



# ICC-ES Evaluation Report

## ESR-2281

Reissued December 2022

Revised May 2024

This report is subject to renewal December 2024.

**DIVISION: 05 00 00—METALS**  
**Section: 05 40 00—Cold-Formed Metal Framing**  
**Section: 05 41 00—Structural Metal Stud Framing**

**DIVISION: 09 00 00—FINISHES**  
**Section: 09 22 16.13—Non-Structural Metal Stud Framing**

**REPORT HOLDER:**

TELLING INDUSTRIES

**EVALUATION SUBJECT:**

METAL FRAMING

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2024, 2021, 2018, 2015, 2012, and 2009 *International Building Code*® (IBC)
- 2024, 2021, 2018, 2015, 2012, and 2009 *International Residential Code*® (IRC)

**Property evaluated:**

Structural

**2.0 USES**

Members with a minimum G40 coating are used as nonstructural members as defined by the North American Standard for Cold-Formed Steel Nonstructural Framing (AISI S220).

Members with a minimum G60 coating are used as structural members as defined by the North American Standard for Cold-Formed Steel Structural Framing (AISI S240) and the North American Standard for Cold-Formed Steel Framing - General Provisions (AISI S200), as applicable and may also be used as nonstructural members.

**3.0 DESCRIPTION**

**3.1 General:**

The metal framing members described in this report are factory-formed from coils of steel at the facilities noted in

Table 8. See Tables 1, 2, 5 and 6, and Figure 1, for recognized profiles and section names. The C-sections (studs) are manufactured with and without web punch-outs. When provided, punch-outs have a width no greater than one-half the member web height ( $d/2$ ). Punch-out dimensions will vary with web width. Typical punch-out size for web widths greater than 3 inches (76 mm) is 1½ inches (38 mm) by 3 inches (76 mm) or 1½ inches (38 mm) by 4 inches (102 mm). Typical punch-out size for web widths less than 3 inches (76 mm) is ¾ inch (19 mm) by 2½ inches (64 mm) or ¾ inch (19 mm) by 4 inches (102 mm). See Figure 2 for an illustration of punch-outs. The punch-outs are located along the centerline of the webs of the studs with a minimum center-to-center spacing of 24 inches (610 mm). The minimum distance between the end of the stud and the near edge of the web punch-outs is 10 inches (254 mm). The values for studs in each of the tables of this report are for studs with punch-outs unless otherwise noted.

C-sections with 1.25-inch (32 mm) flanges may have indentations on the flanges. All other surfaces are flat, smooth surfaces. All surfaces of all other members are flat and smooth.

**3.2 Materials:**

Telling Industries metal framing members are cold-formed from steel coils conforming to ASTM A1003 ST33H or ASTM A1003 ST50H for members with a thickness of 33 mils or more, and ASTM A1003 NS33 for members with a thickness of less than 33 mils. The members have either a minimum G40 or G60 galvanized coating. The base-metal thickness is specified in Tables 1 through 6.

**4.0 DESIGN AND INSTALLATION**

**4.1 Design:**

The section properties indicated in Tables 3 through 6 have been determined in accordance with the North American Specification for the Design of Cold-formed Steel Structural Members (AISI S100). The allowable moments,  $M_a$ , as indicated in Tables 3 through 6, are for use with Allowable Strength Design (ASD) and are for flexural members installed with the compression flange continuously braced. For other conditions of compression flange bracing, the

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allowable moment must be determined in accordance with AISI S100. The design of members must address web crippling, combined bending and web crippling, and combined bending and shear, as applicable, in accordance with the AISI S100. C-sections (studs) listed in Table 7 and channels (tracks) qualify for use with the prescriptive requirements of the IRC. For use of all other sections under the IRC, the cold-formed steel framing members must be limited to engineered structures, in accordance with IRC Section R301.1.3.

#### 4.2 Installation:

The framing members must be installed in accordance with the code, the approved plans and this report. If there is a conflict between the plans submitted for approval and this report, this report governs. The approved plans must be made available at the jobsite at all times.

### 5.0 CONDITIONS OF USE

The Telling Industries metal framing described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The cold-formed steel members are installed in accordance with the code, the approved plans and this report.
- 5.2 Minimum uncoated base-metal thickness of the cold-formed steel members as delivered to the jobsite are at least 95 percent of the design base-metal thickness noted in Tables 1, 2, 5 and 6.
- 5.3 Complete plans and calculations verifying compliance with this report must be submitted to the code official for each project at the time of permit application. The calculations and drawings must be prepared and sealed by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.4 The cold-formed steel members are manufactured under an approved quality control program by ICC-ES.

### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Cold-formed Steel Framing Members (AC46), dated October 2019 (editorially revised February 2024).

### 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-2281) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, each cold-formed steel member is stamped at a spacing not exceeding 96 inches (2440 mm) on center with the Telling Industries name or initials (TI); the section name as described in Tables 1 through 6; the minimum uncoated base-metal thickness in mils or decimal inches; in addition to the following:
  - For nonstructural members, each member must have the minimum specified yield strength (if other than 33 ksi), and the designation "NS".
  - For structural members, each member must have the minimum specified yield strength; and the designation CP 60 for the G60 galvanized coating.
- 7.3 The report holder's contact information is the following:

**TELLING INDUSTRIES**  
**4420 SHERWIN ROAD**  
**WILLOUGHBY, OHIO 44094**  
**(440) 974-3370**  
[www.buildstrong.com](http://www.buildstrong.com)  
[technical@tellingindustries.com](mailto:technical@tellingindustries.com)

TABLE 1—C-SECTIONS (STUDS)<sup>1</sup>

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
162S125-18	1.625	1.25	0.1875	0.0843	18	0.0188	0.0179	362S125-43	3.625	1.25	0.1875	0.0712	43	0.0451	0.0428
162S125-27	1.625	1.25	0.1875	0.0796	27	0.0283	0.0269	362S125-54	3.625	1.25	0.1875	0.0849	54	0.0566	0.0538
162S125-30	1.625	1.25	0.1875	0.0781	30	0.0312	0.0296	362S125-68	3.625	1.25	0.1875	0.1069	68	0.0713	0.0677
162S125-33	1.625	1.25	0.1875	0.0764	33	0.0346	0.0329	362S137-33	3.625	1.375	0.375	0.0764	33	0.0346	0.0346
250S125-18	2.5	1.25	0.1875	0.0843	18	0.0188	0.0179	362S137-43	3.625	1.375	0.375	0.0712	43	0.0451	0.0451
250S125-27	2.5	1.25	0.1875	0.0796	27	0.0283	0.0269	362S137-54	3.625	1.375	0.375	0.0849	54	0.0566	0.0566
250S125-30	2.5	1.25	0.1875	0.0781	30	0.0312	0.0296	362S137-68	3.625	1.375	0.375	0.1069	68	0.0713	0.0713
250S125-33	2.5	1.25	0.1875	0.0764	33	0.0346	0.0329	362S137-97	3.625	1.375	0.375	0.1525	97	0.1017	0.1017
250S125-43	2.5	1.25	0.1875	0.0712	43	0.0451	0.0428	362S162-33	3.625	1.625	0.5	0.0764	33	0.0346	0.0346
250S125-54	2.5	1.25	0.1875	0.0849	54	0.0566	0.0538	362S162-43	3.625	1.625	0.5	0.0712	43	0.0451	0.0451
250S125-68	2.5	1.25	0.1875	0.1069	68	0.0713	0.0677	362S162-54	3.625	1.625	0.5	0.0849	54	0.0566	0.0566
250S137-33	2.5	1.375	0.375	0.0764	33	0.0346	0.0329	362S162-68	3.625	1.625	0.5	0.1069	68	0.0713	0.0713
250S137-43	2.5	1.375	0.375	0.0712	43	0.0451	0.0428	362S162-97	3.625	1.625	0.5	0.1525	97	0.1017	0.1017
250S137-54	2.5	1.375	0.375	0.0849	54	0.0566	0.0538	362S162-118	3.625	1.625	0.5	0.1863	118	0.1242	0.1180
250S137-68	2.5	1.375	0.375	0.1069	68	0.0713	0.0677	362S200-33	3.625	2	0.625	0.0764	33	0.0346	0.0346
250S137-97	2.5	1.375	0.375	0.1525	97	0.1017	0.0966	362S200-43	3.625	2	0.625	0.0712	43	0.0451	0.0451
250S162-33	2.5	1.625	0.5	0.0764	33	0.0346	0.0329	362S200-54	3.625	2	0.625	0.0849	54	0.0566	0.0566
250S162-43	2.5	1.625	0.5	0.0712	43	0.0451	0.0428	362S200-68	3.625	2	0.625	0.1069	68	0.0713	0.0713
250S162-54	2.5	1.625	0.5	0.0849	54	0.0566	0.0538	362S200-97	3.625	2	0.625	0.1525	97	0.1017	0.1017
250S162-68	2.5	1.625	0.5	0.1069	68	0.0713	0.0677	362S200-118	3.625	2	0.625	0.1863	118	0.1242	0.1180
250S162-97	2.5	1.625	0.5	0.1525	97	0.1017	0.0966	362S250-43	3.625	2.5	0.625	0.0712	43	0.0451	0.0451
250S200-33	2.5	2	0.625	0.0764	33	0.0346	0.0329	362S250-54	3.625	2.5	0.625	0.0849	54	0.0566	0.0566
250S200-43	2.5	2	0.625	0.0712	43	0.0451	0.0428	362S250-68	3.625	2.5	0.625	0.1069	68	0.0713	0.0713
250S200-54	2.5	2	0.625	0.0849	54	0.0566	0.0538	362S250-97	3.625	2.5	0.625	0.1525	97	0.1017	0.1017
250S200-68	2.5	2	0.625	0.1069	68	0.0713	0.0677	362S250-118	3.625	2.5	0.625	0.1863	118	0.1242	0.1180
250S200-97	2.5	2	0.625	0.1525	97	0.1017	0.0966	362S300-54	3.625	3	1	0.0849	54	0.0566	0.0566
250S250-43	2.5	2.5	0.625	0.0712	43	0.0451	0.0428	362S300-68	3.625	3	1	0.1069	68	0.0713	0.0713
250S250-54	2.5	2.5	0.625	0.0849	54	0.0566	0.0538	362S300-97	3.625	3	1	0.1525	97	0.1017	0.1017
250S250-68	2.5	2.5	0.625	0.1069	68	0.0713	0.0677	362S300-118	3.625	3	1	0.1863	118	0.1242	0.1180
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350S125-27	3.5	1.25	0.1875	0.0796	27	0.0283	0.0269	362S350-97	3.625	3.5	1	0.1525	97	0.1017	0.1017
350S125-30	3.5	1.25	0.1875	0.0781	30	0.0312	0.0296	362S350-118	3.625	3.5	1	0.1863	118	0.1242	0.1180
350S125-33	3.5	1.25	0.1875	0.0764	33	0.0346	0.0329	400S125-18 <sup>4</sup>	4	1.25	0.1875	0.0843	18	0.0188	0.0179
350S125-43	3.5	1.25	0.1875	0.0712	43	0.0451	0.0428	400S125-27	4	1.25	0.1875	0.0796	27	0.0283	0.0269
350S125-54	3.5	1.25	0.1875	0.0849	54	0.0566	0.0538	400S125-30	4	1.25	0.1875	0.0781	30	0.0312	0.0296
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350S137-54	3.5	1.375	0.375	0.0849	54	0.0566	0.0538	400S125-68	4	1.25	0.1875	0.1069	68	0.0713	0.0677
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350S162-54	3.5	1.625	0.5	0.0849	54	0.0566	0.0538	400S137-97	4	1.375	0.375	0.1525	97	0.1017	0.1017
350S162-68	3.5	1.625	0.5	0.1069	68	0.0713	0.0677	400S162-33	4	1.625	0.5	0.0764	33	0.0346	0.0346
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350S162-118	3.5	1.625	0.5	0.1863	118	0.1242	0.1180	400S162-54	4	1.625	0.5	0.0849	54	0.0566	0.0566
350S200-33	3.5	2	0.625	0.0764	33	0.0346	0.0329	400S162-68	4	1.625	0.5	0.1069	68	0.0713	0.0713
350S200-43	3.5	2	0.625	0.0712	43	0.0451	0.0428	400S162-97	4	1.625	0.5	0.1525	97	0.1017	0.1017
350S200-54	3.5	2	0.625	0.0849	54	0.0566	0.0538	400S162-118	4	1.625	0.5	0.1863	118	0.1242	0.1180
350S200-68	3.5	2	0.625	0.1069	68	0.0713	0.0677	400S200-33	4	2	0.625	0.0764	33	0.0346	0.0346
350S200-97	3.5	2	0.625	0.1525	97	0.1017	0.0966	400S200-43	4	2	0.625	0.0712	43	0.0451	0.0451
350S200-118	3.5	2	0.625	0.1863	118	0.1242	0.1180	400S200-54	4	2	0.625	0.0849	54	0.0566	0.0566
350S250-43	3.5	2.5	0.625	0.0712	43	0.0451	0.0428	400S200-68	4	2	0.625	0.1069	68	0.0713	0.0713
350S250-54	3.5	2.5	0.625	0.0849	54	0.0566	0.0538	400S200-97	4	2	0.625	0.1525	97	0.1017	0.1017
350S250-68	3.5	2.5	0.625	0.1069	68	0.0713	0.0677	400S200-118	4	2	0.625	0.1863	118	0.1242	0.1180
350S250-97	3.5	2.5	0.625	0.1525	97	0.1017	0.0966	400S250-43	4	2.5	0.625	0.0712	43	0.0451	0.0451
350S250-118	3.5	2.5	0.625	0.1863	118	0.1242	0.1180	400S250-54	4	2.5	0.625	0.0849	54	0.0566	0.0566
350S300-54	3.5	3	1	0.0849	54	0.0566	0.0538	400S250-68	4	2.5	0.625	0.1069	68	0.0713	0.0713
350S300-68	3.5	3	1	0.1069	68	0.0713	0.0677	400S250-97	4	2.5	0.625	0.1525	97	0.1017	0.1017
350S300-97	3.5	3	1	0.1525	97	0.1017	0.0966	400S250-118	4	2.5	0.625	0.1863	118	0.1242	0.1180
350S300-118	3.5	3	1	0.1863	118	0.1242	0.1180	400S300-54	4	3	1	0.0849	54	0.0566	0.0566
350S350-54	3.5	3.5	1	0.0849	54	0.0566	0.0538	400S300-68	4	3	1	0.1069	68	0.0713	0.0713
350S350-68	3.5	3.5	1	0.1069	68	0.0713	0.0677	400S300-97	4	3	1	0.1525	97	0.1017	0.1017
350S350-97	3.5	3.5	1	0.1525	97	0.1017	0.0966	400S300-118	4	3	1	0.1863	118	0.1242	0.1180
350S350-118	3.5	3.5	1	0.1863	118	0.1242	0.1180	400S350-54	4	3.5	1	0.0849	54	0.0566	0.0566
362S125-18	3.625	1.25	0.1875	0.0843	18	0.0188	0.0179	400S350-68	4	3.5	1	0.1069	68	0.0713	0.0713
362S125-27	3.625	1.25	0.1875	0.0796	27	0.0283	0.0269	400S350-97	4	3.5	1	0.1525	97	0.1017	0.1017
362S125-30	3.625	1.25	0.1875	0.0781	30	0.0312	0.0296	400S350-118	4	3.5	1	0.1863	118	0.1242	0.1180
362S125-33	3.625	1.25	0.1875	0.0764	33	0.0346	0.0329								

Table 1 continued on next page.

