

**Product Name:** 4" SmartStud20

**Description:** 400SS125-19

### Physical Properties

Web Depth (in)	4.000	Yield Stress Fy (KSI)	50
Flange Width (in)	1.250	Mils	19
Return Lip (in)	0.250	Design Thickness (in)	0.0200
Standard Coating	G40	Minimum Thickness (in)	0.0190
Weight (lb/ft)	0.471	Gauge EQ	20

### Section Properties

Cross Sectional Area (A)	0.138 in <sup>2</sup>
Moment of Inertia (Ix)	0.331 in <sup>4</sup>
Radius of Gyration (Rx)	1.548 in
Gross Moment of Inertia (Iy)	0.024 in <sup>4</sup>
Gross Radius of Gyration (Ry)	0.416 in

### Effective Section Properties

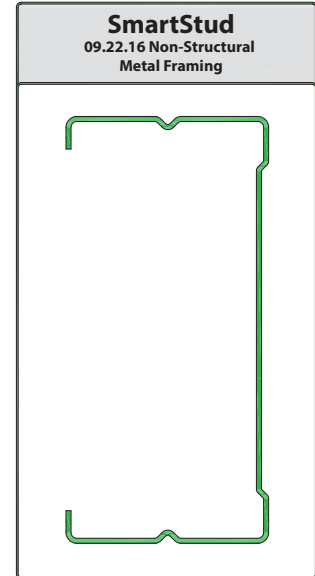
Moment of Inertia for Deflection (Ixe)	0.301 in <sup>4</sup>
Section Modulus (Sxe)	0.121 in <sup>3</sup>
Allowable Bending Moment (Ma)	3.024 in-k

### Torsional Properties

St. Venant Torsion Constant (Jx1000)	0.0181 in <sup>4</sup>
Warping Constant (Cw)	0.080 in <sup>6</sup>
Distance from Shear Center to Neutral Axis (Xo)	-0.080 in
Radii of Gyration (Ro)	1.789 in
Torsional Flexural Constant (Beta)	0.802
Unbraced Length (Lu)	23.5 in

### Limiting Wall Heights - Composite

Spacing <small>4" SmartStud20</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"	23'-6"	18'-11"	16'-5"	20'-4"	16'-4"	14'-4"	18'-3"	14'-11"	12'-6"
16"	20'-11"	16'-10"	14'-7"	17'-8"	14'-7"	12'-9"	16'-6"	13'-6"	11'-8"
24"	18'-2"	14'-8"	12'-9"	15'-1"	12'-11"	11'-2"	13'-4"	11'-10"	10'-2"



### 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