**CLARKDIETRICH®**
**9050 Centre Pointe Drive, Suite 400**
**West Chester, Ohio 45069**
**(888) 437-3244**
**www.clarkdietrich.com**

# CLARKDIETRICH HDS® FRAMING SYSTEM AND REDHEADER PRO™

**CSI Section:**
**05 40 00 Cold-Formed Metal Framing**

## 1.0 RECOGNITION

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems recognized in this report have been evaluated for use as a system of cold-formed steel framing components. The structural performance properties of the ClarkDietrich header systems comply with the intent of the provisions of the following codes and regulations:

- 2021 and 2018 International Building Code® (IBC)
- 2021 and 2018 International Residential Code® (IRC)
- 2022 California Building Code® (CBC), includes Department of Health Care Access and Information ((HCAI) and Division of State Architect (DSA)– Attached supplement
- 2023 City of Los Angeles Building Code (LABC) – Attached supplement
- 2023 Florida Building Code, Building (FBC, Building)- Attached supplement

## 2.0 LIMITATIONS

Use of the ClarkDietrich's HDS® Framing System, RedHeader Pro™, and the HDSC Header Bracket used in both systems, described in this report is subject to the following limitations:

**2.1** Products shall be manufactured, identified, and installed in accordance with this report. A copy of the approved plans shall be available at the jobsite at all times during installation. Where conflicts occur, the more restrictive shall govern.

**2.2** Complete plans and design calculations demonstrating that applied loads are less than the loads for products not detailed in this report shall be submitted to the building official for approval. The calculations and details shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

**2.3** Spacing of the cripple studs attached to the HDS® Framing System and RedHeader Pro™ systems shall be based on a design in accordance with the applicable code and shall not exceed 24 inches (610 mm).

**2.4** The uncoated minimum base-metal thickness of cold-formed steel framing members, as delivered to the jobsite, shall be at least 95 percent of the design thickness as presented in the tables of this report.

**2.5** The ClarkDietrich HDS® Framing System RedHeader Pro™ and HDSC Header Bracket recognized in this report are produced by ClarkDietrich in the locations listed in Table 6.

## 3.0 PRODUCT USE

**3.1 General:** ClarkDietrich's HDS® Framing System and RedHeader Pro™ system provide transverse (out-of-plane) and vertical load support for cold-formed steel framing of wall openings, such as door and window openings, in both interior and exterior walls. Design and installation shall comply with the applicable requirement in IBC Section 2211 and this report. The systems comply with the requirements in IBC Section 2211.1.

### 3.2 Design

**3.2.1 General:** the HDS® Framing System or RedHeader Pro™ design and section properties in this report have been evaluated in accordance with the North American Specification for Design of Cold-Formed Steel Structural Members (AISI-S100).

**3.2.2 HDS® Framing System:** The HDS® Framing System design and section properties are defined in Table 1 of this report. The allowable design values as indicated in Table 1 are for use with Allowable Strength Design (ASD). The design of the flexural members shall address combined stresses in accordance with AISI S100 as applicable.

**3.2.3 RedHeader Pro™:** The RedHeader Pro™ system design and section properties are defined in Table 2 of this report. The allowable design values as indicated in Table 2 are for use with Allowable Strength Design (ASD). The design of the flexural members shall address combined stresses in accordance with AISI S100, as applicable.

**3.2.4 HDSC Header Bracket (Clip):** The load imposed by either the HDS® Framing System or RedHeader Pro™ assembly on the HDSC Clip shall not exceed the allowable load capacities shown in Tables 3 through 5 in this report.

**3.2.5 Connection Design:** The scope of this report is limited to the connection of the HDS® Framing System and RedHeader Pro™ system to the HDSC Clip. The number of fasteners are described in Tables 3 through 5 of this report. All other connections referenced in this report shall be completed in accordance with Section 2.2 of this report.

**3.2.6 ASD Load Combinations:** When using the ASD loads in the tables of this report in conjunction with the basic ASD Load Combinations in Section 1605.2 of the 2021 IBC or Section 1605.3.2 of the 2018 IBC that include wind or seismic loads, the combinations shall not be reduced by a factor of 0.75 and strength shall not be increased by $33^{1}/_{3}$ percent. When using "component and cladding loads", as defined by ASCE 7 and in accordance with Section 1604.3 of the IBC, use of the 0.42 factor under the IBC is allowed for determining deflections from exterior wind design.

**3.3 Installation:** Installation shall be in accordance with the codes in Section 1.0 of this report, this report in general, and the approved plans and details.

**3.3.1 Installation General:** The HDS® Framing System and RedHeader Pro™ system are assembled by first installing the jamb studs of each system to the top and bottom track. The HDSC clip is then attached at the elevation required for both the header and the sill connections. The header, jamb, and sill are then connected to the HDSC clip. Cold-formed steel cripple studs are then placed as set forth in the approved wall schedule, but not to exceed 24-inches (610 mm) on center. The cripple studs shall be fastened to the header and the sill via a standard track section that is fastened to the header or sill respectively. See Figures 1 and 2 for general assembly and connections of the HDS® Framing System and RedHeader Pro™ system, respectively.

**3.3.2 Attachment of HDS® Framing System Jamb Stud and RedHeader Pro™ Jamb Stud to Steel Runner Tracks:** Installation of the HDS® Framing System Jamb Stud shall be in full contact and fastened to the bottom track in accordance with the connection design as described in Section 3.2.5 of this report. The top connection of the jamb stud shall be connected to the top track or support structure. The jambs are to be installed vertically and the web (flat) side of each jamb shall face inwards towards the opening.

**3.3.3 Attachment of HDSC Clip to HDS® Framing System and RedHeader Pro™ to Jamb Studs:** Installation of the HDSC clip to the jamb studs shall be in full contact with the stud. The web of the clip shall be attached to the web of the jamb member at the desired elevation. The clips shall be fastened to the jamb studs as detailed in Tables 3 through 5 of this report.

**3.3.4 Attachment of HDS® Framing System and RedHeader Pro™ Headers and Sills to HDSC Clip:** Installation of the header and sills shall be in full contact with the HDSC clip. The clips shall be fastened to the jamb studs as detailed in Tables 3 through 5 of this report.

**3.3.5 Attachment of HDS® Framing System and RedHeader Pro™ Track to Header and Sills:** Installation of the track to header and sills shall be in full contact with each member in order to accept cripple studs. Track shall be attached through the web of the track to the return flanges using #10-16 steel drill screws, in accordance with ASTM C1513, spaced at 24 inches (610 mm) on-center.

## 4.0 PRODUCT DESCRIPTION

**4.1 General:** The HDS® Framing System and RedHeader Pro™ are cold-formed steel header, sill, and jambs. Figure 1 and Figure 2 of this report provide examples of the systems. Both systems use a header and sill attached using mechanical connections to the jambs using the HDSC clip.

The HDS® Framing System, as illustrated in Figure 1 of this report, uses jambs, headers, and sills which are modified C-shaped members with returns. Part numbers and corresponding section properties are provided in Table 1 of this report.

The RedHeader Pro™, as illustrated in Figure 2 of this report, uses jambs, headers, and sills which are C-shaped members with returns. Part numbers and corresponding section properties are provided in Table 2 of this report.

Web holes or punchouts spacings must be equal to or greater than 24-inches (607 mm) on center. Web holes are 4 inches (102 mm) long and 1½ (38 mm) inches wide and are spaced no closer than 10 inches (254 mm) from the end of the jambs to the closest edge of the hole.

### 4.2 Materials

**4.2.1 HDS® Framing System:** The system members described in this report are cold-formed from galvanized steel coils produced to ASTM A1003 Grade 33, Type H (ST33H) and Grade 50, Type (ST50H). The thicknesses, as listed in Table 1 of this report, are the design thickness. The header and sills have a minimum CP60 galvanized coating designation in accordance with AISI S240 Section A4. The headers and sills are available in web widths of $3^{5}/_{8}$ inch (92 mm), 4 inch (102 mm), 5.5 inch (140 mm), 6 inch (152 mm) and 8 inch (203 mm).

**4.2.2 RedHeader Pro™:** The system members described in this report are cold-formed from galvanized steel coils produced to ASTM A1003 Grade 33, Type H (ST33H) and Grade 50, Type (ST50H). The thicknesses, as listed in Table 2 of this report, are the minimum design thickness. The header and sills have a minimum CP60 galvanized coating

designation in accordance with AISI S240 Section A4. The headers and sills are available in web widths of $3^5/_8$ inch (92 mm), 4 inch (102 mm), 6 inch (152 mm) and 8 inch (203 mm).

**4.2.3 HDSC Header Bracket. T**he HDSC bracket described in this report is cold-formed from galvanized steel coils produced to ASTM A1003 Grade 33, Type H (ST33H) and Grade 50, Type (ST50H). The minimum thicknesses and allowable loads are as listed in Table 3 through 5 of this report. The thicknesses listed are the minimum design thickness. The header and sills have a minimum CP60 galvanized coating designation in accordance with AISI S240 Section A4. The brackets are available in $3^1/_2$ inch (90 mm), $3^7/_8$ inch (98 mm), $5^7/_8$ inch (149 mm) and $7^7/_8$ inch (200 mm) sizes.

## 5.0 IDENTIFICATION

Each of ClarkDietrich's HDS® Framing System and RedHeader Pro™ components shall be identified as follows:

**5.1** A label shall be affixed on at least one of the following: product, packaging, installation instructions or descriptive literature.

**5.1.1** Each header component shall be identified with a label indicating the report holder's name, the name of the member (HDS® Framing System or RedHeader Pro™), the base-metal thickness (uncoated), the minimum yield strength, the galvanized coating designation, and the evaluation report number (ER-723). Spacing of identification shall not exceed 96 inches along the length of the member.

**5.1.2** Each HDSC Clip is identified with the name of the clip (HDSC), the base metal thickness (uncoated) in decimal units, the minimum yield strength and the coating grade, and the evaluation report number (ER-723)

The IAPMO Uniform Evaluation Service Mark of Conformity may also be used as shown below:

**IAPMO UES ER-723**

## 6.0 SUBSTANTIATING DATA

**6.1** Data in accordance with Acceptance Criteria for Cold-Formed Steel Framing Members (AC46), dated October 2019, editorially revised December 2020.

**6.2** Data in accordance with Acceptance Criteria for Connectors used with Cold-Formed Steel Structural Members (AC261), dated February 2019.

**6.3** Tests reports are from laboratories in compliance with ISO/IEC 17025.

## 7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on ClarkDietrich products to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.5 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

**For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org**

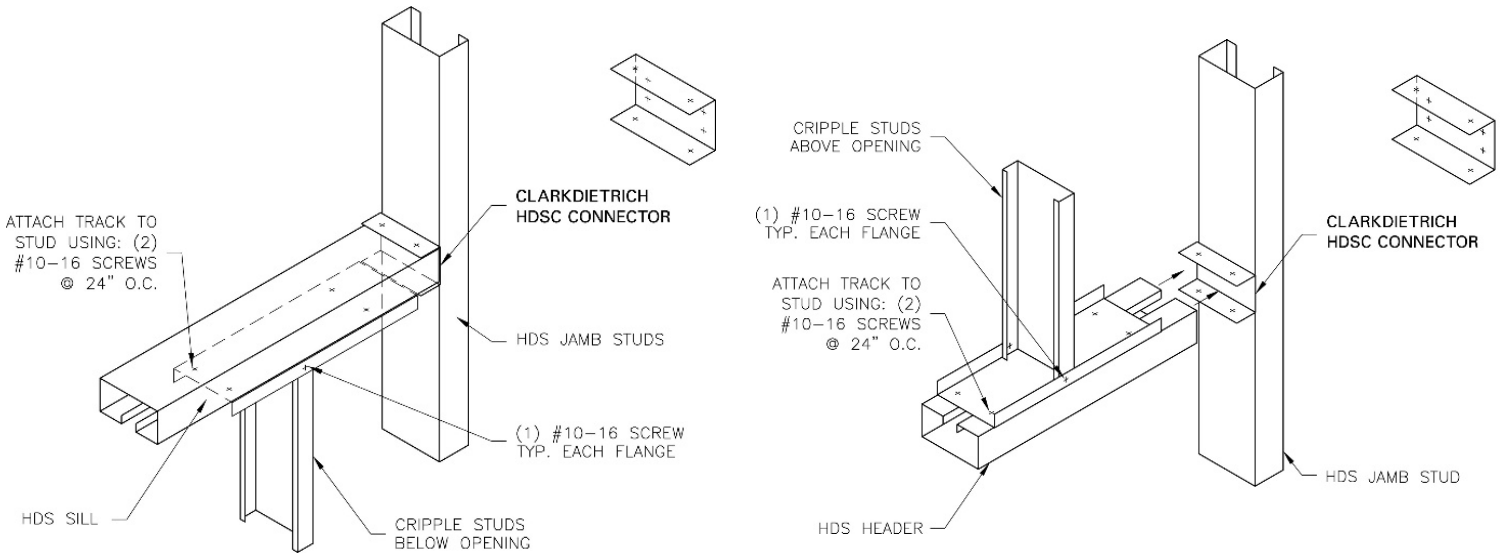


**FIGURE 1- HDS® Framing System**

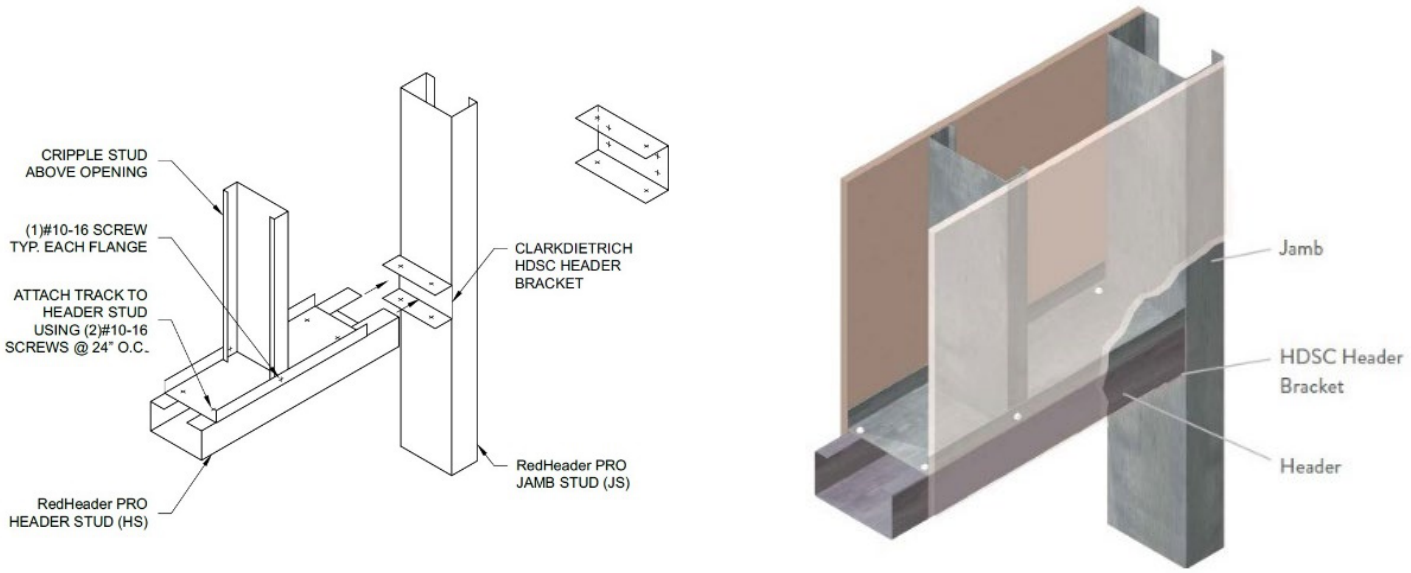


**FIGURE 2- RedHeader Pro™**

**TABLE 1: HDS® FRAMING SYSTEM SECTION PROPERTIES AND DESIGN VALUES**

| Designation | Web Size | Design Thickness, in (mils) | $F_y$, (ksi) | Gross Section Properties | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $A_g$ (in$^2$) | Weight (lbs/ft) | $I_x$ (in$^4$) | $S_x$ (in3) | $r_x$ (in) | $I_y$ (in$^4$) | $S_y$ (in3) | $r_y$ (in) |
| 362HDS-33 | 3-5/8 | 0.0346 (33) | 33 | 0.443 | 1.51 | 0.927 | 0.512 | 1.447 | 0.625 | 0.416 | 1.188 |
| 362HDS-43 | | 0.0451 (43) | 33 | 0.574 | 1.95 | 1.198 | 0.661 | 1.444 | 0.804 | 0.536 | 1.183 |
| 362HDS-54 | | 0.0566 (54) | 50 | 0.714 | 2.43 | 1.481 | 0.817 | 1.440 | 0.988 | 0.659 | 1.177 |
| 362HDS-68 | | 0.0713 (68) | 50 | 0.887 | 3.02 | 1.829 | 1.009 | 1.435 | 1.210 | 0.807 | 1.168 |
| 362HDS-97 | | 0.1017 (97) | 50 | 1.231 | 4.19 | 2.499 | 1.379 | 1.425 | 1.624 | 1.083 | 1.149 |
| 400HDS-33 | 4 | 0.0346 (33) | 33 | 0.456 | 1.55 | 1.167 | 0.584 | 1.600 | 0.650 | 0.433 | 1.194 |
| 400HDS-43 | | 0.0451 (43) | 33 | 0.591 | 2.01 | 1.508 | 0.754 | 1.597 | 0.837 | 0.558 | 1.190 |
| 400HDS-54 | | 0.0566 (54) | 50 | 0.735 | 2.50 | 1.866 | 0.933 | 1.593 | 1.029 | 0.686 | 1.183 |
| 400HDS-68 | | 0.0713 (68) | 50 | 0.914 | 3.11 | 2.306 | 1.153 | 1.588 | 1.260 | 0.840 | 1.174 |
| 400HDS-97 | | 0.1017 (97) | 50 | 1.269 | 4.32 | 3.158 | 1.579 | 1.577 | 1.692 | 1.128 | 1.155 |
| 550HDS-33 | 5-1/2 | 0.0346 (33) | 33 | 0.538 | 1.83 | 2.711 | 0.986 | 2.245 | 1.039 | 0.593 | 1.390 |
| 550HDS-43 | | 0.0451 (43) | 33 | 0.698 | 2.38 | 3.510 | 1.276 | 2.242 | 1.339 | 0.765 | 1.385 |
| 550HDS-54 | | 0.0566 (54) | 50 | 0.869 | 2.96 | 4.353 | 1.583 | 2.237 | 1.649 | 0.943 | 1.377 |
| 550HDS-68 | | 0.0713 (68) | 50 | 1.084 | 3.69 | 5.396 | 1.962 | 2.232 | 2.026 | 1.158 | 1.367 |
| 550HDS-97 | | 0.1017 (97) | 50 | 1.511 | 5.14 | 7.439 | 2.705 | 2.219 | 2.737 | 1.564 | 1.346 |
| 600HDS-33 | 6 | 0.0346 (33) | 33 | 0.607 | 2.07 | 3.016 | 1.005 | 2.229 | 0.986 | 0.657 | 1.275 |
| 600HDS-43 | | 0.0451 (43) | 33 | 0.788 | 2.68 | 3.907 | 1.302 | 2.226 | 1.272 | 0.848 | 1.270 |
| 600HDS-54 | | 0.0566 (54) | 50 | 0.983 | 3.34 | 4.851 | 1.617 | 2.222 | 1.571 | 1.048 | 1.265 |
| 600HDS-68 | | 0.0713 (68) | 50 | 1.226 | 4.17 | 6.021 | 2.007 | 2.216 | 1.937 | 1.292 | 1.257 |
| 600HDS-97 | | 0.1017 (97) | 50 | 1.714 | 5.83 | 8.327 | 2.776 | 2.204 | 2.641 | 1.761 | 1.241 |
| 800HDS-33 | 8 | 0.0346 (33) | 33 | 0.676 | 2.30 | 6.101 | 1.525 | 3.003 | 1.115 | 0.743 | 1.284 |
| 800HDS-43 | | 0.0451 (43) | 33 | 0.879 | 2.99 | 7.909 | 1.977 | 3.000 | 1.438 | 0.959 | 1.279 |
| 800HDS-54 | | 0.0566 (54) | 50 | 1.096 | 3.73 | 9.833 | 2.458 | 2.995 | 1.777 | 1.185 | 1.273 |
| 800HDS-68 | | 0.0713 (68) | 50 | 1.369 | 4.66 | 12.228 | 3.057 | 2.989 | 2.192 | 1.461 | 1.266 |
| 800HDS-97 | | 0.1017 (97) | 50 | 1.917 | 6.52 | 16.977 | 4.244 | 2.976 | 2.991 | 1.994 | 1.249 |

**TABLE 1 continued: HDS® FRAMING SYSTEM SECTION PROPERTIES AND DESIGN VALUES**

| Designation | Web Size | Bending Properties (without Punchout) | | | | | | Bending Properties (with Punchout) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Strong Axis Bending | | | Weak Axis Bending | | | Strong Axis Bending | | | Weak Axis Bending | | |
| | | $S_{xe}$ (in$^3$) | $M_{al}$ (in-k) | $M_{ad}$ (in-k) | $S_{ye}$ (in$^3$) | $M_{al}$ (in-k) | $M_{ad}$ (in-k) | $S_{xe}$ (in$^3$) | $M_{al}$ (in-k) | $M_{ad}$ (in-k) | $S_{ye}$ (in$^3$) | $M_{al}$ (in-k) | $M_{ad}$ (in-k) |
| 362HDS-33 | 3-5/8 | 0.369 | 7.29 | 9.83 | 0.416 | 8.23 | 8.23 | 0.358 | 7.08 | 9.76 | 0.337 | 6.66 | 6.35 |
| 362HDS-43 | | 0.570 | 11.27 | 13.06 | 0.536 | 10.59 | 10.59 | 0.554 | 10.94 | 12.92 | 0.433 | 8.57 | 8.33 |
| 362HDS-54 | | 0.717 | 21.47 | 24.39 | 0.659 | 19.73 | 19.73 | 0.696 | 20.83 | 23.96 | 0.532 | 15.93 | 15.32 |
| 362HDS-68 | | 1.009 | 30.20 | 30.20 | 0.807 | 24.15 | 24.15 | 0.998 | 29.87 | 29.87 | 0.650 | 19.45 | 19.01 |
| 362HDS-97 | | 1.379 | 41.28 | 41.28 | 1.083 | 32.41 | 32.41 | 1.363 | 40.81 | 40.81 | 0.867 | 25.96 | 25.90 |
| 400HDS-33 | 4 | 0.420 | 8.30 | 11.07 | 0.433 | 8.56 | 8.56 | 0.408 | 8.06 | 10.98 | 0.359 | 7.09 | 6.79 |
| 400HDS-43 | | 0.650 | 12.84 | 14.90 | 0.558 | 11.02 | 11.02 | 0.631 | 12.48 | 14.78 | 0.462 | 9.12 | 8.92 |
| 400HDS-54 | | 0.818 | 24.48 | 27.41 | 0.686 | 20.54 | 20.54 | 0.794 | 23.76 | 27.18 | 0.567 | 16.97 | 16.40 |
| 400HDS-68 | | 1.153 | 34.52 | 34.52 | 0.840 | 25.15 | 25.15 | 1.141 | 34.17 | 34.22 | 0.693 | 20.74 | 20.39 |
| 400HDS-97 | | 1.579 | 47.27 | 47.27 | 1.128 | 33.78 | 33.78 | 1.565 | 46.84 | 46.84 | 0.926 | 27.74 | 27.74 |
| 550HDS-33 | 5-1/2 | 0.637 | 12.59 | 16.09 | 0.593 | 11.73 | 11.73 | 0.610 | 12.06 | 15.96 | 0.524 | 10.35 | 9.96 |
| 550HDS-43 | | 0.991 | 19.58 | 22.73 | 0.765 | 15.12 | 15.12 | 0.950 | 18.78 | 22.56 | 0.675 | 13.34 | 13.14 |
| 550HDS-54 | | 1.249 | 37.39 | 40.29 | 0.943 | 28.22 | 28.22 | 1.196 | 35.80 | 39.91 | 0.831 | 24.88 | 24.19 |
| 550HDS-68 | | 1.809 | 54.15 | 53.94 | 1.158 | 34.66 | 34.66 | 1.730 | 51.80 | 53.43 | 1.020 | 30.54 | 30.27 |
| 550HDS-97 | | 2.705 | 80.99 | 80.99 | 1.564 | 46.83 | 46.83 | 2.695 | 80.68 | 80.68 | 1.376 | 41.19 | 41.19 |
| 600HDS-33 | 6 | 0.705 | 13.93 | 19.11 | 0.556 | 10.99 | 12.15 | 0.624 | 12.33 | 19.03 | 0.511 | 10.11 | 10.45 |
| 600HDS-43 | | 1.094 | 21.61 | 25.73 | 0.848 | 16.76 | 16.76 | 0.972 | 19.21 | 25.65 | 0.747 | 14.76 | 13.90 |
| 600HDS-54 | | 1.379 | 41.30 | 47.66 | 1.048 | 31.37 | 30.29 | 1.225 | 36.68 | 47.43 | 0.922 | 27.61 | 25.54 |
| 600HDS-68 | | 1.994 | 59.69 | 60.09 | 1.292 | 38.67 | 38.67 | 1.778 | 53.22 | 59.89 | 1.136 | 34.01 | 32.31 |
| 600HDS-97 | | 2.776 | 83.11 | 83.11 | 1.761 | 52.71 | 52.71 | 2.766 | 82.82 | 82.82 | 1.546 | 46.28 | 45.53 |
| 800HDS-33 | 8 | 0.984 | 19.44 | 26.04 | 0.626 | 12.38 | 13.67 | 0.839 | 16.57 | 25.92 | 0.575 | 11.36 | 12.47 |
| 800HDS-43 | | 1.533 | 30.29 | 36.72 | 0.959 | 18.95 | 18.95 | 1.313 | 25.95 | 36.56 | 0.878 | 17.35 | 16.59 |
| 800HDS-54 | | 1.934 | 57.90 | 65.42 | 1.185 | 35.47 | 34.12 | 1.656 | 49.59 | 65.08 | 1.085 | 32.48 | 30.51 |
| 800HDS-68 | | 2.805 | 83.99 | 87.49 | 1.461 | 43.75 | 43.75 | 2.416 | 72.34 | 87.01 | 1.338 | 40.05 | 38.65 |
| 800HDS-97 | | 4.244 | 127.07 | 127.07 | 1.994 | 59.69 | 59.69 | 4.235 | 126.79 | 126.86 | 1.824 | 54.61 | 54.60 |

## TABLE 1 continued: HDS® FRAMING SYSTEM SECTION PROPERTIES AND DESIGN VALUES

| Designation | Web Size | Axial Load | | Effective Moment of Inertia | | Torsional Properties | | | | | $L_u$ (in) | Allowable Shear | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | P_Solid | P_Punchout | | | Jx1000 | $C_w$ | $X_o$ | $R_o$ | β | | $V_{x\ Solid}$ | $V_{x\ Punchout}$ | $V_y$ |
| | | (kips) | (kips) | $I_{xe}$ ($in^4$) | $I_{ye}$ ($in^4$) | ($in^4$) | ($in^6$) | (in) | (in) | | | (kips) | (kips) | (kips) |
| 362HDS-33 | 3-5/8 | 3.94 | 3.94 | 0.851 | 0.626 | 0.1772 | 4.541 | -3.502 | 3.971 | 0.222 | 103 | 1.02 | 0.52 | 2.048 |
| 362HDS-43 | | 6.12 | 6.12 | 1.161 | 0.804 | 0.3883 | 5.743 | -3.485 | 3.954 | 0.223 | 102 | 1.74 | 0.68 | 3.089 |
| 362HDS-54 | | 11.73 | 11.73 | 1.449 | 0.990 | 0.7640 | 6.894 | -3.479 | 3.946 | 0.222 | 82 | 3.37 | 1.02 | 5.767 |
| 362HDS-68 | | 16.98 | 16.98 | 1.829 | 1.211 | 1.5025 | 8.150 | -3.476 | 3.938 | 0.221 | 82 | 4.37 | 1.00 | 7.068 |
| 362HDS-97 | | 24.00 | 23.71 | 2.499 | 1.627 | 4.2462 | 10.200 | -3.469 | 3.922 | 0.218 | 81 | 5.94 | 0.87 | 9.502 |
| 400HDS-33 | 4-0 | 3.88 | 3.88 | 1.073 | 0.651 | 0.1824 | 5.062 | -3.438 | 3.976 | 0.252 | 100 | 0.98 | 0.59 | 2.048 |
| 400HDS-43 | | 6.05 | 6.05 | 1.463 | 0.837 | 0.3997 | 6.410 | -3.421 | 3.958 | 0.253 | 99 | 1.74 | 0.81 | 3.089 |
| 400HDS-54 | | 11.59 | 11.59 | 1.827 | 1.031 | 0.7867 | 7.715 | -3.414 | 3.949 | 0.253 | 80 | 3.37 | 1.22 | 5.767 |
| 400HDS-68 | | 16.84 | 16.84 | 2.306 | 1.261 | 1.5478 | 9.158 | -3.409 | 3.940 | 0.251 | 79 | 4.87 | 1.36 | 7.068 |
| 400HDS-97 | | 25.34 | 25.08 | 3.158 | 1.696 | 4.3776 | 11.569 | -3.398 | 3.921 | 0.249 | 78 | 6.66 | 1.21 | 9.502 |
| 550HDS-33 | 5-1/2 | 3.85 | 3.85 | 2.425 | 1.040 | 0.2153 | 10.261 | -3.642 | 4.499 | 0.345 | 103 | 0.70 | 0.70 | 2.048 |
| 550HDS-43 | | 6.05 | 6.05 | 3.298 | 1.338 | 0.4721 | 13.056 | -3.624 | 4.481 | 0.346 | 102 | 1.55 | 1.20 | 3.089 |
| 550HDS-54 | | 11.61 | 11.61 | 4.129 | 1.652 | 0.9304 | 15.861 | -3.614 | 4.468 | 0.346 | 83 | 3.09 | 1.88 | 5.767 |
| 550HDS-68 | | 17.03 | 17.03 | 5.396 | 2.027 | 1.8343 | 19.074 | -3.605 | 4.455 | 0.345 | 82 | 5.35 | 2.53 | 7.068 |
| 550HDS-97 | | 30.16 | 30.16 | 7.439 | 2.742 | 5.2099 | 24.788 | -3.587 | 4.428 | 0.344 | 81 | 9.52 | 3.03 | 9.502 |
| 600HDS-33 | 6-0 | 3.64 | 3.64 | 2.819 | 0.953 | 0.2430 | 24.581 | -3.650 | 4.463 | 0.331 | 125 | 0.64 | 0.64 | 2.048 |
| 600HDS-43 | | 5.72 | 5.72 | 3.796 | 1.272 | 0.5331 | 31.355 | -3.635 | 4.448 | 0.332 | 124 | 1.42 | 1.24 | 3.089 |
| 600HDS-54 | | 10.98 | 10.98 | 4.753 | 1.573 | 1.0515 | 38.082 | -3.630 | 4.440 | 0.332 | 100 | 2.82 | 1.95 | 5.767 |
| 600HDS-68 | | 16.15 | 16.15 | 6.021 | 1.938 | 2.0755 | 45.718 | -3.626 | 4.432 | 0.331 | 100 | 5.35 | 2.88 | 7.068 |
| 600HDS-97 | | 28.77 | 28.77 | 8.327 | 2.645 | 5.9109 | 59.043 | -3.619 | 4.415 | 0.328 | 98 | 10.47 | 3.81 | 9.502 |
| 800HDS-33 | 8-0 | 3.51 | 3.51 | 5.794 | 1.075 | 0.2707 | 32.968 | -3.424 | 4.732 | 0.477 | 112 | 0.47 | 0.47 | 2.048 |
| 800HDS-43 | | 5.55 | 5.55 | 7.721 | 1.438 | 0.5940 | 42.129 | -3.407 | 4.717 | 0.478 | 112 | 1.05 | 1.05 | 3.089 |
| 800HDS-54 | | 10.66 | 10.66 | 9.662 | 1.779 | 1.1726 | 51.433 | -3.399 | 4.706 | 0.478 | 90 | 2.09 | 2.09 | 5.767 |
| 800HDS-68 | | 15.76 | 15.76 | 12.228 | 2.193 | 2.3168 | 62.222 | -3.391 | 4.694 | 0.478 | 90 | 4.22 | 3.37 | 7.068 |
| 800HDS-97 | | 28.42 | 28.42 | 16.977 | 2.995 | 6.6118 | 81.753 | -3.374 | 4.669 | 0.478 | 88 | 10.89 | 5.94 | 9.502 |