TABLE 1—C-SECTIONS (STUDS)<sup>1</sup> (Continued)

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
550S125-27	5.5	1.25	0.1875	0.0796	27	0.0283	0.0269	725S125-27 <sup>4</sup>	7.25	1.25	0.1875	0.0796	27	0.0283	0.0269
550S125-30	5.5	1.25	0.1875	0.0781	30	0.0312	0.0296	725S125-30 <sup>4</sup>	7.25	1.25	0.1875	0.0781	30	0.0312	0.0296
550S125-33	5.5	1.25	0.1875	0.0764	33	0.0346	0.0329	725S125-33 <sup>4</sup>	7.25	1.25	0.1875	0.0764	33	0.0346	0.0329
550S125-43	5.5	1.25	0.1875	0.0712	43	0.0451	0.0428	725S125-43	7.25	1.25	0.1875	0.0712	43	0.0451	0.0428
550S125-54	5.5	1.25	0.1875	0.0849	54	0.0566	0.0538	725S125-54	7.25	1.25	0.1875	0.0849	54	0.0566	0.0538
550S125-68	5.5	1.25	0.1875	0.1069	68	0.0713	0.0677	725S125-68	7.25	1.25	0.1875	0.1069	68	0.0713	0.0677
550S137-33	5.5	1.375	0.375	0.0764	33	0.0346	0.0329	725S137-33 <sup>4</sup>	7.25	1.375	0.375	0.0764	33	0.0346	0.0329
550S137-43	5.5	1.375	0.375	0.0712	43	0.0451	0.0428	725S137-43	7.25	1.375	0.375	0.0712	43	0.0451	0.0428
550S137-54	5.5	1.375	0.375	0.0849	54	0.0566	0.0538	725S137-54	7.25	1.375	0.375	0.0849	54	0.0566	0.0538
550S137-68	5.5	1.375	0.375	0.1069	68	0.0713	0.0677	725S137-68	7.25	1.375	0.375	0.1069	68	0.0713	0.0677
550S137-97	5.5	1.375	0.375	0.1525	97	0.1017	0.0966	725S137-97	7.25	1.375	0.375	0.1525	97	0.1017	0.0966
550S162-33	5.5	1.625	0.5	0.0764	33	0.0346	0.0329	725S162-33 <sup>4</sup>	7.25	1.625	0.5	0.0764	33	0.0346	0.0329
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550S162-54	5.5	1.625	0.5	0.0849	54	0.0566	0.0538	725S162-54	7.25	1.625	0.5	0.0849	54	0.0566	0.0538
550S162-68	5.5	1.625	0.5	0.1069	68	0.0713	0.0677	725S162-68	7.25	1.625	0.5	0.1069	68	0.0713	0.0677
550S162-97	5.5	1.625	0.5	0.1525	97	0.1017	0.0966	725S162-97	7.25	1.625	0.5	0.1525	97	0.1017	0.0966
550S162-118	5.5	1.625	0.5	0.1863	118	0.1242	0.1180	725S162-118	7.25	1.625	0.5	0.1863	118	0.1242	0.1180
550S200-33	5.5	2	0.625	0.0764	33	0.0346	0.0329	725S200-33 <sup>4</sup>	7.25	2	0.625	0.0764	33	0.0346	0.0329
550S200-43	5.5	2	0.625	0.0712	43	0.0451	0.0428	725S200-43	7.25	2	0.625	0.0712	43	0.0451	0.0428
550S200-54	5.5	2	0.625	0.0849	54	0.0566	0.0538	725S200-54	7.25	2	0.625	0.0849	54	0.0566	0.0538
550S200-68	5.5	2	0.625	0.1069	68	0.0713	0.0677	725S200-68	7.25	2	0.625	0.1069	68	0.0713	0.0677
550S200-97	5.5	2	0.625	0.1525	97	0.1017	0.0966	725S200-97	7.25	2	0.625	0.1525	97	0.1017	0.0966
550S200-118	5.5	2	0.625	0.1863	118	0.1242	0.1180	725S200-118	7.25	2	0.625	0.1863	118	0.1242	0.1180
550S250-43	5.5	2.5	0.625	0.0712	43	0.0451	0.0428	725S250-43	7.25	2.5	0.625	0.0712	43	0.0451	0.0428
550S250-54	5.5	2.5	0.625	0.0849	54	0.0566	0.0538	725S250-54	7.25	2.5	0.625	0.0849	54	0.0566	0.0538
550S250-68	5.5	2.5	0.625	0.1069	68	0.0713	0.0677	725S250-68	7.25	2.5	0.625	0.1069	68	0.0713	0.0677
550S250-97	5.5	2.5	0.625	0.1525	97	0.1017	0.0966	725S250-97	7.25	2.5	0.625	0.1525	97	0.1017	0.0966
550S250-118	5.5	2.5	0.625	0.1863	118	0.1242	0.1180	725S250-118	7.25	2.5	0.625	0.1863	118	0.1242	0.1180
550S300-54	5.5	3	1	0.0849	54	0.0566	0.0538	725S300-54	7.25	3	1	0.0849	54	0.0566	0.0538
550S300-68	5.5	3	1	0.1069	68	0.0713	0.0677	725S300-68	7.25	3	1	0.1069	68	0.0713	0.0677
550S300-97	5.5	3	1	0.1525	97	0.1017	0.0966	725S300-97	7.25	3	1	0.1525	97	0.1017	0.0966
550S300-118	5.5	3	1	0.1863	118	0.1242	0.1180	725S300-118	7.25	3	1	0.1863	118	0.1242	0.1180
550S350-54	5.5	3.5	1	0.0849	54	0.0566	0.0538	725S350-54	7.25	3.5	1	0.0849	54	0.0566	0.0538
550S350-68	5.5	3.5	1	0.1069	68	0.0713	0.0677	725S350-68	7.25	3.5	1	0.1069	68	0.0713	0.0677
550S350-97	5.5	3.5	1	0.1525	97	0.1017	0.0966	725S350-97	7.25	3.5	1	0.1525	97	0.1017	0.0966
550S350-118	5.5	3.5	1	0.1863	118	0.1242	0.1180	725S350-118	7.25	3.5	1	0.1863	118	0.1242	0.1180
600S125-27 <sup>4</sup>	6	1.25	0.1875	0.0796	27	0.0283	0.0269	800S125-30 <sup>4</sup>	8	1.25	0.1875	0.0781	30	0.0312	0.0296
600S125-30	6	1.25	0.1875	0.0781	30	0.0312	0.0296	800S125-33 <sup>4</sup>	8	1.25	0.1875	0.0764	33	0.0346	0.0329
600S125-33	6	1.25	0.1875	0.0764	33	0.0346	0.0329	800S125-43	8	1.25	0.1875	0.0712	43	0.0451	0.0428
600S125-43	6	1.25	0.1875	0.0712	43	0.0451	0.0428	800S125-54	8	1.25	0.1875	0.0849	54	0.0566	0.0538
600S125-54	6	1.25	0.1875	0.0849	54	0.0566	0.0538	800S125-68	8	1.25	0.1875	0.1069	68	0.0713	0.0677
600S125-68	6	1.25	0.1875	0.1069	68	0.0713	0.0677	800S137-33 <sup>4</sup>	8	1.375	0.375	0.0764	33	0.0346	0.0329
600S137-33	6	1.375	0.375	0.0764	33	0.0346	0.0329	800S137-43	8	1.375	0.375	0.0712	43	0.0451	0.0428
600S137-43	6	1.375	0.375	0.0712	43	0.0451	0.0428	800S137-54	8	1.375	0.375	0.0849	54	0.0566	0.0538
600S137-54	6	1.375	0.375	0.0849	54	0.0566	0.0538	800S137-68	8	1.375	0.375	0.1069	68	0.0713	0.0677
600S137-68	6	1.375	0.375	0.1069	68	0.0713	0.0677	800S137-97	8	1.375	0.375	0.1525	97	0.1017	0.0966
600S137-97	6	1.375	0.375	0.1525	97	0.1017	0.0966	800S162-33 <sup>4</sup>	8	1.625	0.5	0.0764	33	0.0346	0.0329
600S162-33	6	1.625	0.5	0.0764	33	0.0346	0.0329	800S162-43	8	1.625	0.5	0.0712	43	0.0451	0.0428
600S162-43	6	1.625	0.5	0.0712	43	0.0451	0.0428	800S162-54	8	1.625	0.5	0.0849	54	0.0566	0.0538
600S162-54	6	1.625	0.5	0.0849	54	0.0566	0.0538	800S162-68	8	1.625	0.5	0.1069	68	0.0713	0.0677
600S162-68	6	1.625	0.5	0.1069	68	0.0713	0.0677	800S162-97	8	1.625	0.5	0.1525	97	0.1017	0.0966
600S162-97	6	1.625	0.5	0.1525	97	0.1017	0.0966	800S162-118	8	1.625	0.5	0.1863	118	0.1242	0.1180
600S162-118	6	1.625	0.5	0.1863	118	0.1242	0.1180	800S200-33 <sup>4</sup>	8	2	0.625	0.0764	33	0.0346	0.0329
600S200-33	6	2	0.625	0.0764	33	0.0346	0.0329	800S200-43	8	2	0.625	0.0712	43	0.0451	0.0428
600S200-43	6	2	0.625	0.0712	43	0.0451	0.0428	800S200-54	8	2	0.625	0.0849	54	0.0566	0.0538
600S200-54	6	2	0.625	0.0849	54	0.0566	0.0538	800S200-68	8	2	0.625	0.1069	68	0.0713	0.0677
600S200-68	6	2	0.625	0.1069	68	0.0713	0.0677	800S200-97	8	2	0.625	0.1525	97	0.1017	0.0966
600S200-97	6	2	0.625	0.1525	97	0.1017	0.0966	800S200-118	8	2	0.625	0.1863	118	0.1242	0.1180
600S200-118	6	2	0.625	0.1863	118	0.1242	0.1180	800S250-43	8	2.5	0.625	0.0712	43	0.0451	0.0428
600S250-43	6	2.5	0.625	0.0712	43	0.0451	0.0428	800S250-54	8	2.5	0.625	0.0849	54	0.0566	0.0538
600S250-54	6	2.5	0.625	0.0849	54	0.0566	0.0538	800S250-68	8	2.5	0.625	0.1069	68	0.0713	0.0677
600S250-68	6	2.5	0.625	0.1069	68	0.0713	0.0677	800S250-97	8	2.5	0.625	0.1525	97	0.1017	0.0966
600S250-97	6	2.5	0.625	0.1525	97	0.1017	0.0966	800S250-118	8	2.5	0.625	0.1863	118	0.1242	0.1180
600S250-118	6	2.5	0.625	0.1863	118	0.1242	0.1180	800S300-54	8	3	1	0.0849	54	0.0566	0.0538
600S300-54	6	3	1	0.0849	54	0.0566	0.0538	800S300-68	8	3	1	0.1069	68	0.0713	0.0677
600S300-68	6	3	1	0.1069	68	0.0713	0.0677	800S300-97	8	3	1	0.1525	97	0.1017	0.0966
600S300-97	6	3	1	0.1525	97	0.1017	0.0966	800S300-118	8	3	1	0.1863	118	0.1242	0.1180
600S300-118	6	3	1	0.1863	118	0.1242	0.1180	800S350-54	8	3	1	0.0849	54	0.0566	0.0538
600S350-54	6	3.5	1	0.0849	54	0.0566	0.0538	800S350-68	8	3	1	0.1069	68	0.0713	0.0677
600S350-68	6	3.5	1	0.1069	68	0.0713	0.0677	800S350-97	8	3	1	0.1525	97	0.1017	0.0966
600S350-97	6	3.5	1	0.1525	97	0.1017	0.0966	800S350-118	8	3.5	1	0.1863	118	0.1242	0.1180
600S350-118	6	3.5	1	0.1863	118	0.1242	0.1180								

Table 1 continued on next page.

TABLE 1—C-SECTIONS (STUDS)<sup>1</sup> (Continued)

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
925S137-43	9.25	1.375	0.375	0.0712	43	0.0451	0.0428	1150S200-43 <sup>4</sup>	11.5	2	0.625	0.0712	43	0.0451	0.0428
925S137-54	9.25	1.375	0.375	0.0849	54	0.0566	0.0538	1150S200-54	11.5	2	0.625	0.0849	54	0.0566	0.0538
925S137-68	9.25	1.375	0.375	0.1069	68	0.0713	0.0677	1150S200-68	11.5	2	0.625	0.1069	68	0.0713	0.0677
925S137-97	9.25	1.375	0.375	0.1525	97	0.1017	0.0966	1150S200-97	11.5	2	0.625	0.1525	97	0.1017	0.0966
925S162-43	9.25	1.625	0.5	0.0712	43	0.0451	0.0428	1150S200-118	11.5	2	0.625	0.1863	118	0.1242	0.1180
925S162-54	9.25	1.625	0.5	0.0849	54	0.0566	0.0538	1150S250-43 <sup>4</sup>	11.5	2	0.625	0.0712	43	0.0451	0.0428
925S162-68	9.25	1.625	0.5	0.1069	68	0.0713	0.0677	1150S250-54	11.5	2	0.625	0.0849	54	0.0566	0.0538
925S162-97	9.25	1.625	0.5	0.1525	97	0.1017	0.0966	1150S250-68	11.5	2.5	0.625	0.1069	68	0.0713	0.0677
925S162-118	9.25	1.625	0.5	0.1863	118	0.1242	0.1180	1150S250-97	11.5	2.5	0.625	0.1525	97	0.1017	0.0966
925S200-43	9.25	2	0.625	0.0712	43	0.0451	0.0428	1150S250-118	11.5	2.5	0.625	0.1863	118	0.1242	0.1180
925S200-54	9.25	2	0.625	0.0849	54	0.0566	0.0538	1150S300-54	11.5	3	1	0.0849	54	0.0566	0.0538
925S200-68	9.25	2	0.625	0.1069	68	0.0713	0.0677	1150S300-68	11.5	3	1	0.1069	68	0.0713	0.0677
925S200-97	9.25	2	0.625	0.1525	97	0.1017	0.0966	1150S300-97	11.5	3	1	0.1525	97	0.1017	0.0966
925S200-118	9.25	2	0.625	0.1863	118	0.1242	0.1180	1150S300-118	11.5	3	1	0.1863	118	0.1242	0.1180
925S250-43	9.25	2.5	0.625	0.0712	43	0.0451	0.0428	1150S350-54	11.5	3	1	0.0849	54	0.0566	0.0538
925S250-54	9.25	2.5	0.625	0.0849	54	0.0566	0.0538	1150S350-68	11.5	3	1	0.1069	68	0.0713	0.0677
925S250-68	9.25	2.5	0.625	0.1069	68	0.0713	0.0677	1150S350-97	11.5	3	1	0.1525	97	0.1017	0.0966
925S250-97	9.25	2.5	0.625	0.1525	97	0.1017	0.0966	1150S350-118	11.5	3	1	0.1863	118	0.1242	0.1180
925S250-118	9.25	2.5	0.625	0.1863	118	0.1242	0.1180	1200S137-54 <sup>4</sup>	12	1.375	0.375	0.0849	54	0.0566	0.0538
925S300-54	9.25	3	1	0.0849	54	0.0566	0.0538	1200S137-68	12	1.375	0.375	0.1069	68	0.0713	0.0677
925S300-68	9.25	3	1	0.1069	68	0.0713	0.0677	1200S137-97	12	1.375	0.375	0.1525	97	0.1017	0.0966
925S300-97	9.25	3	1	0.1525	97	0.1017	0.0966	1200S162-54 <sup>4</sup>	12	1.625	0.5	0.0849	54	0.0566	0.0538
925S300-118	9.25	3	1	0.1863	118	0.1242	0.1180	1200S162-68	12	1.625	0.5	0.1069	68	0.0713	0.0677
925S350-54	9.25	3.5	1	0.0849	54	0.0566	0.0538	1200S162-97	12	1.625	0.5	0.1525	97	0.1017	0.0966
925S350-68	9.25	3.5	1	0.1069	68	0.0713	0.0677	1200S162-118	12	1.625	0.5	0.1863	118	0.1242	0.1180
925S350-97	9.25	3.5	1	0.1525	97	0.1017	0.0966	1200S200-54 <sup>4</sup>	12	2	0.625	0.0849	54	0.0566	0.0538
925S350-118	9.25	3.5	1	0.1863	118	0.1242	0.1180	1200S200-68	12	2	0.625	0.1069	68	0.0713	0.0677
1000S137-43 <sup>4</sup>	10	1.375	0.375	0.0712	43	0.0451	0.0428	1200S200-97	12	2	0.625	0.1525	97	0.1017	0.0966
1000S137-54	10	1.375	0.375	0.0849	54	0.0566	0.0538	1200S200-118	12	2	0.625	0.1863	118	0.1242	0.1180
1000S137-68	10	1.375	0.375	0.1069	68	0.0713	0.0677	1200S250-54 <sup>4</sup>	12	2.5	0.625	0.0849	54	0.0566	0.0538
1000S137-97	10	1.375	0.375	0.1525	97	0.1017	0.0966	1200S250-68	12	2.5	0.625	0.1069	68	0.0713	0.0677
1000S162-43 <sup>4</sup>	10	1.625	0.5	0.0712	43	0.0451	0.0428	1200S250-97	12	2.5	0.625	0.1525	97	0.1017	0.0966
1000S162-54	10	1.625	0.5	0.0849	54	0.0566	0.0538	1200S250-118	12	2.5	0.625	0.1863	118	0.1242	0.1180
1000S162-68	10	1.625	0.5	0.1069	68	0.0713	0.0677	1200S300-54 <sup>4</sup>	12	3	1	0.0849	54	0.0566	0.0538
1000S162-97	10	1.625	0.5	0.1525	97	0.1017	0.0966	1200S300-68	12	3	1	0.1069	68	0.0713	0.0677
1000S162-118	10	1.625	0.5	0.1863	118	0.1242	0.1180	1200S300-97	12	3	1	0.1525	97	0.1017	0.0966
1000S200-43 <sup>4</sup>	10	2	0.625	0.0712	43	0.0451	0.0428	1200S300-118	12	3	1	0.1863	118	0.1242	0.1180
1000S200-54	10	2	0.625	0.0849	54	0.0566	0.0538	1200S350-54 <sup>4</sup>	12	3.5	1	0.0849	54	0.0566	0.0538
1000S200-68	10	2	0.625	0.1069	68	0.0713	0.0677	1200S350-68	12	3.5	1	0.1069	68	0.0713	0.0677
1000S200-97	10	2	0.625	0.1525	97	0.1017	0.0966	1200S350-97	12	3.5	1	0.1525	97	0.1017	0.0966
1000S200-118	10	2	0.625	0.1863	118	0.1242	0.1180	1200S350-118	12	3.5	1	0.1863	118	0.1242	0.1180
1000S250-43 <sup>4</sup>	10	2.5	0.625	0.0712	43	0.0451	0.0428	1350S137-54 <sup>4</sup>	13.5	1.375	0.375	0.0849	54	0.0566	0.0538
1000S250-54	10	2.5	0.625	0.0849	54	0.0566	0.0538	1350S137-68	13.5	1.375	0.375	0.1069	68	0.0713	0.0677
1000S250-68	10	2.5	0.625	0.1069	68	0.0713	0.0677	1350S137-97	13.5	1.375	0.375	0.1525	97	0.1017	0.0966
1000S250-97	10	2.5	0.625	0.1525	97	0.1017	0.0966	1350S162-54 <sup>4</sup>	13.5	1.625	0.5	0.0849	54	0.0566	0.0538
1000S250-118	10	2.5	0.625	0.1863	118	0.1242	0.1180	1350S162-68	13.5	1.625	0.5	0.1069	68	0.0713	0.0677
1000S300-54	10	3	1	0.0849	54	0.0566	0.0538	1350S162-97	13.5	1.625	0.5	0.1525	97	0.1017	0.0966
1000S300-68	10	3	1	0.1069	68	0.0713	0.0677	1350S162-118	13.5	1.625	0.5	0.1863	118	0.1242	0.1180
1000S300-97	10	3	1	0.1525	97	0.1017	0.0966	1350S200-54 <sup>4</sup>	13.5	2	0.625	0.0849	54	0.0566	0.0538
1000S300-118	10	3	1	0.1863	118	0.1242	0.1180	1350S200-68	13.5	2	0.625	0.1069	68	0.0713	0.0677
1000S350-54	10	3.5	1	0.0849	54	0.0566	0.0538	1350S200-97	13.5	2	0.625	0.1525	97	0.1017	0.0966
1000S350-68	10	3.5	1	0.1069	68	0.0713	0.0677	1350S200-118	13.5	2	0.625	0.1863	118	0.1242	0.1180
1000S350-97	10	3.5	1	0.1525	97	0.1017	0.0966	1350S250-54 <sup>4</sup>	13.5	2.5	0.625	0.0849	54	0.0566	0.0538
1000S350-118	10	3.5	1	0.1863	118	0.1242	0.1180	1350S250-68	13.5	2.5	0.625	0.1069	68	0.0713	0.0677
1150S137-43 <sup>4</sup>	11.5	1.375	0.375	0.0712	43	0.0451	0.0428	1350S250-97	13.5	2.5	0.625	0.1525	97	0.1017	0.0966
1150S137-54	11.5	1.375	0.375	0.0849	54	0.0566	0.0538	1350S250-118	13.5	2.5	0.625	0.1863	118	0.1242	0.1180
1150S137-68	11.5	1.375	0.375	0.1069	68	0.0713	0.0677	1350S300-54 <sup>4</sup>	13.5	3	1	0.0849	54	0.0566	0.0538
1150S137-97	11.5	1.375	0.375	0.1525	97	0.1017	0.0966	1350S300-68	13.5	3	1	0.1069	68	0.0713	0.0677
1150S162-43 <sup>4</sup>	11.5	1.625	0.5	0.0712	43	0.0451	0.0428	1350S300-97	13.5	3	1	0.1525	97	0.1017	0.0966
1150S162-54	11.5	1.625	0.5	0.0849	54	0.0566	0.0538	1350S300-118	13.5	3	1	0.1863	118	0.1242	0.1180
1150S162-68	11.5	1.625	0.5	0.1069	68	0.0713	0.0677	1350S350-54 <sup>4</sup>	13.5	3.5	1	0.0849	54	0.0566	0.0538
1150S162-97	11.5	1.625	0.5	0.1525	97	0.1017	0.0966	1350S350-68	13.5	3.5	1	0.1069	68	0.0713	0.0677
1150S162-118	11.5	1.625	0.5	0.1863	118	0.1242	0.1180	1350S350-97	13.5	3.5	1	0.1525	97	0.1017	0.0966
								1350S350-118	13.5	3.5	1	0.1863	118	0.1242	0.1180

Table 1 continued on next page.

TABLE 1—C-SECTIONS (STUDS)<sup>1</sup> (Continued)

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	LIP (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
1400S137-54 <sup>4</sup>	14	1.375	0.375	0.0849	54	0.0566	0.0538	1600S162-68 <sup>4</sup>	16	1.625	0.625	0.1069	68	0.0713	0.0677
1400S137-68	14	1.375	0.375	0.1069	68	0.0713	0.0677	1600S162-97	16	1.625	0.625	0.1525	97	0.1017	0.0966
1400S137-97	14	1.375	0.375	0.1525	97	0.1017	0.0966	1600S162-118	16	1.625	0.625	0.1863	118	0.1242	0.1180
1400S162-54 <sup>4</sup>	14	1.625	0.5	0.0849	54	0.0566	0.0538	1600S200-68 <sup>4</sup>	16	2	0.625	0.1069	68	0.0713	0.0677
1400S162-68	14	1.625	0.5	0.1069	68	0.0713	0.0677	1600S200-97	16	2	0.625	0.1525	97	0.1017	0.0966
1400S162-97	14	1.625	0.5	0.1525	97	0.1017	0.0966	1600S200-118	16	2	0.625	0.1863	118	0.1242	0.1180
1400S162-118	14	1.625	0.5	0.1863	118	0.1242	0.1180	1600S250-68 <sup>4</sup>	16	2.5	0.625	0.1069	68	0.0713	0.0677
1400S200-54 <sup>4</sup>	14	2	0.625	0.0849	54	0.0566	0.0538	1600S250-97	16	2.5	0.625	0.1525	97	0.1017	0.0966
1400S200-68	14	2	0.625	0.1069	68	0.0713	0.0677	1600S250-118	16	2.5	0.625	0.1863	118	0.1242	0.1180
1400S200-97	14	2	0.625	0.1525	97	0.1017	0.0966	1600S300-68 <sup>4</sup>	16	3	1	0.1069	68	0.0713	0.0677
1400S200-118	14	2	0.625	0.1863	118	0.1242	0.1180	1600S300-97	16	3	1	0.1525	97	0.1017	0.0966
1400S250-54 <sup>4</sup>	14	2.5	0.625	0.0849	54	0.0566	0.0538	1600S300-118	16	3	1	0.1863	118	0.1242	0.1180
1400S250-68	14	2.5	0.625	0.1069	68	0.0713	0.0677	1600S350-68 <sup>4</sup>	16	3.5	1	0.1069	68	0.0713	0.0677
1400S250-97	14	2.5	0.625	0.1525	97	0.1017	0.0966	1600S350-97	16	3.5	1	0.1525	97	0.1017	0.0966
1400S250-118	14	2.5	0.625	0.1863	118	0.1242	0.1180	1600S350-118	16	3.5	1	0.1863	118	0.1242	0.1180
1400S300-54 <sup>4</sup>	14	3	1	0.0849	54	0.0566	0.0538								
1400S300-68	14	3	1	0.1069	68	0.0713	0.0677								
1400S300-97	14	3	1	0.1525	97	0.1017	0.0966								
1400S300-118	14	3	1	0.1863	118	0.1242	0.1180								
1400S350-54 <sup>4</sup>	14	3.5	1	0.0849	54	0.0566	0.0538								
1400S350-68	14	3.5	1	0.1069	68	0.0713	0.0677								
1400S350-97	14	3.5	1	0.1525	97	0.1017	0.0966								
1400S350-118	14	3.5	1	0.1863	118	0.1242	0.1180								

For SI: 1 inch = 25.4 mm.

<sup>1</sup> See Table 3 for member properties. See Figure 1 for illustration of member cross section.

<sup>2</sup> Depth measured from outside face to outside face of flanges.

<sup>3</sup> Base metal thickness of members, exclusive of coatings, delivered to the jobsite must be a minimum of 95 percent of the design thickness.

<sup>4</sup> Web height-to-thickness ratio, h/t, exceeds 200. Web must have bearing stiffeners in accordance with AISI S100. No holes or punch-outs are permitted in the web.



TABLE 2—CHANNEL (TRACK) SECTIONS<sup>1</sup>

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	INSIDE CORNER RADI (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	INSIDE CORNER RADI (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
162T125-18	1.625	1.25	0.0843	18	0.0188	0.0179	350T300-54	3.5	3	0.0849	54	0.0566	0.0538
162T125-27	1.625	1.25	0.0796	27	0.0283	0.0269	350T300-68	3.5	3	0.1069	68	0.0713	0.0677
162T125-30	1.625	1.25	0.0781	30	0.0312	0.0296	350T300-97	3.5	3	0.1525	97	0.1017	0.0966
162T125-33	1.625	1.25	0.0764	33	0.0346	0.0329	350T300-118	3.5	3	0.1863	118	0.1242	0.1180
162T125-43	1.625	1.25	0.0712	43	0.0451	0.0428	350T400-68	3.5	4	0.1069	68	0.0713	0.0677
162T125-54	1.625	1.25	0.0849	54	0.0566	0.0538	350T400-97	3.5	4	0.1525	97	0.1017	0.0966
162T125-68	1.625	1.25	0.1069	68	0.0713	0.0677	350T400-118	3.5	4	0.1863	118	0.1242	0.1180
162T125-97	1.625	1.25	0.1525	97	0.1017	0.0966	362T125-18	3.625	1.25	0.0843	18	0.0188	0.0179
162T150-18	1.625	1.5	0.0843	18	0.0188	0.0179	362T125-27	3.625	1.25	0.0796	27	0.0283	0.0269
162T150-27	1.625	1.5	0.0796	27	0.0283	0.0269	362T125-30	3.625	1.25	0.0781	30	0.0312	0.0296
162T150-30	1.625	1.5	0.0781	30	0.0312	0.0296	362T125-33	3.625	1.25	0.0764	33	0.0346	0.0329
162T150-33	1.625	1.5	0.0764	33	0.0346	0.0329	362T125-43	3.625	1.25	0.0712	43	0.0451	0.0428
162T150-43	1.625	1.5	0.0712	43	0.0451	0.0428	362T125-54	3.625	1.25	0.0849	54	0.0566	0.0538
162T150-54	1.625	1.5	0.0849	54	0.0566	0.0538	362T125-68	3.625	1.25	0.1069	68	0.0713	0.0677
162T150-68	1.625	1.5	0.1069	68	0.0713	0.0677	362T125-97	3.625	1.25	0.1525	97	0.1017	0.0966
162T150-97	1.625	1.5	0.1525	97	0.1017	0.0966	362T125-118	3.625	1.25	0.1863	118	0.1242	0.1180
162T200-33	1.625	2	0.0764	33	0.0346	0.0329	362T150-27	3.625	1.5	0.0796	27	0.0283	0.0269
162T200-43	1.625	2	0.0712	43	0.0451	0.0428	362T150-30	3.625	1.5	0.0781	30	0.0312	0.0296
162T200-54	1.625	2	0.0849	54	0.0566	0.0538	362T150-33	3.625	1.5	0.0764	33	0.0346	0.0329
162T200-68	1.625	2	0.1069	68	0.0713	0.0677	362T150-43	3.625	1.5	0.0712	43	0.0451	0.0428
162T200-97	1.625	2	0.1525	97	0.1017	0.0966	362T150-54	3.625	1.5	0.0849	54	0.0566	0.0538
250T125-18	2.5	1.25	0.0843	18	0.0188	0.0179	362T150-68	3.625	1.5	0.1069	68	0.0713	0.0677
250T125-27	2.5	1.25	0.0796	27	0.0283	0.0269	362T150-97	3.625	1.5	0.1525	97	0.1017	0.0966
250T125-30	2.5	1.25	0.0781	30	0.0312	0.0296	362T150-118	3.625	1.5	0.1863	118	0.1242	0.1180
250T125-33	2.5	1.25	0.0764	33	0.0346	0.0329	362T200-33	3.625	2	0.0764	33	0.0346	0.0329
250T125-43	2.5	1.25	0.0712	43	0.0451	0.0428	362T200-43	3.625	2	0.0712	43	0.0451	0.0428
250T125-54	2.5	1.25	0.0849	54	0.0566	0.0538	362T200-54	3.625	2	0.0849	54	0.0566	0.0538
250T125-68	2.5	1.25	0.1069	68	0.0713	0.0677	362T200-68	3.625	2	0.1069	68	0.0713	0.0677
250T125-97	2.5	1.25	0.1525	97	0.1017	0.0966	362T200-97	3.625	2	0.1525	97	0.1017	0.0966
250T150-27	2.5	1.5	0.0796	27	0.0283	0.0269	362T200-118	3.625	2	0.1863	118	0.1242	0.1180
250T150-30	2.5	1.5	0.0781	30	0.0312	0.0296	362T250-43	3.625	2.5	0.0712	43	0.0451	0.0428
250T150-33	2.5	1.5	0.0764	33	0.0346	0.0329	362T250-54	3.625	2.5	0.0849	54	0.0566	0.0538
250T150-43	2.5	1.5	0.0712	43	0.0451	0.0428	362T250-68	3.625	2.5	0.1069	68	0.0713	0.0677
250T150-54	2.5	1.5	0.0849	54	0.0566	0.0538	362T250-97	3.625	2.5	0.1525	97	0.1017	0.0966
250T150-68	2.5	1.5	0.1069	68	0.0713	0.0677	362T250-118	3.625	2.5	0.1863	118	0.1242	0.1180
250T150-97	2.5	1.5	0.1525	97	0.1017	0.0966	362T300-54	3.625	3	0.0849	54	0.0566	0.0538
250T200-33	2.5	2	0.0764	33	0.0346	0.0329	362T300-68	3.625	3	0.1069	68	0.0713	0.0677
250T200-43	2.5	2	0.0712	43	0.0451	0.0428	362T300-97	3.625	3	0.1525	97	0.1017	0.0966
250T200-54	2.5	2	0.0849	54	0.0566	0.0538	362T300-118	3.625	3	0.1863	118	0.1242	0.1180
250T200-68	2.5	2	0.1069	68	0.0713	0.0677	362T400-68	3.625	4	0.1069	68	0.0713	0.0677
250T200-97	2.5	2	0.1525	97	0.1017	0.0966	362T400-97	3.625	4	0.1525	97	0.1017	0.0966
250T250-43	2.5	2.5	0.0712	43	0.0451	0.0428	362T400-118	3.625	4	0.1863	118	0.1242	0.1180
250T250-54	2.5	2.5	0.0849	54	0.0566	0.0538	400T125-18 <sup>1</sup>	4	1.25	0.0843	18	0.0188	0.0179
250T250-68	2.5	2.5	0.1069	68	0.0713	0.0677	400T125-27	4	1.25	0.0796	27	0.0283	0.0269
250T250-97	2.5	2.5	0.1525	97	0.1017	0.0966	400T125-30	4	1.25	0.0781	30	0.0312	0.0296
250T300-54	2.5	3	0.0849	54	0.0566	0.0538	400T125-33	4	1.25	0.0764	33	0.0346	0.0329
250T300-68	2.5	3	0.1069	68	0.0713	0.0677	400T125-43	4	1.25	0.0712	43	0.0451	0.0428
250T300-97	2.5	3	0.1525	97	0.1017	0.0966	400T125-54	4	1.25	0.0849	54	0.0566	0.0538
350T125-18	3.5	1.25	0.0843	18	0.0188	0.0179	400T125-68	4	1.25	0.1069	68	0.0713	0.0677
350T125-27	3.5	1.25	0.0796	27	0.0283	0.0269	400T125-97	4	1.25	0.1525	97	0.1017	0.0966
350T125-30	3.5	1.25	0.0781	30	0.0312	0.0296	400T125-118	4	1.25	0.1863	118	0.1242	0.1180
350T125-33	3.5	1.25	0.0764	33	0.0346	0.0329	400T150-27	4	1.5	0.0796	27	0.0283	0.0269
350T125-43	3.5	1.25	0.0712	43	0.0451	0.0428	400T150-30	4	1.5	0.0781	30	0.0312	0.0296
350T125-54	3.5	1.25	0.0849	54	0.0566	0.0538	400T150-33	4	1.5	0.0764	33	0.0346	0.0329
350T125-68	3.5	1.25	0.1069	68	0.0713	0.0677	400T150-43	4	1.5	0.0712	43	0.0451	0.0428
350T125-97	3.5	1.25	0.1525	97	0.1017	0.0966	400T150-54	4	1.5	0.0849	54	0.0566	0.0538
350T125-118	3.5	1.25	0.1863	118	0.1242	0.1180	400T150-68	4	1.5	0.1069	68	0.0713	0.0677
350T150-27	3.5	1.5	0.0796	27	0.0283	0.0269	400T150-97	4	1.5	0.1525	97	0.1017	0.0966
350T150-30	3.5	1.5	0.0781	30	0.0312	0.0296	400T150-118	4	1.5	0.1863	118	0.1242	0.1180
350T150-33	3.5	1.5	0.0764	33	0.0346	0.0329	400T200-33	4	2	0.0764	33	0.0346	0.0329
350T150-43	3.5	1.5	0.0712	43	0.0451	0.0428	400T200-43	4	2	0.0712	43	0.0451	0.0428
350T150-54	3.5	1.5	0.0849	54	0.0566	0.0538	400T200-54	4	2	0.0849	54	0.0566	0.0538
350T150-68	3.5	1.5	0.1069	68	0.0713	0.0677	400T200-68	4	2	0.1069	68	0.0713	0.0677
350T150-97	3.5	1.5	0.1525	97	0.1017	0.0966	400T200-97	4	2	0.1525	97	0.1017	0.0966
350T150-118	3.5	1.5	0.1863	118	0.1242	0.1180	400T200-118	4	2	0.1863	118	0.1242	0.1180
350T200-33	3.5	2	0.0764	33	0.0346	0.0329	400T250-43	4	2.5	0.0712	43	0.0451	0.0428
350T200-43	3.5	2	0.0712	43	0.0451	0.0428	400T250-54	4	2.5	0.0849	54	0.0566	0.0538
350T200-54	3.5	2	0.0849	54	0.0566	0.0538	400T250-68	4	2.5	0.1069	68	0.0713	0.0677
350T200-68	3.5	2	0.1069	68	0.0713	0.0677	400T250-97	4	2.5	0.1525	97	0.1017	0.0966
350T200-97	3.5	2	0.1525	97	0.1017	0.0966	400T250-118	4	2.5	0.1863	118	0.1242	0.1180
350T200-118	3.5	2	0.1863	118	0.1242	0.1180	400T300-54	4	3	0.0849	54	0.0566	0.0538
350T250-43	3.5	2.5	0.0712	43	0.0451	0.0428	400T300-68	4	3	0.1069	68	0.0713	0.0677
350T250-54	3.5	2.5	0.0849	54	0.0566	0.0538	400T300-97	4	3	0.1525	97	0.1017	0.0966
350T250-68	3.5	2.5	0.1069	68	0.0713	0.0677	400T300-118	4	3	0.1863	118	0.1242	0.1180
350T250-97	3.5	2.5	0.1525	97	0.1017	0.0966							
350T250-118	3.5	2.5	0.1863	118	0.1242	0.1180							

Table 2 continued on next page.

TABLE 2—CHANNEL (TRACK) SECTIONS<sup>1</sup> (Continued)

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
400T400-68	4	4	0.1069	68	0.0713	0.0677	725T125-68	7.25	1.25	0.1069	68	0.0713	0.0677
400T400-97	4	4	0.1525	97	0.1017	0.0966	725T125-97	7.25	1.25	0.1525	97	0.1017	0.0966
400T400-118	4	4	0.1863	118	0.1242	0.1180	725T125-118	7.25	1.25	0.1863	118	0.1242	0.118
550T125-27	5.5	1.25	0.0796	27	0.0283	0.0269	725T150-27 <sup>4</sup>	7.25	1.5	0.0796	27	0.0283	0.0269
550T125-30	5.5	1.25	0.0781	30	0.0312	0.0296	725T150-30 <sup>4</sup>	7.25	1.5	0.0781	30	0.0312	0.0296
550T125-33	5.5	1.25	0.0764	33	0.0346	0.0329	725T150-33 <sup>4</sup>	7.25	1.5	0.0764	33	0.0346	0.0329
550T125-43	5.5	1.25	0.0712	43	0.0451	0.0428	725T150-43	7.25	1.5	0.0712	43	0.0451	0.0428
550T125-54	5.5	1.25	0.0849	54	0.0566	0.0538	725T150-54	7.25	1.5	0.0849	54	0.0566	0.0538
550T125-68	5.5	1.25	0.1069	68	0.0713	0.0677	725T150-68	7.25	1.5	0.1069	68	0.0713	0.0677
550T125-97	5.5	1.25	0.1525	97	0.1017	0.0966	725T150-97	7.25	1.5	0.1525	97	0.1017	0.0966
550T125-118	5.5	1.25	0.1863	118	0.1242	0.1180	725T150-118	7.25	1.5	0.1863	118	0.1242	0.118
550T150-27	5.5	1.5	0.0796	27	0.0283	0.0269	725T200-33 <sup>4</sup>	7.25	2	0.0764	33	0.0346	0.0329
550T150-30	5.5	1.5	0.0781	30	0.0312	0.0296	725T200-43	7.25	2	0.0712	43	0.0451	0.0428
550T150-33	5.5	1.5	0.0764	33	0.0346	0.0329	725T200-54	7.25	2	0.0849	54	0.0566	0.0538
550T150-43	5.5	1.5	0.0712	43	0.0451	0.0428	725T200-68	7.25	2	0.1069	68	0.0713	0.0677
550T150-54	5.5	1.5	0.0849	54	0.0566	0.0538	725T200-97	7.25	2	0.1525	97	0.1017	0.0966
550T150-68	5.5	1.5	0.1069	68	0.0713	0.0677	725T200-118	7.25	2	0.1863	118	0.1242	0.118
550T150-97	5.5	1.5	0.1525	97	0.1017	0.0966	725T250-43	7.25	2.5	0.0712	43	0.0451	0.0428
550T150-118	5.5	1.5	0.1863	118	0.1242	0.1180	725T250-54	7.25	2.5	0.0849	54	0.0566	0.0538
550T200-33	5.5	2	0.0764	33	0.0346	0.0329	725T250-68	7.25	2.5	0.1069	68	0.0713	0.0677
550T200-43	5.5	2	0.0712	43	0.0451	0.0428	725T250-97	7.25	2.5	0.1525	97	0.1017	0.0966
550T200-54	5.5	2	0.0849	54	0.0566	0.0538	725T250-118	7.25	2.5	0.1863	118	0.1242	0.118
550T200-68	5.5	2	0.1069	68	0.0713	0.0677	725T300-54	7.25	3	0.0849	54	0.0566	0.0538
550T200-97	5.5	2	0.1525	97	0.1017	0.0966	725T300-68	7.25	3	0.1069	68	0.0713	0.0677
550T200-118	5.5	2	0.1863	118	0.1242	0.1180	725T300-97	7.25	3	0.1525	97	0.1017	0.0966
550T250-43	5.5	2.5	0.0712	43	0.0451	0.0428	725T300-118	7.25	3	0.1863	118	0.1242	0.118
550T250-54	5.5	2.5	0.0849	54	0.0566	0.0538	725T400-68	7.25	4	0.1069	68	0.0713	0.0677
550T250-68	5.5	2.5	0.1069	68	0.0713	0.0677	725T400-97	7.25	4	0.1525	97	0.1017	0.0966
550T250-97	5.5	2.5	0.1525	97	0.1017	0.0966	725T400-118	7.25	4	0.1863	118	0.1242	0.118
550T250-118	5.5	2.5	0.1863	118	0.1242	0.1180	800T125-30 <sup>4</sup>	8	1.25	0.0781	30	0.0312	0.0296
550T300-54	5.5	3	0.0849	54	0.0566	0.0538	800T125-33 <sup>4</sup>	8	1.25	0.0764	33	0.0346	0.0329
550T300-68	5.5	3	0.1069	68	0.0713	0.0677	800T125-43	8	1.25	0.0712	43	0.0451	0.0428
550T300-97	5.5	3	0.1525	97	0.1017	0.0966	800T125-54	8	1.25	0.0849	54	0.0566	0.0538
550T300-118	5.5	3	0.1863	118	0.1242	0.1180	800T125-68	8	1.25	0.1069	68	0.0713	0.0677
550T400-68	5.5	4	0.1069	68	0.0713	0.0677	800T125-97	8	1.25	0.1525	97	0.1017	0.0966
550T400-97	5.5	4	0.1525	97	0.1017	0.0966	800T125-118	8	1.25	0.1863	118	0.1242	0.118
550T400-118	5.5	4	0.1863	118	0.1242	0.1180	800T150-30 <sup>4</sup>	8	1.5	0.0781	30	0.0312	0.0296
600T125-27 <sup>4</sup>	6	1.25	0.0796	27	0.0283	0.0269	800T150-33 <sup>4</sup>	8	1.5	0.0764	33	0.0346	0.0329
600T125-30	6	1.25	0.0781	30	0.0312	0.0296	800T150-43	8	1.5	0.0712	43	0.0451	0.0428
600T125-33	6	1.25	0.0764	33	0.0346	0.0329	800T150-54	8	1.5	0.0849	54	0.0566	0.0538
600T125-43	6	1.25	0.0712	43	0.0451	0.0428	800T150-68	8	1.5	0.1069	68	0.0713	0.0677
600T125-54	6	1.25	0.0849	54	0.0566	0.0538	800T150-97	8	1.5	0.1525	97	0.1017	0.0966
600T125-68	6	1.25	0.1069	68	0.0713	0.0677	800T150-118	8	1.5	0.1863	118	0.1242	0.118
600T125-97	6	1.25	0.1525	97	0.1017	0.0966	800T200-33 <sup>4</sup>	8	2	0.0764	33	0.0346	0.0329
600T125-118	6	1.25	0.1863	118	0.1242	0.118	800T200-43	8	2	0.0712	43	0.0451	0.0428
600T150-27 <sup>4</sup>	6	1.5	0.0796	27	0.0283	0.0269	800T200-54	8	2	0.0849	54	0.0566	0.0538
600T150-30	6	1.5	0.0781	30	0.0312	0.0296	800T200-68	8	2	0.1069	68	0.0713	0.0677
600T150-33	6	1.5	0.0764	33	0.0346	0.0329	800T200-97	8	2	0.1525	97	0.1017	0.0966
600T150-43	6	1.5	0.0712	43	0.0451	0.0428	800T200-118	8	2	0.1863	118	0.1242	0.118
600T150-54	6	1.5	0.0849	54	0.0566	0.0538	800T250-43	8	2.5	0.0712	43	0.0451	0.0428
600T150-68	6	1.5	0.1069	68	0.0713	0.0677	800T250-54	8	2.5	0.0849	54	0.0566	0.0538
600T150-97	6	1.5	0.1525	97	0.1017	0.0966	800T250-68	8	2.5	0.1069	68	0.0713	0.0677
600T150-118	6	1.5	0.1863	118	0.1242	0.118	800T250-97	8	2.5	0.1525	97	0.1017	0.0966
600T200-33	6	2	0.0764	33	0.0346	0.0329	800T250-118	8	2.5	0.1863	118	0.1242	0.118
600T200-43	6	2	0.0712	43	0.0451	0.0428	800T300-54	8	3	0.0849	54	0.0566	0.0538
600T200-54	6	2	0.0849	54	0.0566	0.0538	800T300-68	8	3	0.1069	68	0.0713	0.0677
600T200-68	6	2	0.1069	68	0.0713	0.0677	800T300-97	8	3	0.1525	97	0.1017	0.0966
600T200-97	6	2	0.1525	97	0.1017	0.0966	800T300-118	8	3	0.1863	118	0.1242	0.118
600T200-118	6	2	0.1863	118	0.1242	0.118	800T400-68	8	4	0.1069	68	0.0713	0.0677
600T250-43	6	2.5	0.0712	43	0.0451	0.0428	800T400-97	8	4	0.1525	97	0.1017	0.0966
600T250-54	6	2.5	0.0849	54	0.0566	0.0538	800T400-118	8	4	0.1863	118	0.1242	0.118
600T250-68	6	2.5	0.1069	68	0.0713	0.0677	925T125-43 <sup>4</sup>	9.25	1.25	0.0712	43	0.0451	0.0428
600T250-97	6	2.5	0.1525	97	0.1017	0.0966	925T125-54	9.25	1.25	0.0849	54	0.0566	0.0538
600T250-118	6	2.5	0.1863	118	0.1242	0.118	925T125-68	9.25	1.25	0.1069	68	0.0713	0.0677
600T300-54	6	3	0.0849	54	0.0566	0.0538	925T125-97	9.25	1.25	0.1525	97	0.1017	0.0966
600T300-68	6	3	0.1069	68	0.0713	0.0677	925T125-118	9.25	1.25	0.1863	118	0.1242	0.118
600T300-97	6	3	0.1525	97	0.1017	0.0966	925T150-43 <sup>4</sup>	9.25	1.5	0.0712	43	0.0451	0.0428
600T300-118	6	3	0.1863	118	0.1242	0.118	925T150-54	9.25	1.5	0.0849	54	0.0566	0.0538
600T400-68	6	4	0.1069	68	0.0713	0.0677	925T150-68	9.25	1.5	0.1069	68	0.0713	0.0677
600T400-97	6	4	0.1525	97	0.1017	0.0966	925T150-97	9.25	1.5	0.1525	97	0.1017	0.0966
600T400-118	6	4	0.1863	118	0.1242	0.118	925T150-118	9.25	1.5	0.1863	118	0.1242	0.118
725T125-27 <sup>4</sup>	7.25	1.25	0.0796	27	0.0283	0.0269	925T200-43 <sup>4</sup>	9.25	2	0.0712	43	0.0451	0.0428
725T125-30 <sup>1</sup>	7.25	1.25	0.0781	30	0.0312	0.0296	925T200-54	9.25	2	0.0849	54	0.0566	0.0538
725T125-33 <sup>1</sup>	7.25	1.25	0.0764	33	0.0346	0.0329	925T200-68	9.25	2	0.1069	68	0.0713	0.0677
725T125-43	7.25	1.25	0.0712	43	0.0451	0.0428	925T200-97	9.25	2	0.1525	97	0.1017	0.0966
725T125-54	7.25	1.25	0.0849	54	0.0566	0.0538	925T200-118	9.25	2	0.1863	118	0.1242	0.118

Table 2 continued on next page.



TABLE 2—CHANNEL (TRACK) SECTIONS<sup>1</sup> (Continued)

SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)	SECTION	DEPTH <sup>2</sup> (in)	FLANGE (in)	INSIDE CORNER RADII (in)	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. <sup>3</sup> (in)
925T250-43 <sup>4</sup>	9.25	2.5	0.0712	43	0.0451	0.0428	1200T200-54 <sup>4</sup>	12	2	0.0849	54	0.0566	0.0538
925T250-54	9.25	2.5	0.0849	54	0.0566	0.0538	1200T200-68	12	2	0.1069	68	0.0713	0.0677
925T250-68	9.25	2.5	0.1069	68	0.0713	0.0677	1200T200-97	12	2	0.1525	97	0.1017	0.0966
925T250-97	9.25	2.5	0.1525	97	0.1017	0.0966	1200T200-118	12	2	0.1863	118	0.1242	0.118
925T250-118	9.25	2.5	0.1863	118	0.1242	0.118	1200T250-54 <sup>4</sup>	12	2.5	0.0849	54	0.0566	0.0538
925T300-54	9.25	3	0.0849	54	0.0566	0.0538	1200T250-68	12	2.5	0.1069	68	0.0713	0.0677
925T300-68	9.25	3	0.1069	68	0.0713	0.0677	1200T250-97	12	2.5	0.1525	97	0.1017	0.0966
925T300-97	9.25	3	0.1525	97	0.1017	0.0966	1200T250-118	12	2.5	0.1863	118	0.1242	0.118
925T300-118	9.25	3	0.1863	118	0.1242	0.118	1200T300-54 <sup>4</sup>	12	3	0.0849	54	0.0566	0.0538
925T400-68	9.25	4	0.1069	68	0.0713	0.0677	1200T300-68	12	3	0.1069	68	0.0713	0.0677
925T400-97	9.25	4	0.1525	97	0.1017	0.0966	1200T300-97	12	3	0.1525	97	0.1017	0.0966
925T400-118	9.25	4	0.1863	118	0.1242	0.118	1200T300-118	12	3	0.1863	118	0.1242	0.118
1000T125-43 <sup>4</sup>	10	1.25	0.0712	43	0.0451	0.0428	1200T400-68	12	4	0.1069	68	0.0713	0.0677
1000T125-54	10	1.25	0.0849	54	0.0566	0.0538	1200T400-97	12	4	0.1525	97	0.1017	0.0966
1000T125-68	10	1.25	0.1069	68	0.0713	0.0677	1200T400-118	12	4	0.1863	118	0.1242	0.118
1000T125-97	10	1.25	0.1525	97	0.1017	0.0966	1350T125-54 <sup>4</sup>	13.5	1.25	0.0849	54	0.0566	0.0538
1000T125-118	10	1.25	0.1863	118	0.1242	0.118	1350T125-68	13.5	1.25	0.1069	68	0.0713	0.0677
1000T150-43 <sup>4</sup>	10	1.5	0.0712	43	0.0451	0.0428	1350T125-97	13.5	1.25	0.1525	97	0.1017	0.0966
1000T150-54	10	1.5	0.0849	54	0.0566	0.0538	1350T125-118	13.5	1.25	0.1863	118	0.1242	0.118
1000T150-68	10	1.5	0.1069	68	0.0713	0.0677	1350T150-54 <sup>4</sup>	13.5	1.5	0.0849	54	0.0566	0.0538
1000T150-97	10	1.5	0.1525	97	0.1017	0.0966	1350T150-68	13.5	1.5	0.1069	68	0.0713	0.0677
1000T150-118	10	1.5	0.1863	118	0.1242	0.118	1350T150-97	13.5	1.5	0.1525	97	0.1017	0.0966
1000T200-43 <sup>4</sup>	10	2	0.0712	43	0.0451	0.0428	1350T150-118	13.5	1.5	0.1863	118	0.1242	0.118
1000T200-54	10	2	0.0849	54	0.0566	0.0538	1350T200-54 <sup>4</sup>	13.5	2	0.0849	54	0.0566	0.0538
1000T200-68	10	2	0.1069	68	0.0713	0.0677	1350T200-68	13.5	2	0.1069	68	0.0713	0.0677
1000T200-97	10	2	0.1525	97	0.1017	0.0966	1350T200-97	13.5	2	0.1525	97	0.1017	0.0966
1000T200-118	10	2	0.1863	118	0.1242	0.118	1350T200-118	13.5	2	0.1863	118	0.1242	0.118
1000T250-43 <sup>4</sup>	10	2.5	0.0712	43	0.0451	0.0428	1350T250-54 <sup>4</sup>	13.5	2.5	0.0849	54	0.0566	0.0538
1000T250-54	10	2.5	0.0849	54	0.0566	0.0538	1350T250-68	13.5	2.5	0.1069	68	0.0713	0.0677
1000T250-68	10	2.5	0.1069	68	0.0713	0.0677	1350T250-97	13.5	2.5	0.1525	97	0.1017	0.0966
1000T250-97	10	2.5	0.1525	97	0.1017	0.0966	1350T250-118	13.5	2.5	0.1863	118	0.1242	0.118
1000T250-118	10	2.5	0.1863	118	0.1242	0.118	1350T300-54 <sup>4</sup>	13.5	3	0.0849	54	0.0566	0.0538
1000T300-54	10	3	0.0849	54	0.0566	0.0538	1350T300-68	13.5	3	0.1069	68	0.0713	0.0677
1000T300-68	10	3	0.1069	68	0.0713	0.0677	1350T300-97	13.5	3	0.1525	97	0.1017	0.0966
1000T300-97	10	3	0.1525	97	0.1017	0.0966	1350T300-118	13.5	3	0.1863	118	0.1242	0.118
1000T300-118	10	3	0.1863	118	0.1242	0.118	1350T400-68	13.5	4	0.1069	68	0.0713	0.0677
1000T400-68	10	4	0.1069	68	0.0713	0.0677	1350T400-97	13.5	4	0.1525	97	0.1017	0.0966
1000T400-97	10	4	0.1525	97	0.1017	0.0966	1350T400-118	13.5	4	0.1863	118	0.1242	0.118
1000T400-118	10	4	0.1863	118	0.1242	0.118	1400T125-54 <sup>4</sup>	14	1.25	0.0849	54	0.0566	0.0538
1150T125-43 <sup>4</sup>	11.5	1.25	0.0712	43	0.0451	0.0428	1400T125-68	14	1.25	0.1069	68	0.0713	0.0677
1150T125-54 <sup>4</sup>	11.5	1.25	0.0849	54	0.0566	0.0538	1400T125-97	14	1.25	0.1525	97	0.1017	0.0966
1150T125-68	11.5	1.25	0.1069	68	0.0713	0.0677	1400T125-118	14	1.25	0.1863	118	0.1242	0.118
1150T125-97	11.5	1.25	0.1525	97	0.1017	0.0966	1400T150-54 <sup>4</sup>	14	1.5	0.0849	54	0.0566	0.0538
1150T125-118	11.5	1.25	0.1863	118	0.1242	0.118	1400T150-68	14	1.5	0.1069	68	0.0713	0.0677
1150T150-43 <sup>4</sup>	11.5	1.5	0.0712	43	0.0451	0.0428	1400T150-97	14	1.5	0.1525	97	0.1017	0.0966
1150T150-54 <sup>4</sup>	11.5	1.5	0.0849	54	0.0566	0.0538	1400T150-118	14	1.5	0.1863	118	0.1242	0.118
1150T150-68	11.5	1.5	0.1069	68	0.0713	0.0677	1400T200-54 <sup>4</sup>	14	2	0.0849	54	0.0566	0.0538
1150T150-97	11.5	1.5	0.1525	97	0.1017	0.0966	1400T200-68	14	2	0.1069	68	0.0713	0.0677
1150T150-118	11.5	1.5	0.1863	118	0.1242	0.118	1400T200-97	14	2	0.1525	97	0.1017	0.0966
1150T200-43 <sup>4</sup>	11.5	2	0.0712	43	0.0451	0.0428	1400T200-118	14	2	0.1863	118	0.1242	0.118
1150T200-54 <sup>4</sup>	11.5	2	0.0849	54	0.0566	0.0538	1400T250-54 <sup>4</sup>	14	2.5	0.0849	54	0.0566	0.0538
1150T200-68	11.5	2	0.1069	68	0.0713	0.0677	1400T250-68	14	2.5	0.1069	68	0.0713	0.0677
1150T200-97	11.5	2	0.1525	97	0.1017	0.0966	1400T250-97	14	2.5	0.1525	97	0.1017	0.0966
1150T200-118	11.5	2	0.1863	118	0.1242	0.118	1400T250-118	14	2.5	0.1863	118	0.1242	0.118
1150T250-43 <sup>4</sup>	11.5	2.5	0.0712	43	0.0451	0.0428	1400T300-54 <sup>4</sup>	14	3	0.0849	54	0.0566	0.0538
1150T250-54 <sup>4</sup>	11.5	2.5	0.0849	54	0.0566	0.0538	1400T300-68	14	3	0.1069	68	0.0713	0.0677
1150T250-68	11.5	2.5	0.1069	68	0.0713	0.0677	1400T300-97	14	3	0.1525	97	0.1017	0.0966
1150T250-97	11.5	2.5	0.1525	97	0.1017	0.0966	1400T300-118	14	3	0.1863	118	0.1242	0.118
1150T250-118	11.5	2.5	0.1863	118	0.1242	0.118	1400T400-68	14	4	0.1069	68	0.0713	0.0677
1150T300-54 <sup>4</sup>	11.5	3	0.0849	54	0.0566	0.0538	1400T400-97	14	4	0.1525	97	0.1017	0.0966
1150T300-68	11.5	3	0.1069	68	0.0713	0.0677	1400T400-118	14	4	0.1863	118	0.1242	0.118
1150T300-97	11.5	3	0.1525	97	0.1017	0.0966	1600T125-54 <sup>4</sup>	16	1.25	0.0849	54	0.0566	0.0538
1150T300-118	11.5	3	0.1863	118	0.1242	0.118	1600T125-68 <sup>4</sup>	16	1.25	0.1069	68	0.0713	0.0677
1150T400-68	11.5	4	0.1069	68	0.0713	0.0677	1600T125-97	16	1.25	0.1525	97	0.1017	0.0966
1150T400-97	11.5	4	0.1525	97	0.1017	0.0966	1600T125-118	16	1.25	0.1863	118	0.1242	0.118
1150T400-118	11.5	4	0.1863	118	0.1242	0.118	1600T150-54 <sup>4</sup>	16	1.5	0.0849	54	0.0566	0.0538
1200T125-54 <sup>4</sup>	12	1.25	0.0849	54	0.0566	0.0538	1600T150-68 <sup>4</sup>	16	1.5	0.1069	68	0.0713	0.0677
1200T125-68	12	1.25	0.1069	68	0.0713	0.0677	1600T150-97	16	1.5	0.1525	97	0.1017	0.0966
1200T125-97	12	1.25	0.1525	97	0.1017	0.0966	1600T150-118	16	1.5	0.1863	118	0.1242	0.118
1200T125-118	12	1.25	0.1863	118	0.1242	0.118	1600T200-54 <sup>4</sup>	16	2	0.0849	54	0.0566	0.0538
1200T150-54 <sup>4</sup>	12	1.5	0.0849	54	0.0566	0.0538	1600T200-68 <sup>4</sup>	16	2	0.1069	68	0.0713	0.0677
1200T150-68	12	1.5	0.1069	68	0.0713	0.0677	1600T200-97	16	2	0.1525	97	0.1017	0.0966
1200T150-97	12	1.5	0.1525	97	0.1017	0.0966	1600T200-118	16	2	0.1863	118	0.1242	0.118
1200T150-118	12	1.5	0.1863	118	0.1242	0.118							

For SI: 1 inch = 25.4 mm.

<sup>1</sup> See Table 4 for member properties. See Figure 1 for illustration of member cross section.

<sup>2</sup> Depth measured from inside face to inside face of flanges.

<sup>3</sup> Base metal thickness of members, exclusive of coatings, delivered to the jobsite must be a minimum of 95 percent of the design thickness.

<sup>4</sup> Web height-to-thickness ratio, h/t, exceeds 200. Web must have bearing stiffeners in accordance with AISI S100.

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup>

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
162S125-18	33	0.080	0.27	0.038	0.046	0.686	0.016	0.447	0.034	0.031	0.61	0.59	302	100	0.009	0.009	-1.029	0.594	1.315	0.388	29.0
162S125-27	33	0.120	0.41	0.056	0.068	0.682	0.023	0.443	0.055	0.053	1.05	1.00	494	106	0.032	0.013	-1.017	0.587	1.302	0.390	29.1
162S125-30	33	0.131	0.45	0.061	0.075	0.681	0.026	0.441	0.060	0.060	1.19	1.14	543	106	0.043	0.014	-1.014	0.585	1.298	0.390	29.2
162S125-33	33	0.145	0.49	0.067	0.083	0.679	0.028	0.440	0.066	0.069	1.37	1.30	601	105	0.058	0.016	-1.010	0.583	1.294	0.391	29.2
250S125-18	33	0.097	0.33	0.099	0.079	1.014	0.019	0.439	0.089	0.059	1.17	0.93	258	196	0.011	0.023	-0.904	0.543	1.427	0.599	29.0
250S125-27	33	0.144	0.49	0.147	0.118	1.009	0.027	0.434	0.144	0.097	1.92	1.63	685	344	0.039	0.034	-0.893	0.536	1.416	0.602	28.9
250S125-30	33	0.159	0.54	0.161	0.129	1.008	0.030	0.433	0.159	0.110	2.17	1.86	832	378	0.052	0.037	-0.889	0.534	1.412	0.603	28.9
250S125-33	33	0.176	0.60	0.178	0.142	1.006	0.033	0.431	0.175	0.125	2.48	2.14	975	399	0.070	0.040	-0.885	0.532	1.408	0.605	28.9
250S125-43	33	0.227	0.77	0.228	0.182	1.001	0.041	0.426	0.225	0.177	3.49	3.04	1265	394	0.154	0.050	-0.873	0.525	1.396	0.608	28.9
250S125-54	33	0.280	0.95	0.277	0.222	0.994	0.049	0.419	0.277	0.218	4.30	4.05	1553	373	0.299	0.060	-0.859	0.518	1.379	0.612	29.0
250S125-54	50	0.280	0.95	0.277	0.222	0.994	0.049	0.419	0.274	0.209	6.25	5.35	2353	565	0.299	0.060	-0.859	0.518	1.379	0.612	23.3
250S125-68	33	0.345	1.18	0.334	0.267	0.984	0.057	0.408	0.334	0.266	5.26	5.24	1891	342	0.585	0.072	-0.839	0.508	1.356	0.617	29.3
250S125-68	50	0.345	1.18	0.334	0.267	0.984	0.057	0.408	0.334	0.262	7.84	7.17	2866	519	0.585	0.072	-0.839	0.508	1.356	0.617	23.3
250S137-33	33	0.197	0.67	0.203	0.163	1.015	0.052	0.515	0.203	0.158	3.11	2.92	975	399	0.079	0.076	-1.141	0.677	1.612	0.499	35.6
250S137-43	33	0.255	0.87	0.261	0.208	1.010	0.067	0.511	0.261	0.208	4.12	4.05	1265	394	0.173	0.096	-1.129	0.670	1.599	0.501	35.6
250S137-54	33	0.316	1.07	0.318	0.255	1.004	0.080	0.504	0.318	0.255	5.03	5.00	1553	373	0.337	0.115	-1.115	0.663	1.583	0.504	35.8
250S137-54	50	0.316	1.07	0.318	0.255	1.004	0.080	0.504	0.318	0.247	7.41	7.14	2353	565	0.337	0.115	-1.115	0.663	1.583	0.504	28.8
250S137-68	33	0.390	1.33	0.386	0.309	0.994	0.095	0.495	0.386	0.309	6.10	6.06	1891	342	0.661	0.138	-1.096	0.653	1.561	0.507	36.3
250S137-68	50	0.390	1.33	0.386	0.309	0.994	0.095	0.495	0.386	0.309	9.24	9.16	2866	519	0.661	0.138	-1.096	0.653	1.561	0.507	28.9
250S137-97	33	0.533	1.81	0.506	0.405	0.975	0.120	0.475	0.506	0.405	8.01	7.95	2506	283	1.839	0.176	-1.057	0.633	1.514	0.513	37.8
250S137-97	50	0.533	1.81	0.506	0.405	0.975	0.120	0.475	0.506	0.405	12.13	12.05	3798	429	1.839	0.176	-1.057	0.633	1.514	0.513	29.6
250S162-33	33	0.223	0.76	0.235	0.188	1.027	0.087	0.624	0.235	0.180	3.55	3.42	975	399	0.089	0.146	-1.470	0.859	1.898	0.401	44.1
250S162-43	33	0.289	0.98	0.302	0.242	1.022	0.111	0.620	0.302	0.242	4.77	4.72	1265	394	0.196	0.184	-1.457	0.852	1.885	0.402	44.2
250S162-54	33	0.358	1.22	0.370	0.296	1.016	0.135	0.613	0.370	0.296	5.84	5.81	1553	373	0.383	0.223	-1.443	0.845	1.868	0.403	44.5
250S162-54	50	0.358	1.22	0.370	0.296	1.016	0.135	0.613	0.370	0.288	8.62	8.35	2353	565	0.383	0.223	-1.443	0.845	1.868	0.403	35.8
250S162-68	33	0.443	1.51	0.450	0.360	1.007	0.162	0.605	0.450	0.360	7.11	7.08	1891	342	0.752	0.268	-1.424	0.835	1.846	0.405	45.1
250S162-68	50	0.443	1.51	0.450	0.360	1.007	0.162	0.605	0.450	0.360	10.78	10.71	2866	519	0.752	0.268	-1.424	0.835	1.846	0.405	36.0
250S162-97	33	0.610	2.07	0.596	0.477	0.989	0.209	0.586	0.596	0.477	9.43	9.37	2506	283	2.102	0.346	-1.386	0.815	1.801	0.408	47.0
250S162-97	50	0.610	2.07	0.596	0.477	0.989	0.209	0.586	0.596	0.477	14.29	14.20	3798	429	2.102	0.346	-1.386	0.815	1.801	0.408	36.9
250S200-33	33	0.258	0.88	0.279	0.223	1.040	0.154	0.773	0.276	0.197	3.90	3.96	975	399	0.103	0.302	-1.926	1.108	2.321	0.312	56.0
250S200-43	33	0.334	1.14	0.358	0.287	1.036	0.198	0.769	0.358	0.278	5.49	5.50	1265	394	0.227	0.382	-1.914	1.101	2.308	0.312	56.1
250S200-54	33	0.415	1.41	0.440	0.352	1.030	0.241	0.763	0.440	0.352	6.95	6.92	1553	373	0.443	0.464	-1.899	1.093	2.291	0.313	56.5
250S200-54	50	0.415	1.41	0.440	0.352	1.030	0.241	0.763	0.440	0.321	9.60	9.70	2353	565	0.443	0.464	-1.899	1.093	2.291	0.313	45.5
250S200-68	33	0.515	1.75	0.537	0.430	1.022	0.293	0.754	0.537	0.430	8.50	8.46	1891	342	0.872	0.561	-1.881	1.084	2.270	0.313	57.3
250S200-68	50	0.515	1.75	0.537	0.430	1.022	0.293	0.754	0.537	0.423	12.65	12.69	2866	519	0.872	0.561	-1.881	1.084	2.270	0.313	45.8
250S200-97	33	0.711	2.42	0.718	0.575	1.005	0.386	0.736	0.718	0.575	11.35	11.30	2506	283	2.452	0.735	-1.843	1.063	2.224	0.314	59.6
250S200-97	50	0.711	2.42	0.718	0.575	1.005	0.386	0.736	0.718	0.575	17.20	17.12	3798	429	2.452	0.735	-1.843	1.063	2.224	0.314	46.9
250S250-43	33	0.379	1.29	0.426	0.341	1.060	0.336	0.941	0.426	0.297	5.87	6.03	1265	394	0.257	0.638	-2.404	1.359	2.791	0.258	66.8
250S250-54	33	0.471	1.60	0.524	0.419	1.055	0.412	0.935	0.524	0.379	7.49	7.95	1553	373	0.503	0.778	-2.389	1.351	2.774	0.258	67.3
250S250-54	50	0.471	1.60	0.524	0.419	1.055	0.412	0.935	0.521	0.341	10.22	10.58	2353	565	0.503	0.778	-2.389	1.351	2.774	0.258	54.1
250S250-68	33	0.586	1.99	0.643	0.514	1.047	0.503	0.926	0.643	0.500	9.88	10.12	1891	342	0.993	0.944	-2.371	1.341	2.752	0.258	68.1
250S250-68	50	0.586	1.99	0.643	0.514	1.047	0.503	0.926	0.643	0.446	13.35	14.00	2866	519	0.993	0.944	-2.371	1.341	2.752	0.258	54.5
250S250-97	33	0.813	2.77	0.864	0.692	1.031	0.670	0.908	0.864	0.692	13.66	13.61	2506	283	2.803	1.245	-2.332	1.320	2.707	0.258	70.9
250S250-97	50	0.813	2.77	0.864	0.692	1.031	0.670	0.908	0.864	0.669	20.02	20.62	3798	429	2.803	1.245	-2.332	1.320	2.707	0.258	55.9
350S125-18	33	0.115	0.39	0.215	0.123	1.366	0.021	0.423	0.203	0.072	1.42	1.35	180	159	0.014	0.050	-0.797	0.495	1.637	0.763	28.8
350S125-27	33	0.173	0.59	0.320	0.183	1.361	0.030	0.418	0.315	0.130	2.57	2.40	614	359	0.046	0.072	-0.787	0.489	1.627	0.766	28.7
350S125-30	33	0.190	0.65	0.351	0.201	1.359	0.033	0.417	0.346	0.150	2.96	2.75	824	436	0.062	0.079	-0.784	0.487	1.624	0.767	28.6
350S125-33	33	0.210	0.72	0.387	0.221	1.358	0.036	0.415	0.382	0.175	3.45	3.17	1024	487	0.084	0.087	-0.780	0.485	1.620	0.768	28.6
350S125-43	33	0.272	0.93	0.498	0.284	1.352	0.046	0.410	0.495	0.258	5.10	4.57	1739	631	0.184	0.109	-0.769	0.479	1.609	0.771	28.4
350S125-54	33	0.337	1.15	0.608	0.348	1.344	0.055	0.402	0.608	0.328	6.49	6.17	2253	633	0.360	0.131	-0.755	0.471	1.593	0.775	28.4
350S125-54	50	0.337	1.15	0.608	0.348	1.344	0.055	0.402	0.604	0.308	9.22	8.12	3372	947	0.360	0.131	-0.755	0.471	1.593	0.775	22.9
350S125-68	33	0.417	1.42	0.739	0.422	1.332	0.064	0.391	0.737	0.409	8.08	7.96	2774	592	0.706	0.156	-0.737	0.462	1.571	0.780	28.3
350S125-68	50	0.417	1.42	0.739	0.422	1.332	0.064	0.391	0.737	0.400	11.97	11.04	4202	897	0.706	0.156	-0.737	0.462	1.571	0.780	22.8
350S137-33	33	0.232	0.79	0.441	0.252	1.380	0.059	0.503	0.441	0.223	4.41	4.30	1024	487	0.093	0.153	-1.016	0.621	1.78		

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup>

Section	Fy (ksi)	Gross Properties						Effective Properties						Torsional Properties						Lu (in)	
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)		β
350S137-97	33	0.635	2.16	1.130	0.646	1.334	0.136	0.462	1.130	0.629	12.43	12.43	3765	511	2.189	0.361	-0.935	0.579	1.693	0.695	35.2
350S137-97	50	0.635	2.16	1.130	0.646	1.334	0.136	0.462	1.130	0.629	18.84	18.84	5704	775	2.189	0.361	-0.935	0.579	1.693	0.695	28.0
350S162-33	33	0.258	0.88	0.508	0.290	1.404	0.098	0.617	0.508	0.257	5.08	5.01	1024	487	0.103	0.277	-1.324	0.796	2.026	0.573	42.7
350S162-43	33	0.334	1.14	0.654	0.374	1.400	0.125	0.612	0.654	0.357	7.05	7.02	1739	631	0.227	0.350	-1.312	0.789	2.014	0.575	42.6
350S162-54	33	0.415	1.41	0.804	0.460	1.392	0.152	0.606	0.804	0.447	8.83	8.85	2253	633	0.443	0.426	-1.298	0.782	1.998	0.578	42.7
350S162-54	50	0.415	1.41	0.804	0.460	1.392	0.152	0.606	0.804	0.426	12.74	12.41	3372	947	0.443	0.426	-1.298	0.782	1.998	0.578	34.5
350S162-68	33	0.515	1.75	0.985	0.563	1.383	0.184	0.597	0.985	0.551	10.89	10.89	2774	592	0.872	0.514	-1.280	0.772	1.977	0.581	42.8
350S162-68	50	0.515	1.75	0.985	0.563	1.383	0.184	0.597	0.985	0.549	16.44	16.14	4202	897	0.872	0.514	-1.280	0.772	1.977	0.581	34.5
350S162-97	33	0.711	2.42	1.320	0.754	1.362	0.238	0.578	1.320	0.738	14.59	14.59	3765	511	2.452	0.672	-1.242	0.752	1.932	0.587	43.5
350S162-97	50	0.711	2.42	1.320	0.754	1.362	0.238	0.578	1.320	0.738	22.10	22.10	5704	775	2.452	0.672	-1.242	0.752	1.932	0.587	34.7
350S162-118	33	0.848	2.89	1.538	0.879	1.347	0.269	0.564	1.538	0.859	16.97	16.97	4425	455	4.360	0.769	-1.213	0.738	1.898	0.591	44.4
350S162-118	50	0.848	2.89	1.538	0.879	1.347	0.269	0.564	1.538	0.859	25.71	25.71	6704	689	4.360	0.769	-1.213	0.738	1.898	0.591	35.0
350S200-33	33	0.292	0.99	0.598	0.342	1.431	0.175	0.773	0.597	0.283	5.59	5.76	1024	487	0.117	0.541	-1.760	1.039	2.396	0.461	53.7
350S200-43	33	0.379	1.29	0.771	0.441	1.426	0.224	0.768	0.771	0.410	8.09	8.09	1739	631	0.257	0.687	-1.748	1.032	2.383	0.462	53.7
350S200-54	33	0.471	1.60	0.950	0.543	1.420	0.274	0.762	0.950	0.530	10.47	10.43	2253	633	0.503	0.838	-1.733	1.024	2.367	0.464	53.8
350S200-54	50	0.471	1.60	0.950	0.543	1.420	0.274	0.762	0.950	0.470	14.07	14.28	3372	947	0.503	0.838	-1.733	1.024	2.367	0.464	43.5
350S200-68	33	0.586	1.99	1.167	0.667	1.411	0.333	0.754	1.167	0.655	12.95	12.95	2774	592	0.993	1.018	-1.715	1.014	2.345	0.465	54.1
350S200-68	50	0.586	1.99	1.167	0.667	1.411	0.333	0.754	1.167	0.638	19.10	18.91	4202	897	0.993	1.018	-1.715	1.014	2.345	0.465	43.5
350S200-97	33	0.813	2.77	1.576	0.901	1.393	0.440	0.736	1.576	0.884	17.48	17.48	3765	511	2.803	1.347	-1.676	0.994	2.300	0.469	55.0
350S200-97	50	0.813	2.77	1.576	0.901	1.393	0.440	0.736	1.576	0.884	26.48	26.48	5704	775	2.803	1.347	-1.676	0.994	2.300	0.469	43.9
350S200-118	33	0.972	3.31	1.847	1.055	1.378	0.506	0.722	1.847	1.035	20.46	20.46	4425	455	4.998	1.554	-1.648	0.979	2.266	0.471	56.1
350S200-118	50	0.972	3.31	1.847	1.055	1.378	0.506	0.722	1.847	1.035	31.00	31.00	6704	689	4.998	1.554	-1.648	0.979	2.266	0.471	44.3
350S250-43	33	0.424	1.44	0.906	0.518	1.461	0.380	0.946	0.906	0.431	8.52	8.72	1739	631	0.288	1.151	-2.220	1.286	2.821	0.381	64.3
350S250-54	33	0.528	1.80	1.118	0.639	1.455	0.467	0.940	1.118	0.559	11.04	11.60	2253	633	0.564	1.409	-2.205	1.278	2.804	0.382	64.5
350S250-54	50	0.528	1.80	1.118	0.639	1.455	0.467	0.940	1.113	0.494	14.78	15.32	3372	947	0.564	1.409	-2.205	1.278	2.804	0.382	52.1
350S250-68	33	0.657	2.24	1.376	0.787	1.447	0.570	0.931	1.376	0.747	14.77	15.11	2774	592	1.114	1.718	-2.186	1.268	2.782	0.383	64.8
350S250-68	50	0.657	2.24	1.376	0.787	1.447	0.570	0.931	1.376	0.661	19.78	20.48	4202	897	1.114	1.718	-2.186	1.268	2.782	0.383	52.2
350S250-97	33	0.915	3.11	1.870	1.069	1.430	0.762	0.913	1.870	1.052	20.79	20.79	3765	511	3.154	2.291	-2.147	1.248	2.736	0.384	66.0
350S250-97	50	0.915	3.11	1.870	1.069	1.430	0.762	0.913	1.870	1.007	30.16	30.98	5704	775	3.154	2.291	-2.147	1.248	2.736	0.384	52.7
350S250-118	33	1.096	3.73	2.201	1.258	1.417	0.885	0.899	2.201	1.238	24.45	24.45	4425	455	5.637	2.660	-2.118	1.233	2.702	0.386	67.4
350S250-118	50	1.096	3.73	2.201	1.258	1.417	0.885	0.899	2.201	1.228	36.76	37.05	6704	689	5.637	2.660	-2.118	1.233	2.702	0.386	53.3
350S300-54	33	0.599	2.04	1.302	0.744	1.474	0.769	1.133	1.302	0.635	12.54	13.14	2253	633	0.639	2.572	-2.785	1.591	3.349	0.308	78.6
350S300-54	50	0.599	2.04	1.302	0.744	1.474	0.769	1.133	1.270	0.555	16.62	17.29	3372	947	0.639	2.572	-2.785	1.591	3.349	0.308	63.5
350S300-68	33	0.747	2.54	1.606	0.918	1.467	0.944	1.125	1.606	0.826	16.32	17.42	2774	592	1.265	3.147	-2.766	1.581	3.327	0.309	79.0
350S300-68	50	0.747	2.54	1.606	0.918	1.467	0.944	1.125	1.600	0.731	21.89	23.19	4202	897	1.265	3.147	-2.766	1.581	3.327	0.309	63.7
350S300-97	33	1.042	3.55	2.192	1.253	1.451	1.275	1.106	2.192	1.221	24.13	24.43	3765	511	3.592	4.226	-2.727	1.561	3.281	0.309	80.5
350S300-97	50	1.042	3.55	2.192	1.253	1.451	1.275	1.106	2.192	1.160	34.72	35.63	5704	775	3.592	4.226	-2.727	1.561	3.281	0.309	64.3
350S300-118	33	1.252	4.26	2.590	1.480	1.438	1.494	1.093	2.590	1.460	28.85	28.85	4425	455	6.435	4.933	-2.698	1.546	3.247	0.309	82.1
350S300-118	50	1.252	4.26	2.590	1.480	1.438	1.494	1.093	2.590	1.405	42.06	43.51	6704	689	6.435	4.933	-2.698	1.546	3.247	0.309	65.1
350S350-54	33	0.684	2.33	1.491	0.852	1.477	1.224	1.338	1.462	0.703	13.89	15.21	2253	633	0.730	5.150	-3.471	1.963	4.002	0.248	98.0
350S350-54	50	0.684	2.33	1.491	0.852	1.477	1.224	1.338	1.402	0.629	18.82	20.05	3372	947	0.730	5.150	-3.471	1.963	4.002	0.248	79.3
350S350-68	33	0.853	2.90	1.843	1.053	1.470	1.509	1.330	1.843	0.964	19.05	20.15	2774	592	1.446	6.323	-3.453	1.953	3.981	0.248	98.5
350S350-68	50	0.853	2.90	1.843	1.053	1.470	1.509	1.330	1.829	0.857	25.67	26.88	4202	897	1.446	6.323	-3.453	1.953	3.981	0.248	79.5
350S350-97	33	1.194	4.06	2.525	1.443	1.454	2.057	1.312	2.525	1.424	28.14	28.19	3765	511	4.118	8.549	-3.415	1.933	3.937	0.248	100.3
350S350-97	50	1.194	4.06	2.525	1.443	1.454	2.057	1.312	2.525	1.280	38.33	41.28	5704	775	4.118	8.549	-3.415	1.933	3.937	0.248	80.3
350S350-118	33	1.438	4.89	2.991	1.709	1.442	2.427	1.299	2.991	1.689	33.38	33.38	4425	455	7.393	10.031	-3.387	1.918	3.904	0.247	102.2
350S350-118	50	1.438	4.89	2.991	1.709	1.442	2.427	1.299	2.991	1.636	48.97	50.46	6704	689	7.393	10.031	-3.387	1.918	3.904	0.247	81.2
362S125-18	33	0.118	0.40	0.234	0.129	1.409	0.021	0.421	0.221	0.075	1.48	1.40	173	163	0.014	0.054	-0.786	0.490	1.667	0.778	28.8
362S125-27	33	0.176	0.60	0.347	0.192	1.404	0.031	0.416	0.342	0.135	2.67	2.49	592	370	0.047	0.079	-0.776	0.484	1.657	0.781	28.6
362S125-30	33	0.194	0.66	0.381	0.210	1.402	0.033	0.415	0.376	0.156	3.08	2.86	794	449	0.063	0.086	-0.773	0.482	1.654	0.782	28.6
362S125-33	33	0.215	0.73	0.421	0.232	1.400	0.037	0.413	0.415	0.182	3.59	3.30	1024	521	0.086	0.094	-0.769	0.480	1.650	0.783	28.5
362S125-43	33	0.278	0.95	0.540	0.298	1.395	0.046	0.408	0.537	0.269	5.31	4.77	1739	676	0.188	0.118	-0.758	0.473	1.639	0.786	28.4
362S125-54	33	0.344	1.17	0.661	0.365	1.386	0.055	0.400	0.661	0.343	6.78	6.45	2341	705	0.367	0.142	-0.744	0.466	1.623	0.790	28.3
362S125-54	50	0.344	1.17	0.661	0.365	1.386	0.055	0.400	0.656	0.321											

