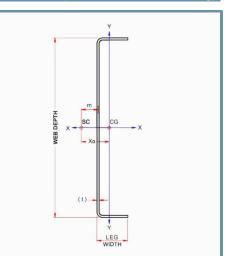


Technical Services: 888-437-3244, Engineering Services: 877-832-3206, Sales 800-543-7140

## 05.40.00 (Cold-Formed Metal Framing)

Coating: CP60 per AISI S240    Color Code: Orange      Geometric Properties      Web depth: 4.250 in Leg width: 2.00 in    Thickness: 68mils (14ga) Design Thickness: 0.0713 in Min. steel thickness: 0.0777 in    Yield strength, Fy: 50 ksi      Cross Section Properties of Full Section, Strong Axis    Gross Section Properties of Full Section, Strong Axis      Cross section al area (A)    0.569 in <sup>2</sup> Member weight per foot of length    1.94 lb/ft      Moment of inertia (Ix)    1.617 in <sup>4</sup> Section Modulus (Sx)    0.761 in <sup>3</sup> Radius of gyration (Rx)    1.685 in      Gross radius of gyration (Ry)    0.632 in      Effective Area (Ae)    0.357 in <sup>2</sup> Moment of inertia for deflection (Ix)    1.412 in <sup>4</sup> Section modulus (Sx)    0.549 in <sup>3</sup> Allowable bending moment (Ma)    16.43 in-k      Allowable bending moment (Ma)    16.43 in-k      Allowable shear force in web    5205 lb      St. Venant torsional constant (J x 1000)    0.965 in <sup>4</sup> Warping constant (Cw)    0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)    -1.209 in      Distance between shear center and web centerline (m)    0.725 in      Radii of gyration (Ro)    2.168 i	400T200-68 (50) 400 (4") structural tra	<mark>ksi, CP60)</mark> ack with T200 (2'') leg - 68mils (1	14ga)
Web depth: 4.250 in Leg width: 2.00 inThickness: 68mils (14ga) Design Thickness: 0.0713 in Min. steel thickness: 0.0677 inYield strength, Fy: 50 ksi *Fy with Cold-Work, Fya: 50.0 ksiGross Section Properties of Full Section, Strong Axis0.569 in2Cross sectional area (A)0.569 in2Member weight per foot of length1.94 lb/ftMoment of inertia (Ix)1.617 in4Section Modulus (Sx)0.761 in3Radius of gyration (Rx)1.685 inGross radius of gyration (Ry)0.632 inEffective Area (Ae)0.357 in2Moment of inertia for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadiu of gyration (Ro)2.168 in	Coating: CP60 per AISI S240		Color Code: Orange
Leg width: 2.00 inDesign Thickness: 0.0713 in Min. steel thickness: 0.0677 in*Fy with Cold-Work, Fya: 50.0 ksiGross Section Properties of Full Section, Strong AxisCross sectional area (A)0.569 in²Member weight per foot of length1.94 lb/ftMoment of inertia (Ix)1.617 in4Section Modulus (Sx)0.761 in³Radius of gyration (Rx)1.685 inGross radius of gyration (Ry)0.632 inEffective Area (Ae)0.357 in²Moment of inertia for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in³Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center and web centerline (m)0.725 inRadiu of gyration (Ro)2.168 in	<b>Geometric Proper</b>	rties	
Cross sectional area (A)0.569 in²Member weight per foot of length1.94 lb/ftMoment of inertia (Ix)1.617 in4Section Modulus (Sx)0.761 in3Radius of gyration (Rx)1.685 inGross moment of inerita (Iy)0.227 in4Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in²Moment of inerita for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in		Design Thickness: 0.0713 in	*Fy with Cold-Work, Fya: 50.0 ksi
Member weight per foot of length1.94 lb/ftMoment of inertia (lx)1.617 in4Section Modulus (Sx)0.761in3Radius of gyration (Rx)1.685 inGross moment of inerita (ly)0.227 in4Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in2Moment of inertia for deflection (lx)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Gross Section Properties of Full Section, Strong Axis		
Moment of inertia (lx)1.617 in4Section Modulus (Sx)0.761in3Radius of gyration (Rx)1.685 inGross moment of inerita (ly)0.227 in4Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in2Moment of inerita for deflection (lx)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Cross sectional area (A)		0.569 in <sup>2</sup>
Section Modulus (Sx)0.761in <sup>3</sup> Radius of gyration (Rx)1.685 inGross moment of inerita (ly)0.227 in <sup>4</sup> Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in <sup>2</sup> Moment of inertia for deflection (lx)1.412 in <sup>4</sup> Section modulus (Sx)0.549 in <sup>3</sup> Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in <sup>4</sup> Warping constant (Cw)0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Member weight per foot of length		1.94 lb/ft
Radius of gyration (Rx)1.685 inGross moment of inerita (ly)0.227 in4Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in2Moment of inertia for deflection (lx)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Moment of inertia (Ix)		1.617 in <sup>4</sup>
Gross moment of inerita (ly)0.227 in4Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in2Moment of inertia for deflection (lx)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Section Modulus (Sx)		0.761in <sup>3</sup>
Gross radius of gyration (Ry)0.632 inEffective Section Properties, Strong AxisEffective Area (Ae)0.357 in²Moment of inertia for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in³Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Radius of gyration (Rx)		1.685 in
Effective Section Properties, Strong AxisEffective Area (Ae)0.357 in²Moment of inertia for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in³Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Gross moment of inerita (ly)		0.227 in <sup>4</sup>
Effective Area (Ae)0.357 in²Moment of inertia for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Gross radius of gyration (Ry)		0.632 in
Moment of inertia for deflection (Ix)1.412 in4Section modulus (Sx)0.549 in3Allowable bending moment (Ma)16.43 in-kAllowable shear force in web5205 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Effective Section Properties, Strong Axis		
Section modulus (Sx)    0.549 in <sup>3</sup> Allowable bending moment (Ma)    16.43 in-k      Allowable shear force in web    5205 lb      Torsional Properties      St. Venant torsional constant (J x 1000)    0.965 in <sup>4</sup> Warping constant (Cw)    0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)    -1.209 in      Distance between shear center and web centerline (m)    0.725 in      Radii of gyration (Ro)    2.168 in	Effective Area (Ae)		0.357 in <sup>2</sup>
Allowable bending moment (Ma)    16.43 in-k      Allowable shear force in web    5205 lb      Torsional Properties      St. Venant torsional constant (J x 1000)    0.965 in <sup>4</sup> Warping constant (Cw)    0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)    -1.209 in      Distance between shear center and web centerline (m)    0.725 in      Radii of gyration (Ro)    2.168 in	Moment of inertia for deflection (lx)		1.412 in <sup>4</sup>
Allowable shear force in web    5205 lb      Torsional Properties      St. Venant torsional constant (J x 1000)    0.965 in <sup>4</sup> Warping constant (Cw)    0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)    -1.209 in      Distance between shear center and web centerline (m)    0.725 in      Radii of gyration (Ro)    2.168 in	Section modulus (Sx)		0.549 in <sup>3</sup>
Torsional PropertiesSt. Venant torsional constant (J x 1000)0.965 in <sup>4</sup> Warping constant (Cw)0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Allowable bending moment (Ma)		16.43 in-k
St. Venant torsional constant (J x 1000)0.965 in4Warping constant (Cw)0.702 in6Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Allowable shear force in web		5205 lb
Warping constant (Cw)0.702 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in		Torsional Propert	ies
Distance from shear center to neutral axis (Xo)-1.209 inDistance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	St. Venant torsional constant (J x 1000)		0.965 in <sup>4</sup>
Distance between shear center and web centerline (m)0.725 inRadii of gyration (Ro)2.168 in	Warping constant (Cw)		0.702 in <sup>6</sup>
Radii of gyration (Ro)  2.168 in	Distance from shear center to neutral axis (Xo)		-1.209 in
	Distance between shear center and web centerline (m)		0.725 in
Torsional flexural constant (Beta) 0.689	Radii of gyration (Ro)		2.168 in
	Torsional flexural constant (Beta)		0.689



Load-bearing walls

- Curtain walls
- Tall interior walls
- · Floor & ceiling joists
- Trusses



• Effective properties incorporate the strength increase from the cold work of forming.

## **Code Approvals & Performance Standards**

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S240-20 North American Standard for Cold-Formed Steel Structural Framing
- (Compliant to ASTM C955, but IBC replaced with AISI S200 in IBC 2015, AISI S240 in IBC 2018)
- Section A3 Material Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
- Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
- · Section A5 Products Thickness, shapes, tolerances, identification
- Section C Installation (Referencing ASTM C1007)
- AISI S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  Section F3 Delivery, Handling and Storage of Materials
- IBC 2021 International Building Code
- ICC-ES ESR-1166P Structural Studs and Track
- ESR-1166P LABC and LARC Supplement
- ESR-1166P Catalog ClarkDietrich Structural Technical Design Guide (6/22/20)
- Intertek CCRR-0206 Structural Studs and Track
- SFIA Stud Code Compliance Certification Program
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

**Sustainability Credits** For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.

- LEED v4.1 MR Credit: Environmental Product Declarations: EPD (1 point) - Sourcing of Raw Materials (up to 2 points) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points)
- LEED v4 MR Credit: Building Product Disclosure and Optimization: EPD (1 point) -Sourcing of Raw Materials (1 point) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points) -Innovation Credit (up to 2 points).