**TABLE 1 continued: HDS® FRAMING SYSTEM SECTION PROPERTIES AND DESIGN VALUES**

| Heavy-Duty Stud (HDS) | | | | | |
|---|---|---|---|---|---|
| Section/Profile | Thickness (mils) | Web Depth (H) (inches) | Flange Width (inches) | Return Lip (D) (inches) | Stiffening Lip (inches) |
| 362HDS300 | 33, 43, 54, 68, 97 | 3.625 | 3 | 1.0625 | 0.75 |
| 400HDS300 | 33, 43, 54, 68, 97 | 4.0 | 3 | 1.0625 | 0.75 |
| 550HDS300 | 33, 43, 54, 68, 97 | 5.5 | 3 | 2.25 | 0.75 |
| 600HDS300 | 33, 43, 54, 68, 97 | 6.0 | 3 | 2.25 | 0.75 |
| 800HDS300 | 33, 43, 54, 68, 97 | 8.0 | 3 | 2.25 | 0.75 |

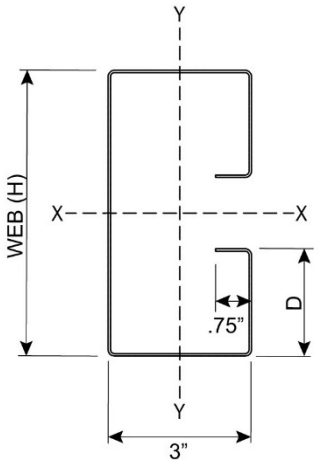


Table 1 Notes:
1) Section Properties Are Based On Using AISI S100.
2). A 1.5" by 4" punchout spaced no closer than 24" o/c is assumed.
3) Axial load capacities are based on fully-braced condition (structural elements that are installed to provide full restraint or support, i.e. KL=0).
4)Weak axis bending properties are based on HDS web in tension.

Table 1 Symbol Definition

$I_x$ = Gross Moment Of Inertia about x-axis.
$S_x$ = Gross Section Modulus about x-axis.
$r_x$ = Gross Radius of Gyration about x-axis.
$I_y$ = Gross Moment Of Inertia about y-axis.
$S_y$ = Gross Section Modulus about y-axis.
$r_y$ = Gross Radius of Gyration about y-axis.
J = St. Venant Torsion Constant.
$C_w$ = Warping Torsion Constant.
$x_o$ = Distance from shear center to the centroid along the principal x-axis.
$r_o$ = Polar Radius of Gyration about the centroidal principal axis.
$\beta = 1-(X_o/r_o)^2$

$M_{al}$ = Allowable local buckling moment capacity.
$M_{ad}$ = Allowable distortional buckling moment capacity.
$S_{xe}$ = Effective Section Modulus about x-axis.
$S_{ye}$ = Effective Section Modulus about y-axis.
$I_{xe}$ = Effective Moment Of Inertia about x-axis for deflection calculations.
$I_{ye}$ = Effective Moment Of Inertia about y-axis for deflection calculations.
$L_u$ = Maximum unbraced length to attain $M_{xa}$.
$V_{x\_Solid}$ = Allowable Shear about x-axis for section without punchout.
$V_{x\_Punchout}$ = Allowable Shear about x-axis for section with punchout.
$V_y$ = Allowable Shear about y-axis.
P_Solid = Allowable Axial Load for section without punchout.
P_Punchout = Allowable Axial Load for section with punchout.

