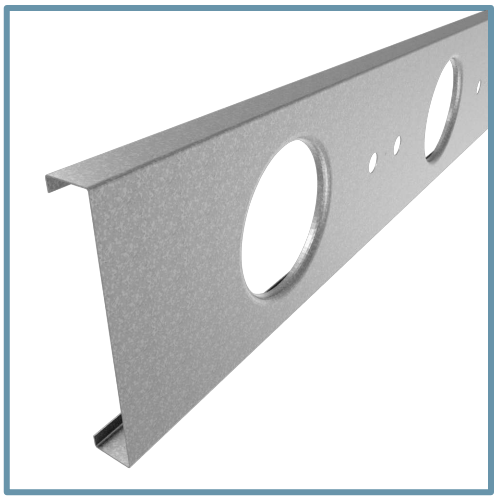
12" TradeReady® Floor Joist (1200TDW24-200-97)

Floor Joist with extruded holes



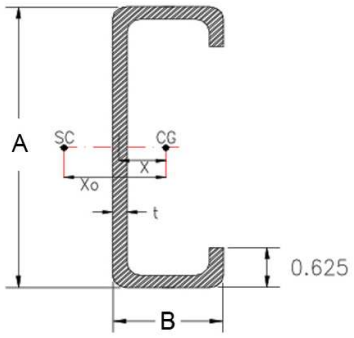
Geometric Properties

Web depth (A): 12.00 in
Flange width (B): 2.00 in
Extruded hole spacing: 24 in
Coating: CP60

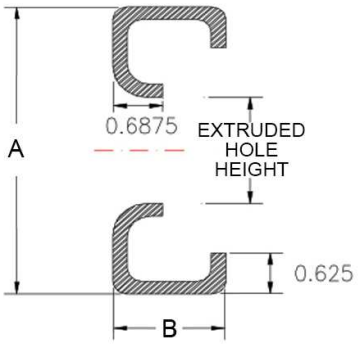
Extruded hole shape: Circular
Extruded hole Height: 8"
Extruded hole width: 8"

Design thickness: 0.1017 in
Min. steel thickness: 0.0966 in
Yield stress, Fy: 50 ksi

Gross Section Properties of Full Section	
Cross sectional area	1.677 in^2
Member weight per foot of length	5.503 lbs/ft
Moment of inertia (Ix)	30.386 in^4
Radius of gyration (Rx)	4.257 in
Gross moment of inertia (Iy)	0.634 in^4
Gross radius of gyration (Ry)	0.615 in
Net Section Properties (at Extruded Hole)	
Cross sectional area (A net)	0.974 in^2
Moment of inertia (Ix net)	27.868 in^4
Radius of gyration (Rx net)	5.349 in
Net moment of inertia (Iy net)	0.466 in^4
Net radius of gyration (Ry net)	0.692 in
Allowable Capacities (Fully Braced)	
Local Moment at Full Section (Mal-full)	140.02 in-kips
Distortional Moment at Full Section (Mad-full)	124.65 in-kips
Local Moment at Knockout (Mal-kno)	139.06 in-kips
Distortional Moment at Knockout (Mad-kno)	108.67 in-kips
Shear at Knockout (Va-kno)	4332 lbs
Shear at Full Section (Va-full)	8145 lbs
Torsional Section Properties	
Distance between centroid and shear-center (Xo)	-0.987 in
Distance between centroid and web-centerline (X)	0.331 in
St. Venant torsional constant (J*1000)	5.783 in^4
Torsional warping constant (Cw)	19.150 in^6
Radii of gyration (Ro)	4.415 in
Torsional flexural constant (Beta)	0.950
Unbraced Length (Lu)	38.1 in
Effective Section Properties	
Moment of inertia (Ixe)	30.071 in^4
Section modulus (Sxe)	4.677 in^3



GROSS SECTION



NET SECTION

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
  - Direct Strength Method (DSM) utilized for calculating flexural strength
- AISI S240-15 North American Standard for Cold-Formed Steel Structural Framing
  - 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
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories