

**Product Name:** 4" SmartStud 18mil  
**Description:** 400SS125-18

### Physical Properties

Web Depth (in)	4.000	Yield Stress Fy (KSI)	33
Flange Width (in)	1.250	Mils	18
Return Lip (in)	0.250	Design Thickness (in)	0.0188
Standard Coating	G40	Minimum Thickness (in)	0.0179
Weight (lb/ft)	0.420	Gauge	25

### Section Properties

Cross Sectional Area (A)	0.125 in <sup>2</sup>
Moment of Inertia (Ix)	0.294 in <sup>4</sup>
Radius of Gyration (Rx)	1.536 in
Gross Moment of Inertia (Iy)	0.021 in <sup>4</sup>
Gross Radius of Gyration (Ry)	0.414 in

### Effective Section Properties

Moment of Inertia for Deflection (Ixe)	0.281 in <sup>4</sup>
Section Modulus (Sxe)	0.083 in <sup>3</sup>
Allowable Bending Moment (Ma)	1.680 in-k

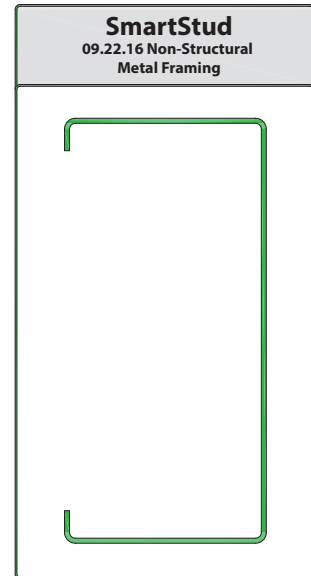
### Torsional Properties

St. Venant Torsion Constant (Jx1000)	0.0150 in <sup>4</sup>
Warping Constant (Cw)	0.0680 in <sup>6</sup>
Distance from Shear Center to Neutral Axis (Xo)	-0.754 in
Radii of Gyration (Ro)	1.760 in
Torsional Flexural Constant (Beta)	0.816
Unbraced Length (Lu)	28.7 in

\* Web-depth to thickness ratio exceeds 200. Web Stiffeners are required at all support points and

### Limiting Wall Heights - Composite

Spacing <small>4"SmartStud18mil</small>	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"	19'-3"	17'-6"	15'-4"	15'-9"	15'-4"	13'-4"	13'-8"	13'-8"	12'-2"
16"	16'-8"	15'-11"	13'-11"	13'-8"	13'-8"	12'-2"	11'-10"	11'-10"	11'-0"
24"	13'-8"	13'-8"	12'-2"	11'-2"	11'-2"	10'-7"	9'-8"	9'-8"	9'-7"



### MANUFACTURING Codes & Standards

- NASPEC AISI S100-07 IBC 2009 2012 Compliant
- Coated in accordance to ASTM A1003 & A653
- Meets or exceeds ASTM C645 & C745 & AISI S220
- Multiple UL Design Listings including U419
- 3rd Party Code Evaluation Report ICC-ESR #3943
- US Patent No. D618,365S

### GREEN Benefits & LEED Data:

- LEED Credit MR 2 - Construction Waste Mgmt - 1-2 Points
- LEED Credit MR 4 - Recycled Credit - 1-2 Points
- LEED Credit MR 5 - Regional Materials - 1-2 Points
- CRACO products are 100% recyclable
- Contact Technical Services for more information