## TABLE 2: REDHEADER PRO™ SECTION PROPERTIES AND DESIGN VALUES

| Designation | Design Thickness, in (mil) | Gross Section Properties | | | | | | | | Effective Section Properties (without Punchout) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area ($in.^2$) | Weight lbs/ft | $I_x$ ($in.^4$) | $S_x$ ($in.^3$) | $R_x$ (in.) | $I_y$ ($in.^4$) | $S_y$ ($in.^3$) | $R_y$ (in.) | $A_e$ ($in.^2$) | $I_{xe}$ ($in.^4$) | $I_{ye}$ ($in.^4$) | $S_{xe}$ ($in.^3$) | $S_{ye}$ ($in.^3$) | $M_{ax\_local}$ (in-k) | $M_{ay\_local}$ (in-k) | $M_{ax\_dist}$ (in-k) | $M_{ay\_dist}$ (in-k) | $V_{ax\_g}$ (lbs) | $V_{ay\_g}$ (lbs) |
| 362PRO300-33 | 0.0346 (33) | 0.392 | 1.33 | 0.898 | 0.495 | 1.514 | 0.543 | 0.317 | 1.177 | 0.225 | 0.790 | 0.496 | 0.357 | 0.257 | 7.06 | 5.09 | 8.07 | 5.17 | 1024 | 638 |
| 362PRO300-43 | 0.0451 (43) | 0.509 | 1.73 | 1.159 | 0.640 | 1.509 | 0.700 | 0.408 | 1.173 | 0.357 | 1.092 | 0.676 | 0.521 | 0.360 | 10.30 | 7.11 | 11.41 | 7.29 | 1739 | 1416 |
| 362PRO300-54 | 0.0566 (54) | 0.634 | 2.16 | 1.433 | 0.791 | 1.503 | 0.863 | 0.504 | 1.167 | 0.458 | 1.361 | 0.842 | 0.656 | 0.451 | 19.64 | 13.51 | 20.20 | 12.86 | 3372 | 2823 |
| 362PRO300-68 | 0.0713 (68) | 0.791 | 2.69 | 1.770 | 0.977 | 1.496 | 1.062 | 0.619 | 1.159 | 0.664 | 1.768 | 1.062 | 0.884 | 0.601 | 26.48 | 17.98 | 26.97 | 17.10 | 4370 | 5350 |
| 362PRO300-97 | 0.1017 (97) | 1.105 | 3.76 | 2.420 | 1.335 | 1.480 | 1.441 | 0.839 | 1.142 | 1.082 | 2.420 | 1.441 | 1.306 | 0.839 | 43.16 | 27.73 | 39.98 | 25.13 | 5943 | 10472 |
| 362PRO350-54 | 0.0566 (54) | 0.691 | 2.35 | 1.614 | 0.890 | 1.528 | 1.240 | 0.627 | 1.340 | 0.474 | 1.482 | 1.212 | 0.691 | 0.566 | 20.69 | 16.95 | 21.31 | 15.00 | 3372 | 2403 |
| 362PRO350-68 | 0.0713 (68) | 0.862 | 2.93 | 1.995 | 1.101 | 1.521 | 1.529 | 0.772 | 1.332 | 0.670 | 1.939 | 1.529 | 0.922 | 0.751 | 27.60 | 22.48 | 28.62 | 20.08 | 4370 | 4856 |
| 362PRO350-97 | 0.1017 (97) | 1.207 | 4.11 | 2.736 | 1.510 | 1.506 | 2.085 | 1.052 | 1.314 | 1.057 | 2.736 | 2.085 | 1.365 | 1.052 | 40.86 | 34.30 | 44.07 | 30.71 | 5943 | 10885 |
| 400PRO300-33 | 0.0346 (33) | 0.405 | 1.38 | 1.121 | 0.561 | 1.664 | 0.563 | 0.321 | 1.179 | 0.226 | 0.989 | 0.514 | 0.407 | 0.261 | 8.04 | 5.16 | 8.98 | 5.14 | 976 | 638 |
| 400PRO300-43 | 0.0451 (43) | 0.526 | 1.79 | 1.448 | 0.724 | 1.660 | 0.726 | 0.414 | 1.175 | 0.359 | 1.367 | 0.701 | 0.592 | 0.365 | 11.70 | 7.21 | 12.72 | 7.27 | 1739 | 1416 |
| 400PRO300-54 | 0.0566 (54) | 0.655 | 2.23 | 1.793 | 0.896 | 1.654 | 0.895 | 0.510 | 1.169 | 0.461 | 1.705 | 0.873 | 0.746 | 0.458 | 22.33 | 13.70 | 22.52 | 12.82 | 3372 | 2823 |
| 400PRO300-68 | 0.0713 (68) | 0.818 | 2.78 | 2.216 | 1.108 | 1.646 | 1.102 | 0.628 | 1.161 | 0.669 | 2.213 | 1.102 | 1.005 | 0.609 | 30.10 | 18.23 | 30.15 | 17.09 | 4871 | 5350 |
| 400PRO300-97 | 0.1017 (97) | 1.144 | 3.89 | 3.037 | 1.518 | 1.630 | 1.497 | 0.852 | 1.144 | 1.101 | 3.037 | 1.497 | 1.482 | 0.852 | 48.97 | 28.14 | 45.46 | 25.49 | 6658 | 10472 |
| 400PRO350-54 | 0.0566 (54) | 0.712 | 2.42 | 2.013 | 1.006 | 1.681 | 1.286 | 0.636 | 1.344 | 0.477 | 1.852 | 1.256 | 0.785 | 0.574 | 23.50 | 17.20 | 23.68 | 14.95 | 3372 | 2403 |
| 400PRO350-68 | 0.0713 (68) | 0.889 | 3.03 | 2.491 | 1.245 | 1.674 | 1.587 | 0.783 | 1.336 | 0.675 | 2.422 | 1.587 | 1.046 | 0.762 | 31.31 | 22.81 | 31.89 | 20.06 | 4871 | 4856 |
| 400PRO350-97 | 0.1017 (97) | 1.245 | 4.24 | 3.423 | 1.712 | 1.658 | 2.165 | 1.068 | 1.319 | 1.076 | 3.423 | 2.165 | 1.545 | 1.068 | 46.25 | 34.82 | 49.34 | 30.78 | 6658 | 10885 |
| 600PRO300-33 | 0.0346 (33) | 0.474 | 1.61 | 2.816 | 0.939 | 2.437 | 0.652 | 0.337 | 1.173 | 0.229 | 2.504 | 0.593 | 0.653 | 0.275 | 12.89 | 5.43 | 13.92 | 5.01 | 638 | 638 |
| 600PRO300-43 | 0.0451 (43) | 0.616 | 2.10 | 3.645 | 1.215 | 2.433 | 0.841 | 0.435 | 1.169 | 0.365 | 3.457 | 0.811 | 1.009 | 0.384 | 19.95 | 7.59 | 19.90 | 7.13 | 1416 | 1416 |
| 600PRO300-54 | 0.0566 (54) | 0.769 | 2.62 | 4.523 | 1.508 | 2.426 | 1.039 | 0.537 | 1.162 | 0.469 | 4.324 | 1.011 | 1.274 | 0.482 | 38.13 | 14.43 | 35.21 | 12.54 | 2823 | 2823 |
| 600PRO300-68 | 0.0713 (68) | 0.960 | 3.27 | 5.611 | 1.870 | 2.417 | 1.280 | 0.661 | 1.154 | 0.686 | 5.604 | 1.280 | 1.712 | 0.642 | 51.27 | 19.21 | 47.65 | 16.85 | 5350 | 5350 |
| 600PRO300-97 | 0.1017 (97) | 1.347 | 4.58 | 7.748 | 2.583 | 2.398 | 1.742 | 0.899 | 1.137 | 1.153 | 7.747 | 1.742 | 2.508 | 0.899 | 82.87 | 29.70 | 74.41 | 25.90 | 10472 | 10472 |
| 600PRO350-54 | 0.0566 (54) | 0.825 | 2.81 | 5.023 | 1.674 | 2.467 | 1.491 | 0.671 | 1.344 | 0.485 | 4.660 | 1.455 | 1.335 | 0.607 | 39.97 | 18.18 | 36.57 | 14.65 | 2823 | 2403 |
| 600PRO350-68 | 0.0713 (68) | 1.032 | 3.51 | 6.238 | 2.079 | 2.459 | 1.841 | 0.828 | 1.336 | 0.692 | 6.077 | 1.841 | 1.771 | 0.805 | 53.02 | 24.11 | 49.70 | 19.79 | 5350 | 4856 |
| 600PRO350-97 | 0.1017 (97) | 1.449 | 4.93 | 8.633 | 2.878 | 2.441 | 2.518 | 1.131 | 1.318 | 1.128 | 8.632 | 2.518 | 2.593 | 1.131 | 77.65 | 36.88 | 78.37 | 30.79 | 10472 | 10885 |
| 800PRO300-43 | 0.0451 (43) | 0.706 | 2.40 | 7.074 | 1.769 | 3.165 | 0.927 | 0.449 | 1.146 | 0.368 | 6.729 | 0.892 | 1.414 | 0.396 | 27.94 | 7.83 | 27.25 | 6.91 | 1051 | 1416 |
| 800PRO300-54 | 0.0566 (54) | 0.882 | 3.00 | 8.792 | 2.198 | 3.158 | 1.145 | 0.554 | 1.139 | 0.473 | 8.429 | 1.114 | 1.814 | 0.497 | 54.32 | 14.89 | 48.21 | 12.15 | 2091 | 2823 |
| 800PRO300-68 | 0.0713 (68) | 1.103 | 3.75 | 10.928 | 2.732 | 3.148 | 1.411 | 0.682 | 1.131 | 0.694 | 10.915 | 1.411 | 2.519 | 0.662 | 75.41 | 19.83 | 65.73 | 16.42 | 4221 | 5350 |
| 800PRO300-97 | 0.1017 (97) | 1.550 | 5.28 | 15.155 | 3.789 | 3.127 | 1.923 | 0.929 | 1.114 | 1.177 | 15.152 | 1.923 | 3.675 | 0.929 | 121.44 | 30.69 | 104.16 | 25.53 | 10885 | 10472 |
| 800PRO350-54 | 0.0566 (54) | 0.938 | 3.19 | 9.685 | 2.421 | 3.213 | 1.646 | 0.694 | 1.325 | 0.488 | 9.030 | 1.605 | 1.869 | 0.628 | 55.97 | 18.81 | 49.75 | 14.26 | 2091 | 2403 |
| 800PRO350-68 | 0.0713 (68) | 1.174 | 4.00 | 12.048 | 3.012 | 3.203 | 2.034 | 0.857 | 1.316 | 0.700 | 11.758 | 2.034 | 2.596 | 0.833 | 77.74 | 24.95 | 68.06 | 19.35 | 4221 | 4856 |
| 800PRO350-97 | 0.1017 (97) | 1.652 | 5.62 | 16.741 | 4.185 | 3.183 | 2.784 | 1.171 | 1.298 | 1.152 | 16.738 | 2.784 | 3.786 | 1.171 | 113.35 | 38.20 | 108.69 | 30.42 | 10885 | 10885 |

