

7-1/4" TradeReady® Floor Joist (725TDJ24-175-54)

Floor Joist with extruded holes

Geometric Properties

Web depth (A): 7.25 in

Flange width (B): 1.75 in

Extruded hole spacing: 24 in

Coating: CP60

Extruded hole shape: Ellipse

Extruded hole Height: 4.25"

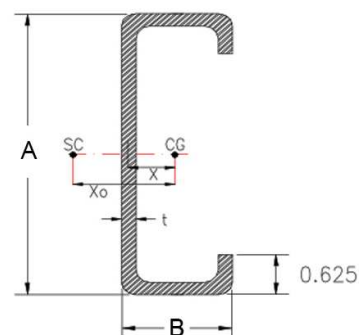
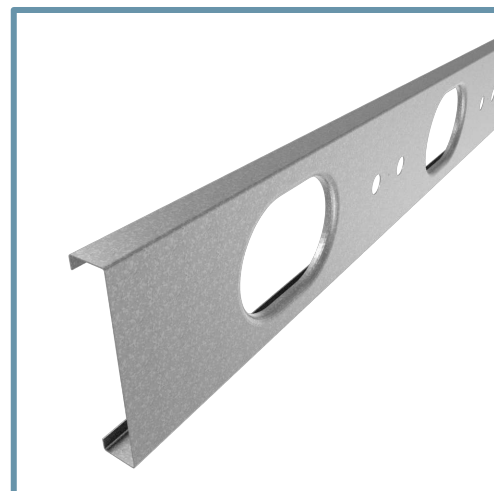
Extruded hole width: 7"

Design thickness: 0.0566 in

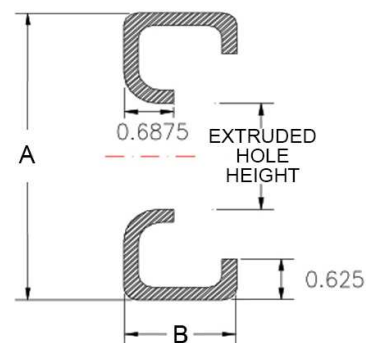
Min. steel thickness: 0.0538 in

Yield stress, Fy: 50 ksi

Gross Section Properties of Full Section	
Cross sectional area	0.655 in ²
Member weight per foot of length	2.146 lbs/ft
Moment of inertia (Ix)	4.825 in ⁴
Radius of gyration (Rx)	2.714 in
Gross moment of inertia (Iy)	0.251 in ⁴
Gross radius of gyration (Ry)	0.620 in
Net Section Properties (at Extruded Hole)	
Cross sectional area (A net)	0.483 in ²
Moment of inertia (Ix net)	4.782 in ⁴
Radius of gyration (Rx net)	3.145 in
Net moment of inertia (Iy net)	0.194 in ⁴
Net radius of gyration (Ry net)	0.633 in
Allowable Capacities (Fully Braced)	
Local Moment at Full Section (Mal-full)	34.44 in-kips
Distortional Moment at Full Section (Mad-full)	33.70 in-kips
Local Moment at Knockout (Mal-kno)	39.50 in-kips
Distortional Moment at Knockout (Mad-kno)	31.67 in-kips
Shear at Knockout (Va-kno)	1387 lbs
Shear at Full Section (Va-full)	2316 lbs
Torsional Section Properties	
Distance between centroid and shear-center (Xo)	-1.125 in
Distance between centroid and web-centerline (X)	0.408 in
St. Venant torsional constant (J*1000)	0.700 in ⁴
Torsional warping constant (Cw)	2.758 in ⁶
Radii of gyration (Ro)	3.003 in
Torsional flexural constant (Beta)	0.860
Unbraced Length (Lu)	36.3 in
Effective Section Properties	
Moment of inertia (Ixe)	4.752 in ⁴
Section modulus (Sxe)	1.150 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