

## Redheader Lite 400RHL250-33 (33ksi, CP60) - As Header

4" Header stud with 2-1/2" flange for interior openings - Unpunched

### Geometric Properties

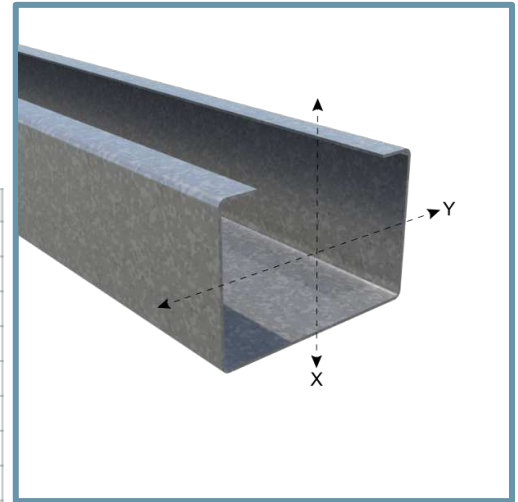
**Web depth:** 4.000 in      **Flange width:** 2.500 in      **Return lip:** 0.625 in  
**Thickness:** 33mils (20ga)      **Design Thickness:** 0.0346 in      **Min. steel thickness:** 0.0329 in  
**Yield strength, Fy:** 33ksi      **Coating:** CP60

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.344 in <sup>2</sup>
Member weight per foot of length	1.17 lb/ft
Moment of inertia (Ix)	0.948 in <sup>4</sup>
Section Modulus (Sx)	0.474in <sup>3</sup>
Radius of gyration (Rx)	1.659 in
Moment of inertia (Iy)	0.310 in <sup>4</sup>
Section modulus (Sy)	0.341 <sup>3</sup>
Gross radius of gyration (Ry)	0.949 in
Effective Section Properties	
Cross sectional area (Ae)	0.222 in <sup>2</sup>
Moment of Inertia about x-axis (Ixe)	0.905 in <sup>4</sup>
Moment of Inertia about y-axis (Iye)	0.310 in <sup>4</sup>
Section Modulus about x-axis (Sxe)	0.392 in <sup>3</sup>
Section Modulus about y-axis (Sye)	0.188 in <sup>3</sup>
Allowable local moment capacity about x-axis (Max-local)	7.75 (in-k)
Allowable local moment capacity about y-axis (May-local)	3.72 (in-k)
Allowable distortional moment capacity about x-axis (Max-dist)	7.32 (in-k)
Allowable distortional moment capacity about y-axis (May-dist)	3.01 (in-k)
Shear strength capacity of section about x-axis (Vax)	976 lbs
Shear strength capacity of section about y-axis (Vay)	772 lbs
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.137 in <sup>4</sup>
Warping constant (Cw)	1.165 in <sup>6</sup>
Distance from shear center to the centroid along the principal axis (Xo)	-2.151 in
Distance from shear center to web centerline (m)	1.259 in
Radii of gyration (Ro)	2.882 in
Torsional flexural constant (Beta)	0.441

- Section properties are based on using AIS S100-16/S2-20.
- Moment and Shear capacities about Y-axis listed in unperforated effective section can be used for perforated effective section properties.
- Axial load capacities are based on fully-brace condition.
- **Flange-Width to thickness ration exceeds 60.**

### 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 C Installation - (Referencing ASTM C1007)
- [SDS For ASTM A1003 Steel Framing Products](#) For Interior Framing, Exterior Framing and Clips/Accessories



#### Features:

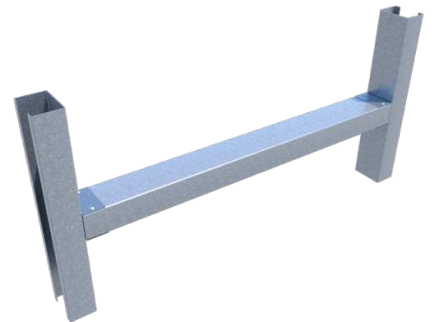
- Replaces lay-in and boxed headers.
- Reduces material pieces, weight & screws.
- Reduces installation time.

#### Header Brackets:

RedHeader Lite requires the use of the RHLC Header Bracket or EasyClip S-Series clip. Refer to [RedHeader Lite Technical Data](#) to determine the applicable clip for your condition. All headers brackets require the RedHeader Lite to be installed leg up.

#### Ordering information:

When using the RHLC clip, header lengths should be ordered 1/2" shorter to fit inside RHLC Header Brackets (Header length = inside of jamb to inside of jamb - 1/2").



## RedHeader Lite Jamb Stud 400RHL250-33 (33ksi, CP60) - As Jamb

### 4" Jamb stud with 2-1/2" for interior openings - Unpunched

#### Geometric Properties

<b>Web depth:</b> 4.000 in	<b>Flange width:</b> 2.500 in	<b>Return lip:</b> 0.625 in
<b>Thickness:</b> 33mils (20ga)	<b>Design Thickness:</b> 0.0346 in	<b>Min. steel thickness:</b> 0.0329 in
<b>Yield strength, Fy:</b> 33ksi	<b>Coating:</b> CP60	

#### Gross Section Properties of Full Section, Strong Axis

Cross sectional area (A)	0.344 in <sup>2</sup>
Member weight per foot of length	1.17 lb/ft
Moment of inertia (Ix)	0.948 in <sup>4</sup>
Section Modulus (Sx)	0.474in <sup>3</sup>
Radius of gyration (Rx)	1.659 in
Moment of inertia (Iy)	0.310 in <sup>4</sup>
Section modulus (Sy)	0.341 <sup>3</sup>
Gross radius of gyration (Ry)	0.949 in

#### Effective Section Properties

Cross sectional area (Ae)	0.201 in <sup>2</sup>
Moment of Inertia about x-axis (Ixe)	0.905 in <sup>4</sup>
Section Modulus about x-axis (Sxe)	0.352 in <sup>3</sup>
Allowable local moment capacity about x-axis (Max-local)	6.95 (in-k)
Allowable distortional moment capacity about x-axis (Max-dist)	7.10 (in-k)
Shear strength capacity of section about x-axis (Vax)	595 lbs
Shear strength capacity of section about y-axis (Vay)	lbs

#### Torsional Properties

St. Venant torsional constant (J x 1000)	0.137 in <sup>4</sup>
Warping constant (Cw)	1.165 in <sup>6</sup>
Distance from shear center to web centerline (m)	1.259 in
Radius of gyration (Ro)	2.882 in
Torsional flexural constant (Beta)	0.441
Maximum unbraced length (Lu)	63.8 in

#### Axial Load

Allowable axial load for section	3.7 kips
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- Section properties are based on using AIS S100-16/S2-20.
- Effective section properties are based on a perforated profile.
- Moment and Shear capacities about Y-axis listed in unperforated effective section can be used for perforated effective section properties.
- Axial load capacities are based on fully-brace condition.
- **Flange-Width to thickness ratio exceeds 60.**

#### 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
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  - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
  - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
  - Section C Installation - (Referencing ASTM C1007)
- [SDS For ASTM A1003 Steel Framing Products](#) For Interior Framing, Exterior Framing and Clips/Accessories



#### Features:

- Replaces built-up jambs.
- Reduces material pieces, weight & screws.
- Reduces installation time.