## TABLE 2 continued: REDHEADER PRO™ SECTION PROPERTIES AND DESIGN VALUES

| Designation | Design Thickness, in (mil) | Effective Section Properties (with Punchout) | | | | | | | Torsional Properties | | | | | | $L_u$ (in.) | Axial Load | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $A_e$ ($in.^2$) | $I_{xe}$ ($in.^4$) | $S_{xe}$ ($in.^3$) | $M_{ax\_local}$ (in-k) | $M_{ax\_dist}$ (in-k) | $V_{ax}$ (lbs) | $V_{ay}$ (lbs) | Xo (in.) | J*1000 ($in.^4$) | $C_w$ ($in.^6$) | m | $R_o$ (in.) | β | | P_Solid (kips) | P_Punchout (kips) |
| 362PRO300-33 | 0.0346 (33) | 0.204 | 0.791 | 0.324 | 6.39 | 7.92 | 521 | 638 | -2.979 | 0.156 | 2.437 | 1.709 | 3.543 | 0.293 | 86.3 | 4.1 | 3.7 |
| 362PRO300-43 | 0.0451 (43) | 0.322 | 1.092 | 0.492 | 9.73 | 11.18 | 676 | 1416 | -2.967 | 0.345 | 3.116 | 1.702 | 3.529 | 0.293 | 86.3 | 6.5 | 5.9 |
| 362PRO300-54 | 0.0566 (54) | 0.413 | 1.361 | 0.624 | 18.67 | 19.72 | 1016 | 2823 | -2.953 | 0.677 | 3.829 | 1.695 | 3.513 | 0.293 | 70.0 | 12.7 | 11.5 |
| 362PRO300-68 | 0.0713 (68) | 0.594 | 1.768 | 0.863 | 25.83 | 26.31 | 1004 | 5350 | -2.935 | 1.341 | 4.695 | 1.685 | 3.492 | 0.294 | 70.1 | 18.4 | 16.5 |
| 362PRO300-97 | 0.1017 (97) | 0.930 | 2.420 | 1.288 | 42.56 | 39.26 | 875 | 10472 | -2.897 | 3.811 | 6.329 | 1.665 | 3.448 | 0.294 | 70.8 | 30.1 | 25.8 |
| 362PRO350-54 | 0.0566 (54) | 0.429 | 1.482 | 0.655 | 19.62 | 20.82 | 1016 | 2403 | -3.447 | 0.738 | 5.430 | 1.954 | 4.001 | 0.258 | 78.8 | 13.2 | 11.9 |
| 362PRO350-68 | 0.0713 (68) | 0.600 | 1.940 | 0.895 | 26.80 | 27.94 | 1004 | 4856 | -3.428 | 1.461 | 6.669 | 1.944 | 3.980 | 0.258 | 79.0 | 18.6 | 16.7 |
| 362PRO350-97 | 0.1017 (97) | 0.904 | 2.736 | 1.340 | 40.11 | 43.00 | 875 | 10885 | -3.391 | 4.162 | 9.022 | 1.924 | 3.936 | 0.258 | 79.7 | 29.4 | 25.1 |
| 400PRO300-33 | 0.0346 (33) | 0.205 | 0.990 | 0.361 | 7.14 | 8.81 | 595 | 638 | -2.912 | 0.162 | 2.835 | 1.683 | 3.555 | 0.329 | 84.9 | 4.1 | 3.8 |
| 400PRO300-43 | 0.0451 (43) | 0.324 | 1.367 | 0.552 | 10.91 | 12.47 | 810 | 1416 | -2.900 | 0.356 | 3.628 | 1.676 | 3.542 | 0.330 | 84.9 | 6.6 | 5.9 |
| 400PRO300-54 | 0.0566 (54) | 0.416 | 1.705 | 0.700 | 20.97 | 21.99 | 1223 | 2823 | -2.886 | 0.700 | 4.461 | 1.668 | 3.526 | 0.330 | 68.8 | 12.8 | 11.6 |
| 400PRO300-68 | 0.0713 (68) | 0.601 | 2.213 | 0.973 | 29.13 | 29.42 | 1356 | 5350 | -2.868 | 1.386 | 5.475 | 1.659 | 3.504 | 0.330 | 68.9 | 18.6 | 16.7 |
| 400PRO300-97 | 0.1017 (97) | 0.968 | 3.037 | 1.465 | 48.41 | 44.63 | 1207 | 10472 | -2.830 | 3.942 | 7.395 | 1.638 | 3.460 | 0.331 | 69.4 | 30.6 | 26.9 |
| 400PRO350-54 | 0.0566 (54) | 0.432 | 1.852 | 0.735 | 22.01 | 23.15 | 1223 | 2403 | -3.375 | 0.760 | 6.333 | 1.927 | 4.003 | 0.289 | 77.6 | 13.2 | 12.0 |
| 400PRO350-68 | 0.0713 (68) | 0.607 | 2.423 | 1.007 | 30.16 | 31.13 | 1356 | 4856 | -3.357 | 1.507 | 7.786 | 1.917 | 3.982 | 0.289 | 77.8 | 18.8 | 16.9 |
| 400PRO350-97 | 0.1017 (97) | 0.942 | 3.423 | 1.520 | 45.51 | 48.14 | 1207 | 10885 | -3.319 | 4.293 | 10.555 | 1.897 | 3.937 | 0.290 | 78.3 | 29.9 | 26.2 |
| 600PRO300-33 | 0.0346 (33) | 0.208 | 2.506 | 0.652 | 12.89 | 13.68 | 638 | 638 | -2.598 | 0.189 | 5.749 | 1.548 | 3.750 | 0.520 | 81.1 | 4.2 | 3.8 |
| 600PRO300-43 | 0.0451 (43) | 0.330 | 3.457 | 1.009 | 19.95 | 19.53 | 1240 | 1416 | -2.586 | 0.418 | 7.375 | 1.541 | 3.738 | 0.521 | 81.0 | 6.7 | 6.0 |
| 600PRO300-54 | 0.0566 (54) | 0.424 | 4.324 | 1.274 | 38.13 | 34.44 | 1947 | 2823 | -2.572 | 0.821 | 9.094 | 1.534 | 3.722 | 0.522 | 65.6 | 13.0 | 11.8 |
| 600PRO300-68 | 0.0713 (68) | 0.617 | 5.604 | 1.712 | 51.27 | 46.55 | 2879 | 5350 | -2.554 | 1.627 | 11.200 | 1.524 | 3.701 | 0.524 | 65.5 | 19.0 | 17.1 |
| 600PRO300-97 | 0.1017 (97) | 1.025 | 7.747 | 2.508 | 82.87 | 72.65 | 3805 | 10472 | -2.516 | 4.644 | 15.243 | 1.504 | 3.657 | 0.527 | 65.5 | 32.0 | 28.5 |
| 600PRO350-54 | 0.0566 (54) | 0.440 | 4.660 | 1.335 | 39.97 | 35.80 | 1947 | 2403 | -3.037 | 0.881 | 12.942 | 1.787 | 4.137 | 0.461 | 74.4 | 13.5 | 12.2 |
| 600PRO350-68 | 0.0713 (68) | 0.623 | 6.084 | 1.771 | 53.02 | 48.60 | 2879 | 4856 | -3.018 | 1.748 | 15.968 | 1.777 | 4.116 | 0.462 | 74.4 | 19.2 | 17.3 |
| 600PRO350-97 | 0.1017 (97) | 1.000 | 8.632 | 2.593 | 77.65 | 76.53 | 3805 | 10885 | -2.979 | 4.994 | 21.811 | 1.757 | 4.071 | 0.464 | 74.4 | 31.3 | 27.8 |
| 800PRO300-43 | 0.0451 (43) | 0.332 | 6.730 | 1.414 | 27.94 | 26.77 | 1051 | 1416 | -2.340 | 0.479 | 13.021 | 1.428 | 4.099 | 0.674 | 79.2 | 6.7 | 6.1 |
| 800PRO300-54 | 0.0566 (54) | 0.427 | 8.429 | 1.814 | 54.32 | 47.22 | 2091 | 2823 | -2.326 | 0.942 | 16.083 | 1.421 | 4.084 | 0.676 | 64.1 | 13.1 | 11.9 |
| 800PRO300-68 | 0.0713 (68) | 0.623 | 10.915 | 2.519 | 75.41 | 64.29 | 3367 | 5350 | -2.308 | 1.869 | 19.850 | 1.412 | 4.064 | 0.677 | 64.0 | 19.3 | 17.3 |
| 800PRO300-97 | 0.1017 (97) | 1.043 | 15.152 | 3.675 | 121.44 | 101.77 | 5938 | 10472 | -2.271 | 5.345 | 27.132 | 1.392 | 4.022 | 0.681 | 63.7 | 32.7 | 29.0 |
| 800PRO350-54 | 0.0566 (54) | 0.443 | 9.031 | 1.869 | 55.97 | 48.77 | 2091 | 2403 | -2.766 | 1.002 | 22.897 | 1.668 | 4.442 | 0.612 | 73.1 | 13.6 | 12.3 |
| 800PRO350-68 | 0.0713 (68) | 0.629 | 11.773 | 2.596 | 77.74 | 66.63 | 3367 | 4856 | -2.748 | 1.990 | 28.308 | 1.658 | 4.421 | 0.614 | 72.9 | 19.4 | 17.5 |
| 800PRO350-97 | 0.1017 (97) | 1.018 | 16.738 | 3.786 | 113.35 | 106.24 | 5938 | 10885 | -2.710 | 5.696 | 38.834 | 1.639 | 4.378 | 0.617 | 72.7 | 32.0 | 28.3 |

**TABLE 2 continued: REDHEADER PRO™ SECTION PROPERTIES AND DESIGN VALUES**

| RedHeader PRO | | | | |
|---|---|---|---|---|
| Section/Profile | Thickness (mils) | Web Depth (H) (inches) | Flange Width (inches) | Return Lip (D) (inches) |
| 362PRO300 | 33, 43, 54, 68, 97 | 3.625 | 3 | 1.0 |
| 362PRO350 | 54, 68, 97 | 3.625 | 3.5 | 1.0 |
| 400PRO300 | 33, 43, 54, 68, 97 | 4.0 | 3 | 1.0 |
| 400PRO350 | 54, 68, 97 | 4.0 | 3.5 | 1.0 |
| 600PRO300 | 33, 43, 54, 68, 97 | 6.0 | 3 | 1.0 |
| 600PRO350 | 54, 68, 97 | 6.0 | 3.5 | 1.0 |
| 800PRO300 | 33, 43, 54, 68, 97 | 8.0 | 3 | 1.0 |
| 800PRO350 | 54, 68, 97 | 8.0 | 3.5 | 1.0 |

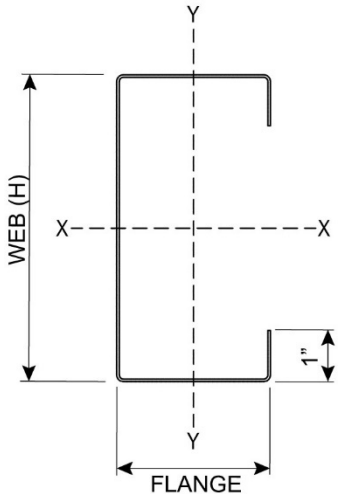


**Table 2 Notes:**

1) Section Properties Are Based On Using AISI S100

2) Axial Load Capacities Are Based On Fully-Braced Condition (Structural Elements That Are Installed To Provide Full Restraint Or Support, i.e. KL=0) .

3) For Header Design, Use Effective Section Properties Without Punchout.

4) For Jamb Design, Use Effective Section Properties With Punchout.

$I_x$= Gross Moment Of Inertia About X-Axis.

$S_x$= Gross Section Modulus About X-Axis.

$R_x$= Gross Radius Of Gyration About X-Axis.

$I_y$= Gross Moment Of Inertia About Y-Axis.

$S_y$= Gross Section Modulus About Y-Axis.

$R_y$= Gross Radius Of Gyration About Y-Axis.

$A_e$= Effective Area

$I_{xe}$= Effective Moment Of Inertia About X-Axis.

$I_{ye}$= Effective Moment Of Inertia About Y-Axis.

$S_{xe}$= Effective Section Modulus About X-Axis.

$S_{ye}$= Effective Section Modulus About Y-Axis.

$M_{ax\_Local}$= Allowable Local Moment Capacity About X-Axis.

$M_{ay\_Local}$= Allowable Local Moment Capacity About Y-Axis.

$V_{ax\_G}$= Shear Strength Capacities Of Section (Without Punchout) About X-Axis.

$V_{ay\_G}$= Shear Strength Capacities Of Section (Without Punchout) About Y-Axis.

$M_{ax\_Dist}$= Allowable Distortional Moment Capacity About X-Axis.

$M_{ay\_Dist}$= Allowable Distortional Moment Capacity About Y-Axis.

$V_{ax}$= Shear Strength Capacities Of Section (With Punchout) About X-Axis.

$V_{ay}$= Shear Strength Capacities Of Section (With Punchout) About Y-Axis.

$X_o$ = Distance From Shear Center To The Centroid Along The Principal X-Axis.

J= St. Venant Torsion Constant.

$C_w$= Warping Torsion Constant.

M = Distance Between Shear Center And The Web Centerline.

$R_o$= Polar Radius Of Gyration About Centroidal Principal Axis.

B = $1-(X_o/R_o)^2$

$L_u$= Maximum Unbraced Length.

P_Solid = Allowable Axial Load For Section Without Punchout.

P_ Punchout = Allowable Axial Load For Section With Punchout.

