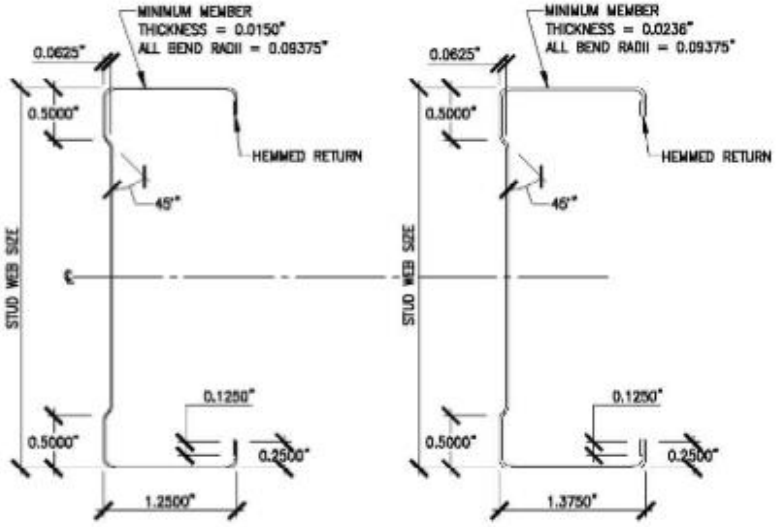
[3]End bearing of studs must be a minimum of 1 inch.

[4]Fasteners, complying with Section 3.2.3, must be used to fasten the gypsum wallboard to the studs and tracks. Fasteners must be spaced a maximum of 12 inches on center along the studs and tracks.

[5]Fasteners, complying with Section 3.2.3, must be installed on each side of the stud to fasten it to the tracks.

TABLE 3—MANUFACTURING LOCATIONS

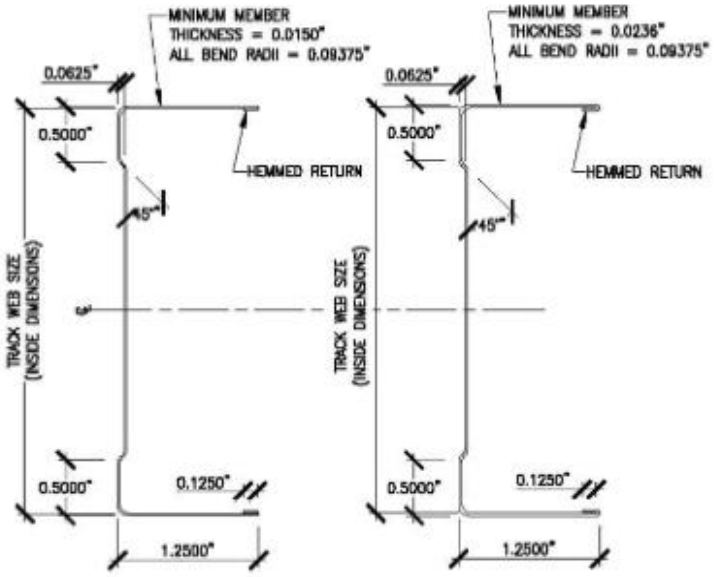
Custom Stud Inc. Lakeville, Minnesota 55004	Frametek Steel Products Riverside, California 92507	Olmar Supply Inc. Livermore, California 94550



15 MIL PRIMESTUD STUDS 24 MIL PRIMESTUD STUDS

STUD WEB SIZES (OUTSIDE DIMENSIONS):
$1^5/_8$", $2^1/_2$", $3^5/_8$", 4", and 6"

FIGURE 1—STUD CONFIGURATION
(All bend radii are measured from the inside.)



15 MIL PRIMESTUD TRACKS 24 MIL PRIMESTUD TRACKS

TRACK WEB DIMENSIONS (INSIDE DIMENSIONS):
$1^5/_8$", $2^1/_2$", $3^5/_8$", 4", and 6"

FIGURE 2—TRACK CONFIGURATION
(All bend radii are measured from the inside.)

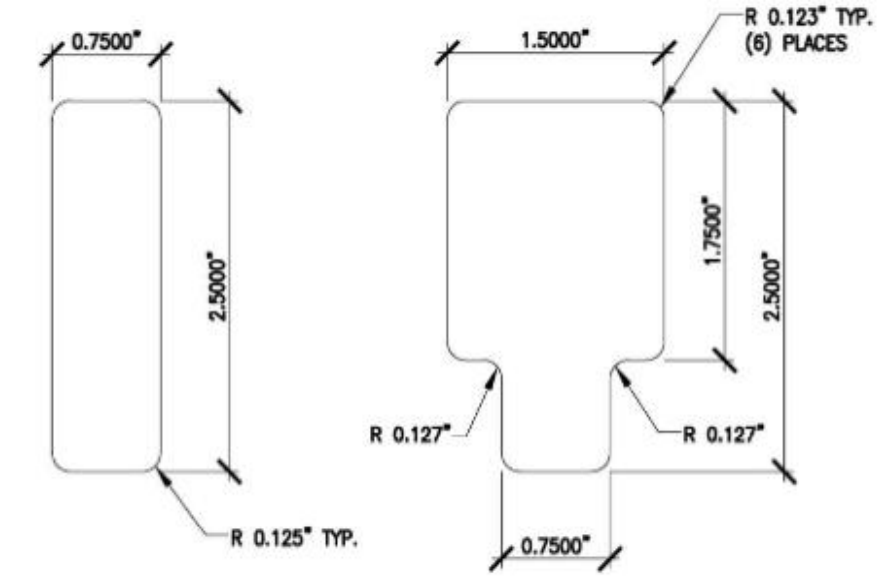


FIGURE 3—PUNCH-OUT CONFIGURATIONS