

## ProTRAK®

## 400PDT200-18

### Product Description

4" ProTrak®20 (18mil) 2" leg  
G40

### Physical Properties

Design Thickness (in)	0.019
Minimum Thickness (in)	0.01805
Web Width (in)	4
Flange Width (in)	2
Yield Strength (ksi)	50



### Gross Section Properties

Cross Sectional Area (A)	0.152
Moment of Inertia (Ix)	0.414
Radius of Gyration (Rx)	1.651
Gross Moment of Inertia (Iy)	0.063
Gross Radium of Gyration (Ry)	0.642

### Effective Section Properties

Effective Area (Ae)	0.029
Moment of Inertia for deflection (Ixe)	0.23
Section Modulus (Sxe)	0.055
Allowable Bending moment (Ma)	1661
Allowable shear force in web (U)(Vag)	154

### Torsional Properties

St. Venant torsion constant (J x 1000)	0.01828
Warping constant (Cw)	0.181
Distance from shear center to neutral axis (Xo)	-1.238
Radii of gyration (Ro)	2.161
Torsional flexural constant (Beta)	0.672

### ASTM & Code Standards

- AISI S100-07 & S220-11
- Meets or exceeds ASTM C645 & C754
- ASTM E119, E72, & E90
- ATI CCRR-0207
- LA RR 26019

### Section Properties Table 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. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
4. For deflection calculations, use the effective moment of inertia.
5. Allowable moment includes cold-work of forming.
6. Allowable moment is taken as the lowest value based on load or distortional buckling. Distortional buckling strength is based on a k-phi = 0.

### Mill Steel Framing LEED Green Credits

- MR Credit 2** • ConstructionWaste Management – Mill Steel Framing steel framing is 100% recyclable
- MR Credit 4** • Recycled Content – Mill Steel Framing products contain no less than 25.5% post-consumer and 6.8% pre-consumer recycled content
- MR Credit 5** • Regional Materials – Mill Steel Framing has manufacturing facilities in Indiana, Alabama & Texas
- V4 MR Credits** • Building Product Disclosure and Optimization EPD (1 point)  
• Materials Ingredients (1 point) – Construction and Demolition Waste Management (1 point)