## TABLE 3: HDSC-33 CLIP PROPERTIES AND LOADS

| 33-Mil HDSC (20ga) Header Brackets (3" & 3-1/2" Flange): ASD and LRFD Capacity (Design) Table | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product ID | Bracket Specs | | Framing Member Specs | | Fasteners | | Capacities (lbs) | | | | | |
| | | | | | | | F1 Load (Lateral) | | | F2 Load (Vertical) | | |
| | Size (in) | Flange (in) | Thickness, in (mil) | Yield Strength, $F_y$ (ksi) | Jamb | Header | Nominal | ASD LOAD (Governing) | LRFD LOAD (Governing) | Nominal | ASD LOAD (Governing) | LRFD LOAD (Governing) |
| HDSC-33 | 3-1/2 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1200 | 615 | 985 | 895 | 190 | 190 |
| | | | 0.0451 (43) | 33 | | | 1435 | 735 | 1180 | 1555 | 245 | 245 |
| | | | 0.0566 (54) | 50 | | | 2000 | 1025 | 1595 | 2540 | 300 | 300 |
| | | | 0.0713 (68) | 50 | | | 2290 | 1060 | 1595 | 1435 | 425 | 425 |
| | | | 0.1017 (97) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 2095 | 1060 | 1595 | 1020 | 380 | 380 |
| | | | 0.0713 (68) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 0.1017 (97) | 50 | | | 2675 | 1060 | 1595 | 1765 | 460 | 460 |
| HDSC-33 | 3-7/8 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1090 | 560 | 895 | 1110 | 220 | 220 |
| | | | 0.0451 (43) | 33 | | | 1420 | 730 | 1165 | 1585 | 280 | 280 |
| | | | 0.0566 (54) | 50 | | | 2085 | 1060 | 1595 | 2130 | 310 | 310 |
| | | | 0.0713 (68) | 50 | | | 2290 | 1060 | 1595 | 1435 | 425 | 425 |
| | | | 0.1017 (97) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 2095 | 1060 | 1595 | 1020 | 380 | 380 |
| | | | 0.0713 (68) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 0.1017 (97) | 50 | | | 2560 | 1060 | 1595 | 1935 | 455 | 455 |
| HDSC-33 | 5-7/8 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1150 | 590 | 945 | 1050 | 205 | 205 |
| | | | 0.0451 (43) | 33 | | | 1410 | 720 | 1155 | 1765 | 320 | 320 |
| | | | 0.0566 (54) | 50 | | | 2085 | 1060 | 1595 | 2130 | 320 | 320 |
| | | | 0.0713 (68) | 50 | | | 2290 | 1060 | 1595 | 1435 | 425 | 425 |
| | | | 0.1017 (97) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 2095 | 1060 | 1595 | 1020 | 380 | 380 |
| | | | 0.0713 (68) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 0.1017 (97) | 50 | | | 2560 | 1060 | 1595 | 1935 | 455 | 455 |
| HDSC-33 | 7-7/8 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1210 | 620 | 995 | 990 | 190 | 190 |
| | | | 0.0451 (43) | 33 | | | 1540 | 790 | 1265 | 1630 | 270 | 270 |
| | | | 0.0566 (54) | 50 | | | 2045 | 1050 | 1595 | 2130 | 310 | 310 |
| | | | 0.0713 (68) | 50 | | | 2195 | 1060 | 1595 | 1395 | 385 | 385 |
| | | | 0.1017 (97) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 2030 | 1040 | 1595 | 1075 | 320 | 320 |
| | | | 0.0713 (68) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 0.1017 (97) | 50 | | | 2450 | 1060 | 1595 | 2105 | 455 | 455 |

## TABLE 4: HDSC-68 CLIP PROPERTIES AND LOADS

| 68-Mil HDSC (14ga) Header Brackets (3" & 3-1/2" Flange): ASD and LRFD Capacity (Design) Table | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product ID | Bracket Specs | | Framing Member Specs | | Fasteners | | Capacities (lbs) | | | | | |
| | | | | | | | F1 Load (Lateral) | | | F2 Load (Vertical) | | |
| | Size (in) | Flange (in) | Thickness, in (mil) | Yield Strength, $F_y$ (ksi) | Jamb | Header | Nominal | ASD LOAD (Governing) | LRFD LOAD (Governing) | Nominal | ASD LOAD (Governing) | LRFD LOAD (Governing) |
| HDSC-68 | 3-1/2 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1435 | 705 | 1060 | 880 | 300 | 480 |
| | | | 0.0451 (43) | 33 | | | 2365 | 1050 | 1575 | 1130 | 390 | 620 |
| | | | 0.0566 (54) | 50 | | | 3185 | 1095 | 1755 | 2380 | 820 | 940 |
| | | | 0.0713 (68) | 50 | | | 3415 | 1175 | 1880 | 2920 | 1005 | 1385 |
| | | | 0.1017 (97) | 50 | | | 3940 | 1355 | 2170 | 3645 | 1255 | 1875 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 2975 | 1025 | 1640 | 2150 | 740 | 1145 |
| | | | 0.0713 (68) | 50 | | | 3375 | 1160 | 1855 | 2925 | 1005 | 1555 |
| | | | 0.1017 (97) | 50 | | | 3810 | 1310 | 2100 | 3555 | 1225 | 1730 |
| HDSC-68 | 3-7/8 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1405 | 705 | 1060 | 885 | 305 | 485 |
| | | | 0.0451 (43) | 33 | | | 2210 | 1050 | 1575 | 1225 | 420 | 670 |
| | | | 0.0566 (54) | 50 | | | 3185 | 1095 | 1755 | 2380 | 820 | 940 |
| | | | 0.0713 (68) | 50 | | | 3475 | 1195 | 1910 | 3130 | 1075 | 1450 |
| | | | 0.1017 (97) | 50 | | | 4000 | 1375 | 2200 | 3815 | 1310 | 1700 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 3070 | 1055 | 1690 | 2300 | 790 | 1145 |
| | | | 0.0713 (68) | 50 | | | 3395 | 1165 | 1870 | 3065 | 1055 | 1490 |
| | | | 0.1017 (97) | 50 | | | 4365 | 1500 | 2400 | 3825 | 1315 | 1850 |
| HDSC-68 | 5-7/8 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1370 | 700 | 1060 | 895 | 305 | 490 |
| | | | 0.0451 (43) | 33 | | | 2055 | 1050 | 1575 | 1315 | 450 | 725 |
| | | | 0.0566 (54) | 50 | | | 3265 | 1120 | 1795 | 2460 | 845 | 1045 |
| | | | 0.0713 (68) | 50 | | | 3535 | 1215 | 1945 | 3345 | 1150 | 1515 |
| | | | 0.1017 (97) | 50 | | | 4000 | 1375 | 2200 | 3815 | 1310 | 1700 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 3070 | 1055 | 1690 | 2300 | 790 | 1145 |
| | | | 0.0713 (68) | 50 | | | 3415 | 1175 | 1880 | 3210 | 1105 | 1430 |
| | | | 0.1017 (97) | 50 | | | 4110 | 1415 | 2265 | 3955 | 1360 | 1820 |
| HDSC-68 | 7-7/8 | 3 | 0.0346 (33) | 33 | 4 x #10 | 4 x #10 | 1370 | 700 | 1060 | 895 | 305 | 490 |
| | | | 0.0451 (43) | 33 | | | 2115 | 1050 | 1575 | 1245 | 425 | 670 |
| | | | 0.0566 (54) | 50 | | | 3340 | 1150 | 1840 | 2535 | 870 | 1145 |
| | | | 0.0713 (68) | 50 | | | 3440 | 1180 | 1895 | 3425 | 1180 | 1575 |
| | | | 0.1017 (97) | 50 | | | 4060 | 1395 | 2235 | 3985 | 1370 | 1525 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #10 | 4 x #10 | 3165 | 1090 | 1745 | 2455 | 845 | 1145 |
| | | | 0.0713 (68) | 50 | | | 3420 | 1175 | 1880 | 3360 | 1155 | 1370 |
| | | | 0.1017 (97) | 50 | | | 3860 | 1330 | 2125 | 4090 | 1405 | 1785 |

