

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

#### 05.40.00 (Cold-Formed Metal Framing)

# 1000T150-97 (50ksi, CP60)

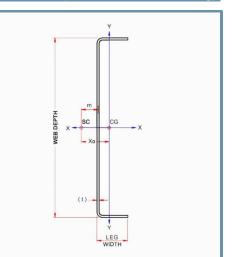
#### 1000 (10") structural track with T150 (1-1/2") leg - 97mils (12ga)

Coating: CP60 per AISI S240

## Geometric Properties

Color Code: Red

Web depth: 10.356 in Leg width: 1.50 inThickness: 97mils (12ga) Design Thickness: 0.1017 in Min. steel thickness: 0.0966 inYield strength, Fy: 50 ksi "Fy with Cold-Work, Fya: 50.0 ksiGross Section Properties of Full Section-Work, Fya: 50.0 ksiCross sectional area (A)1.320 in²Member weight per foot of length4.49 lb/ftMoment of inertia (Ix)16.420 in⁴Section Modulus (Sx)3.171 in³Radius of gyration (Rx)3.527 inGross moment of inerita (Iy)0.172 in⁴Gross radius of gyration (Ry)0.361 inEffective Section Properties, StromyMoment of inertia for deflection (Ix)16.414 in⁴Section modulus (Sx)2.903 in³Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbSt. Venant torsional constant (J x 1000)4.550 in⁴Warping constant (Cw)3.557 in⁶Distance from shear center to neutral axis (Xo)0.495 inDistance between shear center and web centerline (m)3.320 inAdii of gyration (Ro)3.580 inOrisional flexural constant (Beta)0.981				
Cross sectional area (A)1.320 in²Member weight per foot of length4.49 lb/ftMoment of inertia (lx)16.420 in4Section Modulus (Sx)3.171 in3Radius of gyration (Rx)3.527 inGross moment of inerita (ly)0.172 in4Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in²Moment of inerita for deflection (lx)16.414 in4Section modulus (Sx)2.903 in3Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in		Design Thickness: 0.1017 in	*Fy with Cold-Work, Fya: 50.0 ksi	
Member weight per foot of length4.49 lb/ftMoment of inertia (lx)16.420 in4Section Modulus (Sx)3.171 in3Radius of gyration (Rx)3.527 inGross moment of inerita (ly)0.172 in4Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in2Moment of inerita for deflection (lx)16.414 in4Section modulus (Sx)2.903 in3Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Gross Section Properties of Full Section, Strong Axis			
Moment of inertia (lx)16.420 in4Section Modulus (Sx)3.171 in3Radius of gyration (Rx)3.527 inGross moment of inerita (ly)0.172 in4Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in2Moment of inerita for deflection (lx)16.414 in4Section modulus (Sx)2.903 in3Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Cross sectional area (A)		1.320 in <sup>2</sup>	
Section Modulus (Sx)3.171in <sup>3</sup> Radius of gyration (Rx)3.527 inGross moment of inerita (ly)0.172 in <sup>4</sup> Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in <sup>2</sup> Moment of inerita for deflection (lx)16.414 in <sup>4</sup> Section modulus (Sx)2.903 in <sup>3</sup> Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in <sup>4</sup> Warping constant (Cw)3.557 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Member weight per foot of length		4.49 lb/ft	
Radius of gyration (Rx)3.527 inGross moment of inerita (ly)0.172 in4Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in2Moment of inertia for deflection (lx)16.414 in4Section modulus (Sx)2.903 in3Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Moment of inertia (Ix)		16.420 in <sup>4</sup>	
Gross moment of inerita (ly)0.172 in4Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in2Moment of inertia for deflection (lx)16.414 in4Section modulus (Sx)2.903 in3Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Section Modulus (Sx)		3.171in <sup>3</sup>	
Gross radius of gyration (Ry)0.361 inEffective Section Properties, Strong AxisEffective Area (Ae)0.721 in²Moment of inertia for deflection (Ix)16.414 in⁴Section modulus (Sx)2.903 in³Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in⁴Warping constant (Cw)3.557 in⁶Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Radius of gyration (Rx)		3.527 in	
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Effective Area (Ae)0.721 in²Moment of inertia for deflection (Ix)16.414 in4Section modulus (Sx)2.903 in³Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Gross radius of gyration (Ry)		0.361 in	
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Section modulus (Sx)2.903 in <sup>3</sup> Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in <sup>4</sup> Warping constant (Cw)3.557 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Effective Area (Ae)		0.721 in <sup>2</sup>	
Allowable bending moment (Ma)86.90 in-kAllowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in <sup>4</sup> Warping constant (Cw)3.557 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Moment of inertia for deflection (Ix)		16.414 in <sup>4</sup>	
Allowable shear force in web9507 lbTorsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in <sup>4</sup> Warping constant (Cw)3.557 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Section modulus (Sx)		2.903 in <sup>3</sup>	
Torsional PropertiesSt. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Allowable bending moment (Ma)		86.90 in-k	
St. Venant torsional constant (J x 1000)4.550 in4Warping constant (Cw)3.557 in6Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Allowable shear force in web		9507 lb	
Warping constant (Cw)3.557 in <sup>6</sup> Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	•			
Distance from shear center to neutral axis (Xo)-0.495 inDistance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	St. Venant torsional constant (J x 1000)			
Distance between shear center and web centerline (m)0.332 inRadii of gyration (Ro)3.580 in	Warping constant (Cw)		3.557 in <sup>6</sup>	
Radii of gyration (Ro) 3.580 in	Distance from shear center to neutral axis (Xo)		-0.495 in	
	Distance between shear center and web centerline (m)		0.332 in	
Torsional flexural constant (Beta) 0.981	Radii of gyration (Ro)		3.580 in	
	Torsional flexural constant (Beta)		0.981	



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)
- 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).