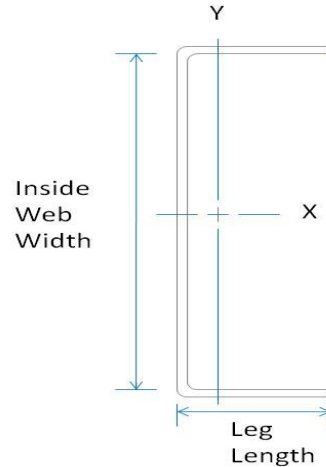


**Member Designator**    **400PT250-18**  
 Coating                      CP40, G40

## Physical Properties

Design Thickness            0.019 in  
 Mil                              18mil  
 Gauge                         20 Gauge  
 Web Width                    4.00 in  
 Flange Width                2.50 in  
 Yield Strength                50 ksi



## Gross Properties

| Area<br>(in <sup>2</sup> ) | Weight<br>(lb/ft) | I <sub>x</sub><br>(in <sup>4</sup> ) | R <sub>x</sub><br>(in) | I <sub>y</sub><br>(in <sup>4</sup> ) | R <sub>y</sub><br>(in) |
|----------------------------|-------------------|--------------------------------------|------------------------|--------------------------------------|------------------------|
| 0.171                      | 0.58              | 0.492                                | 1.697                  | 0.114                                | 0.818                  |

## Effective Properties

| A <sub>e</sub><br>(in <sup>2</sup> ) | I <sub>x</sub><br>(in <sup>4</sup> ) | S <sub>x</sub><br>(in <sup>3</sup> ) | Ma<br>(in-lbs) | Va <sub>g</sub><br>(lb) |
|--------------------------------------|--------------------------------------|--------------------------------------|----------------|-------------------------|
| 0.029                                | 0.239                                | 0.055                                | 1661           | 154                     |

## Torsional Properties

| J <sub>x1000</sub><br>(in <sup>2</sup> ) | C <sub>w</sub><br>(in <sup>4</sup> ) | X <sub>o</sub><br>(in <sup>3</sup> ) | R <sub>o</sub><br>(in-lbs) | β    |
|--|--------------------------------------|--------------------------------------|----------------------------|------|
| 0.02057                                  | 0.331                                | -1.669                               | 2.517                      | 0.56 |

## 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.