## TABLE 5: HDSC-97 CLIP PROPERTIES LOADS

| 97-Mil HDSC (12ga) Header Brackets (3" & 3-1/2" Flange): ASD and LRFD Capacity (Design) Table | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product ID | Bracket Specs | | Framing Member Specs | | Fasteners | | Capacities (lbs) | | | | | |
| | | | | | | | F1 Load (Lateral) | | | F2 Load (Vertical) | | |
| | Size (in) | Flange (in) | Thickness, in (mil) | Yield Strength, $F_y$ (ksi) | Jamb | Header | Nominal | ASD LOAD (Governing) | LRFD LOAD (Governing) | Nominal | ASD LOAD (Governing) | LRFD LOAD (Governing) |
| HDSC-97 | 3-1/2 | 3 | 0.0346 (33) | 33 | 4 x #12 | 4 x #12 | 1435 | 735 | 1130 | 880 | 300 | 495 |
| | | | 0.0451 (43) | 33 | | | 2490 | 1120 | 1680 | 1375 | 470 | 865 |
| | | | 0.0566 (54) | 50 | | | 4025 | 1385 | 2215 | 2195 | 755 | 1410 |
| | | | 0.0713 (68) | 50 | | | 4340 | 1490 | 2390 | 3465 | 1190 | 2000 |
| | | | 0.1017 (97) | 50 | | | 6075 | 2090 | 3345 | 5610 | 1930 | 2380 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #12 | 4 x #12 | 4080 | 1400 | 2245 | 2145 | 735 | 1545 |
| | | | 0.0713 (68) | 50 | | | 4265 | 1465 | 2350 | 3575 | 1230 | 2090 |
| | | | 0.1017 (97) | 50 | | | 6005 | 2065 | 3305 | 5385 | 1850 | 2405 |
| HDSC-97 | 3-7/8 | 3 | 0.0346 (33) | 33 | 4 x #12 | 4 x #12 | 1405 | 720 | 1130 | 885 | 305 | 550 |
| | | | 0.0451 (43) | 33 | | | 2490 | 1120 | 1680 | 1375 | 470 | 865 |
| | | | 0.0566 (54) | 50 | | | 4105 | 1410 | 2260 | 2405 | 825 | 1455 |
| | | | 0.0713 (68) | 50 | | | 4105 | 1410 | 2260 | 3360 | 1155 | 1530 |
| | | | 0.1017 (97) | 50 | | | 6000 | 2065 | 3305 | 5840 | 2010 | 2560 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #12 | 4 x #12 | 3975 | 1365 | 2185 | 2230 | 765 | 1620 |
| | | | 0.0713 (68) | 50 | | | 4195 | 1445 | 2310 | 3630 | 1250 | 2080 |
| | | | 0.1017 (97) | 50 | | | 6185 | 2130 | 3405 | 5500 | 1890 | 2455 |
| HDSC-97 | 5-7/8 | 3 | 0.0346 (33) | 33 | 4 x #12 | 4 x #12 | 1370 | 700 | 1125 | 895 | 305 | 610 |
| | | | 0.0451 (43) | 33 | | | 2345 | 1120 | 1680 | 1400 | 480 | 820 |
| | | | 0.0566 (54) | 50 | | | 4340 | 1475 | 2390 | 2615 | 900 | 1500 |
| | | | 0.0713 (68) | 50 | | | 4340 | 1490 | 2390 | 3465 | 1190 | 2000 |
| | | | 0.1017 (97) | 50 | | | 5930 | 2040 | 3265 | 6065 | 2085 | 2740 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #12 | 4 x #12 | 3870 | 1330 | 2130 | 2310 | 795 | 1690 |
| | | | 0.0713 (68) | 50 | | | 4195 | 1445 | 2310 | 3630 | 1250 | 2080 |
| | | | 0.1017 (97) | 50 | | | 6060 | 2085 | 3335 | 5840 | 2010 | 2400 |
| HDSC-97 | 7-7/8 | 3 | 0.0346 (33) | 33 | 4 x #12 | 4 x #12 | 1370 | 700 | 1125 | 895 | 305 | 610 |
| | | | 0.0451 (43) | 33 | | | 2200 | 1120 | 1680 | 1420 | 485 | 770 |
| | | | 0.0566 (54) | 50 | | | 4125 | 1420 | 2270 | 2945 | 1015 | 1485 |
| | | | 0.0713 (68) | 50 | | | 4125 | 1420 | 2270 | 3685 | 1265 | 2070 |
| | | | 0.1017 (97) | 50 | | | 5770 | 1985 | 3175 | 6085 | 2090 | 2710 |
| | | 3-1/2 | 0.0566 (54) | 50 | 4 x #12 | 4 x #12 | 4070 | 1400 | 2240 | 2625 | 905 | 1505 |
| | | | 0.0713 (68) | 50 | | | 4125 | 1420 | 2270 | 3685 | 1265 | 2070 |
| | | | 0.1017 (97) | 50 | | | 5935 | 2040 | 3265 | 6180 | 2125 | 2350 |

**TABLE 3, 4 AND 5 NOTES**

1. Listed capacities were derived from calculations and structural tests in accordance with provisions of AISI S100 and ICC-ES AC261.
2.. The safety factor for ASD loads and resistance factor for LRFD loads are calculated in accordance with Chapter K.
3. The capacity of a given HDSC connection is the minimum of the corresponding jamb and the header values.

   Table 3: For example, for a 3-1/2" HDSC-33 bracket (3" Flange) used with a 54-mil (16-ga) 50 ksi jamb and a 97-mil (12-ga) 50 ksi header, the F2 allowable design load shall be the capacity corresponding to framing member with lesser thickness i.e, 16ga member. Thus, the ASD capacity is 300 lbs.

   Table 4: For example, for a 3-1/2" HDSC-68 bracket (3" Flange) used with a 54-mil (16-ga) 50 ksi jamb and a 97-mil (12-ga) 50 ksi header, the F2 allowable design load shall be the capacity corresponding to framing member with lesser thickness i.e, 16ga member. Thus, the ASD capacity is 820 lbs.

   Table 5: For example, for a 3-1/2" HDSC-97 bracket (3" flange) used with a 54-mil (16-ga) 50 ksi jamb and a 97-mil (12-ga) 50 ksi header, the F2 allowable design load shall be the capacity corresponding to framing member with lesser thickness i.e, 16ga member. thus, the ASD capacity is 755 lbs.

4. Table 3 and 4- #10-16 HWH screws for attachment of Brackets to Jamb and Header shall have a minimum shear capacity of 1400 lbs and minimum tension capacity of 1158 lbs. Table 5- #12-14 HWH screws for attachment of brackets to jamb and header shall have a minimum shear capacity of 2,000 lbs and minimum tension capacity of 2,325 lbs. Evidence shall be provided to the building official for approval that defines the fasteners meet the performance requirements of this report, ASTM C1513 and are for use with code-formed steel.

5. For simultaneous F1 and F2 loading, use the following interaction equation:

$$\left(\frac{f1}{F1}\right)^2 + \left(\frac{f2}{F2}\right)^2 \leq 1.0$$

   where f1 and f2 are the applied loads and F1 and F2 are the appropriate allowable loads.

6. It is the responsibility of the design professional to detail the project drawings for proper HDSC bracket installation

**TABLE 6: HDS® FRAMING AND REDHEADER PRO™ MANUFACTURING LOCATIONS**

| Manufacturing Plant | | Product | | |
|---|---|---|---|---|
| Location | Designator | HDSC Header Bracket | HDS® Framing System | REDHEADER PRO™ |
| Warren, OH | WNE | x | | |
| Woodland, CA | SAC | x | x | x |
| Vienna, OH | VIE | | x | x |
| Baltimore, MD | BAL | | | x |
| Bristol, CT | BRI | | | x |
| Dallas, TX | DAL | | | x |
| Pasadena, TX | PAS | | | x |
| Riverside, CA | RIV | | | x |
| Rochelle, IL | CHI | | | x |

# CALIFORNIA SUPPLEMENT

**CLARKDIETRICH®**
**9050 Centre Pointe Drive, Suite 400**
**West Chester, Ohio 45069**
**(888) 437-3244**
**www.clarkdietrich.com**

## CLARKDIETRICH HDS® FRAMING SYSTEM AND REDHEADER PRO™

**CSI Section:**
**05 40 00 Cold-Formed Metal Framing**

### 1.0 RECOGNITION

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems evaluated and represented in IAPMO UES Evaluation Report ER-723 and with changes as noted in this supplement is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2022 California Building Code (CBC)

Additional requirements and limitations, when for compliance to chapters of the Division of the State Architect (DSA) and the Department of Health Care Access and Information (HCAI, formerly OSHPD), are in Sections 3.0 and 4.0 of this supplement.

### 2.0 LIMITATIONS

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems, when installed, designed, and recognized in this report, are subject to the limitations stated in Evaluation Report ER-723 and the following additional limitations:

**2.1** The systems described in this report shall be designed and installed in accordance with ER-723 and Chapters 16, 17, and 22 of the CBC, as applicable

**2.2** This supplement expires concurrently with ER-723.

### 3.0 LIMITATION SPECIFIC TO DSA

The systems described in this report shall be designed and installed in accordance with ER-723 and Chapters 16, 16A, 17, 17A, 22, 22A of the CBC, as applicable. The systems in this report are subject to the following additional limitation:

The design of ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems shall not be part of the seismic force-resisting system used to resist seismic forces as required by Section 2211A.1.1.

### 4.0 LIMITATION SPECIFIC TO HCAI

The systems described in this report shall be designed and installed in accordance with ER-723 and Chapters 16, 16A, 17, 17A, 22, 22A of the CBC, as applicable. The systems in this report are subject to the following additional limitation:

The design of ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems shall not be part of the seismic force-resisting system used to resist seismic forces as required by Section 2211A.1.1.

# CITY OF LOS ANGELES SUPPLEMENT

**CLARKDIETRICH®**
**9050 Centre Pointe Drive, Suite 400**
**West Chester, Ohio 45069**
**(888) 437-3244**
**www.clarkdietrich.com**

## CLARKDIETRICH HDS® FRAMING SYSTEM AND REDHEADER PRO™

**CSI Section:**
**05 40 00 Cold-Formed Metal Framing**

### 1.0 RECOGNITION

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems evaluated and represented in IAPMO UES Evaluation Report ER-723 and with changes as noted in this supplement is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2023 City of Los Angeles Building Code (LABC)

### 2.0 LIMITATIONS

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems, when installed, designed, and recognized in this report, are subject to the limitations stated in Evaluation Report ER-723, the California Supplement to ER-723, and the following additional limitations:

**2.1** Prior to installation, calculations and details demonstrating compliance with this report and the 2023 LABC shall be submitted to the structural plan check section for review and approval. The calculations and details shall be prepared, stamped, and signed by a California registered design professional.

**2.2** The design and installation of the systems described in this report shall be in accordance with LABC Chapters 16, 17, and 22, as applicable.

**2.3** Minimum uncoated base steel thickness of the framing members delivered to the jobsite shall be 95 percent of the design thickness.

**2.4** This supplement expires concurrently with ER-723.

### 3.0 PRODUCT USE

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems comply with LABC Section 2211.

**For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org**

# FLORIDA SUPPLEMENT

**CLARKDIETRICH®**
**9050 Centre Pointe Drive, Suite 400**
**West Chester, Ohio 45069**
**(888) 437-3244**
**www.clarkdietrich.com**

## CLARKDIETRICH HDS® FRAMING SYSTEM AND REDHEADER PRO™

**CSI Section:**
**05 40 00 Cold-Formed Metal Framing**

### 1.0 RECOGNITION

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems evaluated and represented in IAPMO UES Evaluation Report ER-723 and with changes as noted in this supplement is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2023 Florida Building Code®—Building

### 2.0 LIMITATIONS

ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems recognized in IAPMO UES ER-723 and this supplement are subject to the following additional limitations:

**2.1** Design requirements shall be determined in accordance with the Florida Building Code®—Building.

**2.2** Use and installation of ClarkDietrich's HDS® Framing System and RedHeader Pro™ systems ® studs shall be in accordance with the 2021 International Building Code® provisions of IAPMO UES ER-723, unless otherwise noted in this supplement.

**2.3** Verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission), to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance shall be provided for products falling under Section (5)(d) of Florida Rule 61G20-3.008.

**2.4** This supplement expires concurrently with ER-723.