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
362S137-54	33	0.379	1.29	0.756	0.417	1.411	0.091	0.490	0.756	0.402	7.94	7.99	2341	705	0.405	0.251	-0.978	0.601	1.785	0.700	34.6
362S137-54	50	0.379	1.29	0.756	0.417	1.411	0.091	0.490	0.756	0.381	11.42	11.14	3372	1016	0.405	0.251	-0.978	0.601	1.785	0.700	27.9
362S137-68	33	0.470	1.60	0.922	0.509	1.401	0.109	0.480	0.922	0.498	9.84	9.84	2884	662	0.797	0.302	-0.959	0.592	1.764	0.704	34.6
362S137-68	50	0.470	1.60	0.922	0.509	1.401	0.109	0.480	0.922	0.493	14.77	14.54	4370	1004	0.797	0.302	-0.959	0.592	1.764	0.704	27.8
362S137-97	33	0.648	2.20	1.229	0.678	1.377	0.137	0.460	1.229	0.662	13.09	13.09	3922	577	2.233	0.390	-0.922	0.573	1.720	0.713	35.0
362S137-97	50	0.648	2.20	1.229	0.678	1.377	0.137	0.460	1.229	0.662	19.83	19.83	5943	875	2.233	0.390	-0.922	0.573	1.720	0.713	27.8
362S162-33	33	0.262	0.89	0.551	0.304	1.450	0.099	0.616	0.551	0.268	5.29	5.21	1024	521	0.105	0.297	-1.308	0.789	2.048	0.592	42.6
362S162-43	33	0.340	1.16	0.710	0.392	1.445	0.127	0.611	0.710	0.372	7.34	7.32	1739	676	0.230	0.376	-1.297	0.782	2.036	0.594	42.5
362S162-54	33	0.422	1.44	0.873	0.481	1.438	0.154	0.604	0.873	0.466	9.22	9.28	2341	705	0.451	0.457	-1.283	0.774	2.020	0.597	42.5
362S162-54	50	0.422	1.44	0.873	0.481	1.438	0.154	0.604	0.873	0.444	13.28	12.93	3372	1016	0.451	0.457	-1.283	0.774	2.020	0.597	34.4
362S162-68	33	0.524	1.78	1.069	0.590	1.429	0.186	0.596	1.069	0.579	11.43	11.43	2884	662	0.887	0.552	-1.264	0.765	1.998	0.600	42.7
362S162-68	50	0.524	1.78	1.069	0.590	1.429	0.186	0.596	1.069	0.574	17.18	16.94	4370	1004	0.887	0.552	-1.264	0.765	1.998	0.600	34.3
362S162-97	33	0.724	2.46	1.435	0.792	1.408	0.241	0.577	1.435	0.776	15.33	15.33	3922	577	2.496	0.723	-1.226	0.745	1.954	0.606	43.3
362S162-97	50	0.724	2.46	1.435	0.792	1.408	0.241	0.577	1.435	0.776	23.23	23.23	5943	875	2.496	0.723	-1.226	0.745	1.954	0.606	34.5
362S162-118	33	0.863	2.94	1.672	0.923	1.392	0.273	0.562	1.672	0.903	17.85	17.85	4617	518	4.440	0.827	-1.198	0.731	1.920	0.611	44.0
362S162-118	50	0.863	2.94	1.672	0.923	1.392	0.273	0.562	1.672	0.903	27.05	27.05	6996	784	4.440	0.827	-1.198	0.731	1.920	0.611	34.7
362S200-33	33	0.297	1.01	0.648	0.358	1.478	0.177	0.772	0.647	0.294	5.81	5.99	1024	521	0.118	0.577	-1.741	1.030	2.411	0.478	53.6
362S200-43	33	0.385	1.31	0.836	0.461	1.474	0.227	0.767	0.836	0.427	8.43	8.42	1739	676	0.261	0.734	-1.729	1.024	2.398	0.480	53.5
362S200-54	33	0.479	1.63	1.030	0.568	1.467	0.277	0.761	1.030	0.553	10.93	10.92	2341	705	0.511	0.896	-1.715	1.016	2.382	0.482	53.6
362S200-54	50	0.479	1.63	1.030	0.568	1.467	0.277	0.761	1.030	0.490	14.66	14.87	3372	1016	0.511	0.896	-1.715	1.016	2.382	0.482	43.3
362S200-68	33	0.595	2.02	1.265	0.698	1.458	0.337	0.753	1.265	0.687	13.58	13.58	2884	662	1.008	1.089	-1.696	1.006	2.360	0.484	53.8
362S200-68	50	0.595	2.02	1.265	0.698	1.458	0.337	0.753	1.265	0.666	19.95	19.71	4370	1004	1.008	1.089	-1.696	1.006	2.360	0.484	43.3
362S200-97	33	0.826	2.81	1.711	0.944	1.440	0.446	0.735	1.711	0.928	18.34	18.34	3922	577	2.847	1.441	-1.658	0.986	2.315	0.487	54.7
362S200-97	50	0.826	2.81	1.711	0.944	1.440	0.446	0.735	1.711	0.928	27.80	27.80	5943	875	2.847	1.441	-1.658	0.986	2.315	0.487	43.6
362S200-118	33	0.988	3.36	2.006	1.107	1.425	0.513	0.721	2.006	1.088	21.49	21.49	4617	518	5.078	1.664	-1.629	0.971	2.281	0.490	55.7
362S200-118	50	0.988	3.36	2.006	1.107	1.425	0.513	0.721	2.006	1.088	32.56	32.56	6996	784	5.078	1.664	-1.629	0.971	2.281	0.490	44.0
362S250-43	33	0.430	1.46	0.980	0.541	1.510	0.385	0.946	0.980	0.449	8.88	9.06	1739	676	0.292	1.230	-2.199	1.277	2.830	0.396	64.2
362S250-54	33	0.535	1.82	1.210	0.668	1.504	0.473	0.940	1.210	0.582	11.51	12.06	2341	705	0.571	1.506	-2.184	1.269	2.813	0.397	64.3
362S250-54	50	0.535	1.82	1.210	0.668	1.504	0.473	0.940	1.205	0.514	15.40	15.92	3372	1016	0.571	1.506	-2.184	1.269	2.813	0.397	52.0
362S250-68	33	0.666	2.27	1.490	0.822	1.496	0.578	0.931	1.490	0.782	15.46	15.80	2884	662	1.129	1.837	-2.165	1.259	2.791	0.398	64.6
362S250-68	50	0.666	2.27	1.490	0.822	1.496	0.578	0.931	1.490	0.689	20.63	21.31	4370	1004	1.129	1.837	-2.165	1.259	2.791	0.398	52.0
362S250-97	33	0.927	3.16	2.027	1.118	1.478	0.772	0.912	2.027	1.103	21.79	21.79	3922	577	3.197	2.452	-2.126	1.239	2.746	0.400	65.7
362S250-97	50	0.927	3.16	2.027	1.118	1.478	0.772	0.912	2.027	1.055	31.59	32.44	5943	875	3.197	2.452	-2.126	1.239	2.746	0.400	52.5
362S250-118	33	1.112	3.78	2.387	1.317	1.465	0.897	0.898	2.387	1.298	25.64	25.64	4617	518	5.717	2.849	-2.097	1.224	2.711	0.402	66.9
362S250-118	50	1.112	3.78	2.387	1.317	1.465	0.897	0.898	2.387	1.287	38.54	38.85	6996	784	5.717	2.849	-2.097	1.224	2.711	0.402	53.0
362S300-54	33	0.606	2.06	1.408	0.777	1.525	0.779	1.134	1.408	0.662	13.08	13.66	2341	705	0.647	2.736	-2.762	1.582	3.352	0.321	78.3
362S300-54	50	0.606	2.06	1.408	0.777	1.525	0.779	1.134	1.374	0.578	17.31	17.96	3372	1016	0.647	2.736	-2.762	1.582	3.352	0.321	63.3
362S300-68	33	0.755	2.57	1.738	0.959	1.517	0.956	1.125	1.738	0.864	17.06	18.12	2884	662	1.280	3.349	-2.743	1.572	3.330	0.322	78.7
362S300-68	50	0.755	2.57	1.738	0.959	1.517	0.956	1.125	1.732	0.763	22.83	24.10	4370	1004	1.280	3.349	-2.743	1.572	3.330	0.322	63.5
362S300-97	33	1.055	3.59	2.375	1.310	1.501	1.292	1.107	2.375	1.278	25.26	25.58	3922	577	3.636	4.501	-2.704	1.552	3.285	0.322	80.0
362S300-97	50	1.055	3.59	2.375	1.310	1.501	1.292	1.107	2.375	1.213	36.33	37.10	5943	875	3.636	4.501	-2.704	1.552	3.285	0.322	64.0
362S300-118	33	1.267	4.31	2.807	1.549	1.488	1.514	1.093	2.807	1.529	30.22	30.22	4617	518	6.515	5.258	-2.675	1.537	3.251	0.323	81.5
362S300-118	50	1.267	4.31	2.807	1.549	1.488	1.514	1.093	2.807	1.471	44.04	45.55	6996	784	6.515	5.258	-2.675	1.537	3.251	0.323	64.7
362S350-54	33	0.691	2.35	1.613	0.890	1.528	1.240	1.340	1.582	0.734	14.50	15.81	2341	705	0.738	5.430	-3.447	1.954	4.001	0.258	97.4
362S350-54	50	0.691	2.35	1.613	0.890	1.528	1.240	1.340	1.518	0.655	19.62	20.82	3372	1016	0.738	5.430	-3.447	1.954	4.001	0.258	78.8
362S350-68	33	0.862	2.93	1.995	1.101	1.521	1.529	1.332	1.995	1.009	19.93	20.97	2884	662	1.461	6.669	-3.428	1.944	3.980	0.258	97.9
362S350-68	50	0.862	2.93	1.995	1.101	1.521	1.529	1.332	1.980	0.895	26.79	27.93	4370	1004	1.461	6.669	-3.428	1.944	3.980	0.258	79.0
362S350-97	33	1.207	4.11	2.735	1.509	1.505	2.085	1.314	2.735	1.490	29.45	29.51	3922	577	4.162	9.022	-3.391	1.924	3.936	0.258	99.5
362S350-97	50	1.207	4.11	2.735	1.509	1.505	2.085	1.314	2.735	1.339	40.10	42.98	5943	875	4.162	9.022	-3.391	1.924	3.936	0.258	79.7
362S350-118	33	1.453	4.95	3.242	1.789	1.494	2.460	1.301	3.242	1.770	34.97	34.97	4617	518	7.473	10.592	-3.363	1.909	3.903	0.258	101.3
362S350-118	50	1.453	4.95	3.242	1.789	1.494	2.460	1.301	3.242	1.712	51.25	52.81	6996	784	7.473	10.592	-3.363	1.909	3.903	0.258	80.6
400S125-18 <sup>1</sup>	33	0.125	0.42	0.294	0.147	1.536	0.021	0.414	0.281	0.083	1.64	1.55	156	156	0.015	0.068	-0.754	0.475	1.760	0.816	28.7
400S125-27	33	0.187	0.64	0.438	0.219	1.531	0.031	0.410	0.431	0.151	2.97	2.78	533	398	0.050						

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
400S125-68	50	0.452	1.54	1.017	0.509	1.499	0.066	0.383	1.015	0.474	14.18	13.10	4871	1356	0.767	0.213	-0.695	0.442	1.696	0.832	22.5
400S137-33	33	0.249	0.85	0.603	0.301	1.556	0.061	0.496	0.603	0.259	5.12	5.01	976	595	0.099	0.204	-0.965	0.597	1.897	0.741	34.5
400S137-43	33	0.323	1.10	0.776	0.388	1.551	0.078	0.491	0.776	0.359	7.09	7.08	1739	810	0.219	0.257	-0.954	0.591	1.885	0.744	34.3
400S137-54	33	0.401	1.36	0.953	0.477	1.542	0.094	0.484	0.953	0.453	8.96	9.15	2603	944	0.428	0.311	-0.940	0.583	1.870	0.747	34.3
400S137-54	50	0.401	1.36	0.953	0.477	1.542	0.094	0.484	0.953	0.428	12.82	12.53	3372	1223	0.428	0.311	-0.940	0.583	1.870	0.747	27.7
400S137-68	33	0.497	1.69	1.165	0.582	1.531	0.112	0.475	1.165	0.567	11.21	11.31	3215	895	0.842	0.375	-0.922	0.574	1.849	0.751	34.2
400S137-68	50	0.497	1.69	1.165	0.582	1.531	0.112	0.475	1.165	0.558	16.70	16.64	4871	1356	0.842	0.375	-0.922	0.574	1.849	0.751	27.6
400S137-97	33	0.686	2.33	1.557	0.779	1.507	0.142	0.454	1.557	0.764	15.10	15.10	4394	797	2.365	0.486	-0.885	0.555	1.806	0.760	34.4
400S137-97	50	0.686	2.33	1.557	0.779	1.507	0.142	0.454	1.557	0.764	22.88	22.88	6658	1207	2.365	0.486	-0.885	0.555	1.806	0.760	27.5
400S162-33	33	0.275	0.94	0.692	0.346	1.586	0.103	0.611	0.692	0.299	5.91	5.83	976	595	0.110	0.363	-1.263	0.768	2.118	0.644	42.3
400S162-43	33	0.357	1.21	0.892	0.446	1.581	0.131	0.606	0.892	0.417	8.23	8.21	1739	810	0.242	0.460	-1.252	0.761	2.106	0.647	42.2
400S162-54	33	0.443	1.51	1.098	0.549	1.574	0.159	0.600	1.098	0.526	10.39	10.59	2603	944	0.473	0.560	-1.238	0.754	2.090	0.649	42.2
400S162-54	50	0.443	1.51	1.098	0.549	1.574	0.159	0.600	1.098	0.498	14.90	14.52	3372	1223	0.473	0.560	-1.238	0.754	2.090	0.649	34.1
400S162-68	33	0.550	1.87	1.346	0.673	1.564	0.192	0.591	1.346	0.658	13.00	13.10	3215	895	0.933	0.677	-1.220	0.745	2.069	0.653	42.2
400S162-68	50	0.550	1.87	1.346	0.673	1.564	0.192	0.591	1.346	0.648	19.41	19.25	4871	1356	0.933	0.677	-1.220	0.745	2.069	0.653	34.0
400S162-97	33	0.762	2.59	1.812	0.906	1.542	0.249	0.572	1.812	0.892	17.63	17.63	4394	797	2.628	0.889	-1.182	0.725	2.025	0.659	42.6
400S162-97	50	0.762	2.59	1.812	0.906	1.542	0.249	0.572	1.812	0.892	26.70	26.70	6658	1207	2.628	0.889	-1.182	0.725	2.025	0.659	34.0
400S162-118	33	0.910	3.10	2.118	1.059	1.525	0.282	0.557	2.118	1.041	20.58	20.58	5193	728	4.679	1.020	-1.154	0.711	1.992	0.664	43.1
400S162-118	50	0.910	3.10	2.118	1.059	1.525	0.282	0.557	2.118	1.041	31.18	31.18	7869	1102	4.679	1.020	-1.154	0.711	1.992	0.664	34.2
400S200-33	33	0.310	1.05	0.812	0.406	1.619	0.183	0.769	0.812	0.328	6.49	6.69	976	595	0.124	0.697	-1.688	1.007	2.462	0.530	53.1
400S200-43	33	0.402	1.37	1.047	0.524	1.615	0.235	0.764	1.047	0.478	9.45	9.43	1739	810	0.272	0.886	-1.676	1.000	2.449	0.532	53.0
400S200-54	33	0.500	1.70	1.292	0.646	1.608	0.287	0.758	1.292	0.623	12.30	12.42	2603	944	0.534	1.083	-1.662	0.993	2.433	0.534	53.0
400S200-54	50	0.500	1.70	1.292	0.646	1.608	0.287	0.758	1.292	0.549	16.43	16.65	3372	1223	0.534	1.083	-1.662	0.993	2.433	0.534	42.9
400S200-68	33	0.622	2.12	1.589	0.795	1.599	0.349	0.750	1.589	0.780	15.40	15.50	3215	895	1.054	1.318	-1.643	0.983	2.412	0.536	53.2
400S200-68	50	0.622	2.12	1.589	0.795	1.599	0.349	0.750	1.589	0.751	22.48	22.15	4871	1356	1.054	1.318	-1.643	0.983	2.412	0.536	42.9
400S200-97	33	0.864	2.94	2.155	1.077	1.579	0.462	0.731	2.155	1.063	21.01	21.01	4394	797	2.978	1.749	-1.605	0.963	2.368	0.540	53.8
400S200-97	50	0.864	2.94	2.155	1.077	1.579	0.462	0.731	2.155	1.063	31.83	31.83	6658	1207	2.978	1.749	-1.605	0.963	2.368	0.540	43.0
400S200-118	33	1.034	3.52	2.532	1.266	1.565	0.532	0.717	2.532	1.248	24.67	24.67	5193	728	5.318	2.024	-1.577	0.948	2.334	0.544	54.5
400S200-118	50	1.034	3.52	2.532	1.266	1.565	0.532	0.717	2.532	1.248	37.37	37.37	7869	1102	5.318	2.024	-1.577	0.948	2.334	0.544	43.3
400S250-43	33	0.447	1.52	1.224	0.612	1.655	0.399	0.945	1.224	0.503	9.93	10.09	1739	810	0.303	1.486	-2.139	1.252	2.864	0.443	63.7
400S250-54	33	0.556	1.89	1.512	0.756	1.649	0.490	0.938	1.512	0.653	12.90	13.47	2603	944	0.594	1.821	-2.124	1.244	2.848	0.444	63.8
400S250-54	50	0.556	1.89	1.512	0.756	1.649	0.490	0.938	1.506	0.576	17.24	17.75	3372	1223	0.594	1.821	-2.124	1.244	2.848	0.444	51.6
400S250-68	33	0.693	2.36	1.864	0.932	1.640	0.599	0.929	1.864	0.883	17.45	17.86	3215	895	1.174	2.225	-2.105	1.235	2.826	0.445	64.0
400S250-68	50	0.693	2.36	1.864	0.932	1.640	0.599	0.929	1.864	0.775	23.19	23.82	4871	1356	1.174	2.225	-2.105	1.235	2.826	0.445	51.6
400S250-97	33	0.966	3.29	2.541	1.271	1.622	0.801	0.911	2.541	1.256	24.83	24.83	4394	797	3.329	2.978	-2.066	1.214	2.780	0.448	64.8
400S250-97	50	0.966	3.29	2.541	1.271	1.622	0.801	0.911	2.541	1.202	35.98	36.64	6658	1207	3.329	2.978	-2.066	1.214	2.780	0.448	51.9
400S250-118	33	1.158	3.94	2.998	1.499	1.609	0.931	0.897	2.998	1.482	29.28	29.28	5193	728	5.956	3.467	-2.037	1.199	2.746	0.450	65.7
400S250-118	50	1.158	3.94	2.998	1.499	1.609	0.931	0.897	2.998	1.470	44.00	44.36	7869	1102	5.956	3.467	-2.037	1.199	2.746	0.450	52.3
400S300-54	33	0.627	2.13	1.756	0.878	1.674	0.807	1.135	1.756	0.742	14.67	15.22	2603	944	0.670	3.269	-2.695	1.555	3.369	0.360	77.5
400S300-54	50	0.627	2.13	1.756	0.878	1.674	0.807	1.135	1.716	0.648	19.39	19.97	3372	1223	0.670	3.269	-2.695	1.555	3.369	0.360	62.7
400S300-68	33	0.782	2.66	2.170	1.085	1.666	0.992	1.126	2.170	0.974	19.24	20.25	3215	895	1.325	4.007	-2.676	1.545	3.347	0.361	77.8
400S300-68	50	0.782	2.66	2.170	1.085	1.666	0.992	1.126	2.163	0.857	25.65	26.87	4871	1356	1.325	4.007	-2.676	1.545	3.347	0.361	62.8
400S300-97	33	1.093	3.72	2.971	1.486	1.649	1.341	1.108	2.971	1.452	28.69	29.08	4394	797	3.767	5.398	-2.637	1.525	3.301	0.362	78.8
400S300-97	50	1.093	3.72	2.971	1.486	1.649	1.341	1.108	2.971	1.378	41.25	41.57	6658	1207	3.767	5.398	-2.637	1.525	3.301	0.362	63.2
400S300-118	33	1.314	4.47	3.518	1.759	1.636	1.572	1.094	3.518	1.742	34.41	34.41	5193	728	6.755	6.317	-2.608	1.510	3.267	0.363	80.0
400S300-118	50	1.314	4.47	3.518	1.759	1.636	1.572	1.094	3.518	1.673	50.09	51.76	7869	1102	6.755	6.317	-2.608	1.510	3.267	0.363	63.7
400S350-54	33	0.712	2.42	2.012	1.006	1.681	1.286	1.344	1.976	0.826	16.32	17.61	2603	944	0.760	6.333	-3.375	1.927	4.003	0.289	95.9
400S350-54	50	0.712	2.42	2.012	1.006	1.681	1.286	1.344	1.899	0.735	22.01	23.14	3372	1223	0.760	6.333	-3.375	1.927	4.003	0.289	77.6
400S350-68	33	0.889	3.03	2.491	1.245	1.674	1.586	1.336	2.491	1.140	22.53	23.42	3215	895	1.507	7.786	-3.357	1.917	3.982	0.289	96.3
400S350-68	50	0.889	3.03	2.491	1.245	1.674	1.586	1.336	2.474	1.007	30.16	31.13	4871	1356	1.507	7.786	-3.357	1.917	3.982	0.289	77.8
400S350-97	33	1.245	4.24	3.422	1.711	1.658	2.164	1.318	3.422	1.693	33.46	33.53	4394	797	4.293	10.555	-3.319	1.897	3.937	0.289	97.5
400S350-97	50	1.245	4.24	3.422	1.711	1.658	2.164	1.318	3.422	1.520	45.50	48.13	6658	1207	4.293	10.555	-3.319	1.897	3.937	0.289	78.3
400S350-118	33	1.500	5.10	4.063	2.032	1.646	2.555	1.305	4.063	2.014	39.80	39.80	5193	728							



TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup>

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
550S125-54	50	0.450	1.53	1.805	0.656	2.002	0.061	0.369	1.791	0.606	18.13	14.05	3093	1881	0.481	0.374	-0.613	0.401	2.126	0.917	22.1
550S125-68	33	0.559	1.90	2.209	0.803	1.987	0.072	0.358	2.205	0.801	15.83	14.76	4347	2057	0.948	0.448	-0.597	0.392	2.106	0.920	27.0
550S125-68	50	0.559	1.90	2.209	0.803	1.987	0.072	0.358	2.205	0.791	23.68	19.54	5350	2532	0.948	0.448	-0.597	0.392	2.106	0.920	21.8
550S137-33	33	0.301	1.02	1.283	0.467	2.064	0.067	0.472	1.283	0.453	8.95	7.13	699	699	0.120	0.411	-0.841	0.536	2.278	0.864	33.7
550S137-43	33	0.391	1.33	1.655	0.602	2.059	0.085	0.467	1.655	0.602	11.89	10.22	1550	1199	0.265	0.520	-0.830	0.530	2.268	0.866	33.5
550S137-54	33	0.486	1.65	2.039	0.741	2.049	0.103	0.460	2.039	0.741	14.65	13.71	2739	1666	0.519	0.632	-0.817	0.523	2.254	0.868	33.3
550S137-54	50	0.486	1.65	2.039	0.741	2.049	0.103	0.460	2.039	0.722	21.63	18.17	3093	1881	0.519	0.632	-0.817	0.523	2.254	0.868	27.0
550S137-68	33	0.604	2.05	2.503	0.910	2.036	0.123	0.451	2.503	0.910	17.99	17.84	4347	2057	1.023	0.764	-0.801	0.514	2.234	0.871	33.1
550S137-68	50	0.604	2.05	2.503	0.910	2.036	0.123	0.451	2.503	0.910	27.25	24.54	5350	2532	1.023	0.764	-0.801	0.514	2.234	0.871	26.8
550S137-97	33	0.838	2.85	3.380	1.229	2.008	0.155	0.430	3.380	1.229	24.28	24.08	6282	1997	2.891	0.997	-0.766	0.497	2.192	0.878	32.8
550S137-97	50	0.838	2.85	3.380	1.229	2.008	0.155	0.430	3.380	1.229	36.79	36.48	9518	3026	2.891	0.997	-0.766	0.497	2.192	0.878	26.4
550S162-33	33	0.327	1.11	1.458	0.530	2.112	0.113	0.589	1.458	0.512	10.11	8.31	699	699	0.130	0.713	-1.114	0.697	2.459	0.795	41.4
550S162-43	33	0.424	1.44	1.883	0.685	2.107	0.145	0.584	1.883	0.685	13.53	11.84	1550	1199	0.288	0.905	-1.103	0.691	2.448	0.797	41.2
550S162-54	33	0.528	1.80	2.324	0.845	2.098	0.176	0.577	2.324	0.845	16.70	15.81	2739	1666	0.564	1.105	-1.090	0.684	2.434	0.800	41.0
550S162-54	50	0.528	1.80	2.324	0.845	2.098	0.176	0.577	2.324	0.822	24.60	21.00	3093	1881	0.564	1.105	-1.090	0.684	2.434	0.800	33.2
550S162-68	33	0.657	2.24	2.861	1.040	2.086	0.212	0.568	2.861	1.040	20.56	20.42	4347	2057	1.114	1.342	-1.072	0.675	2.414	0.803	40.9
550S162-68	50	0.657	2.24	2.861	1.040	2.086	0.212	0.568	2.861	1.040	31.15	28.23	5350	2532	1.114	1.342	-1.072	0.675	2.414	0.803	33.1
550S162-97	33	0.915	3.11	3.886	1.413	2.061	0.276	0.549	3.886	1.413	27.92	27.72	6282	1997	3.154	1.775	-1.037	0.656	2.372	0.809	40.7
550S162-97	50	0.915	3.11	3.886	1.413	2.061	0.276	0.549	3.886	1.413	42.31	42.00	9518	3026	3.154	1.775	-1.037	0.656	2.372	0.809	32.8
550S162-118	33	1.096	3.73	4.571	1.662	2.042	0.313	0.534	4.571	1.662	32.85	32.59	7499	1889	5.637	2.047	-1.010	0.642	2.340	0.814	40.7
550S162-118	50	1.096	3.73	4.571	1.662	2.042	0.313	0.534	4.571	1.662	49.77	49.38	11362	2862	5.637	2.047	-1.010	0.642	2.340	0.814	32.6
550S200-33	33	0.362	1.23	1.694	0.616	2.164	0.204	0.751	1.678	0.559	11.05	9.51	699	699	0.144	1.326	-1.508	0.925	2.742	0.698	51.9
550S200-43	33	0.469	1.60	2.189	0.796	2.159	0.261	0.746	2.189	0.776	15.33	13.54	1550	1199	0.318	1.691	-1.496	0.918	2.731	0.700	51.7
550S200-54	33	0.585	1.99	2.706	0.984	2.152	0.320	0.739	2.706	0.984	19.45	18.09	2739	1666	0.624	2.072	-1.483	0.911	2.716	0.702	51.6
550S200-54	50	0.585	1.99	2.706	0.984	2.152	0.320	0.739	2.706	0.901	26.98	23.95	3093	1881	0.624	2.072	-1.483	0.911	2.716	0.702	41.8
550S200-68	33	0.729	2.48	3.341	1.215	2.141	0.389	0.731	3.341	1.215	24.00	23.78	4347	2057	1.235	2.531	-1.465	0.902	2.695	0.705	51.6
550S200-68	50	0.729	2.48	3.341	1.215	2.141	0.389	0.731	3.341	1.188	35.57	32.21	5350	2532	1.235	2.531	-1.465	0.902	2.695	0.705	41.7
550S200-97	33	1.016	3.46	4.563	1.659	2.119	0.515	0.712	4.563	1.659	32.79	32.59	6282	1997	3.504	3.384	-1.428	0.882	2.652	0.710	51.6
550S200-97	50	1.016	3.46	4.563	1.659	2.119	0.515	0.712	4.563	1.659	49.68	49.18	9518	3026	3.504	3.384	-1.428	0.882	2.652	0.710	41.5
550S200-118	33	1.220	4.15	5.393	1.961	2.102	0.595	0.698	5.393	1.961	38.75	38.50	7499	1889	6.276	3.937	-1.400	0.868	2.620	0.714	51.7
550S200-118	50	1.220	4.15	5.393	1.961	2.102	0.595	0.698	5.393	1.961	58.71	58.33	11362	2862	6.276	3.937	-1.400	0.868	2.620	0.714	41.5
550S250-43	33	0.515	1.75	2.524	0.918	2.215	0.445	0.930	2.524	0.817	16.15	14.31	1550	1199	0.349	2.837	-1.933	1.163	3.083	0.607	62.6
550S250-54	33	0.641	2.18	3.126	1.137	2.208	0.547	0.923	3.126	1.033	20.40	19.26	2739	1666	0.685	3.486	-1.919	1.155	3.067	0.609	62.6
550S250-54	50	0.641	2.18	3.126	1.137	2.208	0.547	0.923	3.084	0.950	28.44	25.21	3093	1881	0.685	3.486	-1.919	1.155	3.067	0.609	50.7
550S250-68	33	0.800	2.72	3.866	1.406	2.198	0.669	0.914	3.866	1.358	26.83	25.80	4347	2057	1.356	4.274	-1.900	1.146	3.046	0.611	62.5
550S250-68	50	0.800	2.72	3.866	1.406	2.198	0.669	0.914	3.864	1.233	36.91	34.15	5350	2532	1.356	4.274	-1.900	1.146	3.046	0.611	50.6
550S250-97	33	1.118	3.80	5.304	1.929	2.178	0.897	0.895	5.304	1.929	38.11	37.91	6282	1997	3.855	5.761	-1.862	1.126	3.002	0.615	62.7
550S250-97	50	1.118	3.80	5.304	1.929	2.178	0.897	0.895	5.304	1.851	55.43	53.49	9518	3026	3.855	5.761	-1.862	1.126	3.002	0.615	50.5
550S250-118	33	1.345	4.58	6.290	2.287	2.163	1.044	0.881	6.290	2.287	45.20	44.95	7499	1889	6.914	6.744	-1.833	1.111	2.969	0.619	63.0
550S250-118	50	1.345	4.58	6.290	2.287	2.163	1.044	0.881	6.290	2.270	67.95	67.70	11362	2862	6.914	6.744	-1.833	1.111	2.969	0.619	50.5
550S300-54	33	0.712	2.42	3.605	1.311	2.250	0.904	1.127	3.605	1.165	23.02	21.59	2739	1666	0.760	6.059	-2.460	1.457	3.520	0.511	75.8
550S300-54	50	0.712	2.42	3.605	1.311	2.250	0.904	1.127	3.473	1.058	31.68	28.17	3093	1881	0.760	6.059	-2.460	1.457	3.520	0.511	61.5
550S300-68	33	0.889	3.03	4.467	1.624	2.241	1.112	1.118	4.467	1.492	29.49	28.99	4347	2057	1.507	7.451	-2.442	1.447	3.498	0.513	75.8
550S300-68	50	0.889	3.03	4.467	1.624	2.241	1.112	1.118	4.423	1.357	40.63	38.21	5350	2532	1.507	7.451	-2.442	1.447	3.498	0.513	61.4
550S300-97	33	1.245	4.24	6.153	2.238	2.223	1.507	1.100	6.153	2.208	43.63	44.01	6282	1997	4.293	10.108	-2.403	1.427	3.453	0.516	76.1
550S300-97	50	1.245	4.24	6.153	2.238	2.223	1.507	1.100	6.153	2.103	62.96	60.05	9518	3026	4.293	10.108	-2.403	1.427	3.453	0.516	61.4
550S300-118	33	1.500	5.10	7.319	2.662	2.209	1.769	1.086	7.319	2.662	52.59	52.34	7499	1889	7.712	11.890	-2.374	1.412	3.420	0.518	76.6
550S300-118	50	1.500	5.10	7.319	2.662	2.209	1.769	1.086	7.319	2.559	76.63	76.52	11362	2862	7.712	11.890	-2.374	1.412	3.420	0.518	61.5
550S350-54	33	0.797	2.71	4.124	1.500	2.275	1.445	1.347	4.032	1.297	25.63	24.96	2739	1666	0.851	10.993	-3.114	1.820	4.085	0.419	92.5
550S350-54	50	0.797	2.71	4.124	1.500	2.275	1.445	1.347	3.872	1.190	35.62	32.59	3093	1881	0.851	10.993	-3.114	1.820	4.085	0.419	74.9
550S350-68	33	0.996	3.39	5.118	1.861	2.267	1.784	1.338	5.118	1.742	34.42	33.47	4347	2057	1.688	13.553	-3.095	1.811	4.063	0.420	92.5
550S350-68	50	0.996	3.39	5.118	1.861	2.267	1.784	1.338	5.061	1.580	47.29	44.16	5350	2532	1.688	13.553	-3.095	1.811	4.063	0.420	74.9
550S350-97	33	1.398	4.76	7.073	2.572	2.250	2.439	1.321	7.073	2.566	50.70	50.62	6282	1997	4.819	18.485	-3.057	1.790	4.019	0.421	93.0
550S350-97	50	1.398																			

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
600S125-43	33	0.385	1.31	1.817	0.606	2.173	0.053	0.369	1.807	0.555	10.96	8.60	1416	1240	0.261	0.378	-0.598	0.393	2.284	0.931	27.3
600S125-54	33	0.479	1.63	2.236	0.745	2.161	0.063	0.362	2.236	0.727	14.37	11.93	2739	1890	0.511	0.457	-0.586	0.386	2.269	0.933	27.1
600S125-54	50	0.479	1.63	2.236	0.745	2.161	0.063	0.362	2.220	0.673	20.15	15.51	2823	1947	0.511	0.457	-0.586	0.386	2.269	0.933	21.9
600S125-68	33	0.595	2.02	2.740	0.913	2.146	0.073	0.351	2.735	0.911	18.00	16.43	4347	2339	1.008	0.548	-0.570	0.378	2.248	0.936	26.7
600S125-68	50	0.595	2.02	2.740	0.913	2.146	0.073	0.351	2.735	0.898	26.88	21.68	5350	2879	1.008	0.548	-0.570	0.378	2.248	0.936	21.6
600S137-33	33	0.318	1.08	1.582	0.527	2.229	0.069	0.464	1.548	0.455	8.98	7.81	638	638	0.127	0.500	-0.807	0.519	2.416	0.889	33.5
600S137-43	33	0.413	1.41	2.042	0.681	2.223	0.087	0.459	2.041	0.645	12.74	11.25	1416	1240	0.280	0.633	-0.796	0.513	2.406	0.890	33.3
600S137-54	33	0.514	1.75	2.518	0.839	2.213	0.105	0.452	2.518	0.832	16.44	15.17	2739	1890	0.549	0.769	-0.784	0.506	2.391	0.893	33.0
600S137-54	50	0.514	1.75	2.518	0.839	2.213	0.105	0.452	2.518	0.777	23.26	20.03	2823	1947	0.549	0.769	-0.784	0.506	2.391	0.893	26.8
600S137-68	33	0.640	2.18	3.094	1.031	2.200	0.125	0.443	3.094	1.031	20.38	20.14	4347	2339	1.084	0.930	-0.768	0.497	2.371	0.895	32.8
600S137-68	50	0.640	2.18	3.094	1.031	2.200	0.125	0.443	3.094	1.030	30.84	27.19	5350	2879	1.084	0.930	-0.768	0.497	2.371	0.895	26.5
600S137-97	33	0.889	3.03	4.188	1.396	2.170	0.159	0.422	4.188	1.396	27.59	27.40	6911	2512	3.066	1.216	-0.734	0.480	2.330	0.901	32.4
600S137-97	50	0.889	3.03	4.188	1.396	2.170	0.159	0.422	4.188	1.396	41.80	41.51	10472	3805	3.066	1.216	-0.734	0.480	2.330	0.901	26.1
600S162-33	33	0.344	1.17	1.793	0.598	2.282	0.116	0.581	1.793	0.577	11.41	9.13	638	638	0.137	0.861	-1.072	0.677	2.587	0.828	41.1
600S162-43	33	0.447	1.52	2.316	0.772	2.276	0.148	0.576	2.316	0.772	15.25	13.05	1416	1240	0.303	1.095	-1.062	0.670	2.577	0.830	40.9
600S162-54	33	0.556	1.89	2.860	0.953	2.267	0.180	0.570	2.860	0.953	18.84	17.50	2739	1890	0.594	1.337	-1.049	0.663	2.562	0.832	40.7
600S162-54	50	0.556	1.89	2.860	0.953	2.267	0.180	0.570	2.860	0.927	27.76	23.16	2823	1947	0.594	1.337	-1.049	0.663	2.562	0.832	33.0
600S162-68	33	0.693	2.36	3.525	1.175	2.255	0.218	0.560	3.525	1.175	23.22	23.03	4347	2339	1.174	1.626	-1.032	0.655	2.543	0.835	40.6
600S162-68	50	0.693	2.36	3.525	1.175	2.255	0.218	0.560	3.525	1.175	35.18	31.27	5350	2879	1.174	1.626	-1.032	0.655	2.543	0.835	32.8
600S162-97	33	0.966	3.29	4.797	1.599	2.229	0.283	0.541	4.797	1.599	31.60	31.41	6911	2512	3.329	2.153	-0.997	0.636	2.501	0.841	40.3
600S162-97	50	0.966	3.29	4.797	1.599	2.229	0.283	0.541	4.797	1.599	47.88	47.59	10472	3805	3.329	2.153	-0.997	0.636	2.501	0.841	32.5
600S162-118	33	1.158	3.94	5.652	1.884	2.209	0.321	0.526	5.652	1.884	37.23	37.00	8267	2391	5.956	2.487	-0.971	0.623	2.470	0.845	40.2
600S162-118	50	1.158	3.94	5.652	1.884	2.209	0.321	0.526	5.652	1.884	56.41	56.06	12526	3622	5.956	2.487	-0.971	0.623	2.470	0.845	32.3
600S200-33	33	0.379	1.29	2.075	0.692	2.340	0.209	0.743	2.058	0.621	12.28	10.46	638	638	0.151	1.593	-1.457	0.901	2.855	0.740	51.6
600S200-43	33	0.492	1.67	2.683	0.894	2.335	0.268	0.739	2.683	0.873	17.24	14.93	1416	1240	0.334	2.033	-1.446	0.894	2.844	0.742	51.4
600S200-54	33	0.613	2.09	3.319	1.106	2.327	0.328	0.732	3.319	1.106	21.86	20.00	2739	1890	0.655	2.493	-1.432	0.887	2.829	0.744	51.3
600S200-54	50	0.613	2.09	3.319	1.106	2.327	0.328	0.732	3.319	1.015	30.40	26.41	2823	1947	0.655	2.493	-1.432	0.887	2.829	0.744	41.6
600S200-68	33	0.764	2.60	4.101	1.367	2.316	0.400	0.723	4.101	1.367	27.01	26.62	4347	2339	1.295	3.047	-1.415	0.878	2.809	0.746	51.2
600S200-68	50	0.764	2.60	4.101	1.367	2.316	0.400	0.723	4.101	1.337	40.03	35.64	5350	2879	1.295	3.047	-1.415	0.878	2.809	0.746	41.4
600S200-97	33	1.067	3.63	5.612	1.871	2.293	0.530	0.705	5.612	1.871	36.96	36.78	6911	2512	3.679	4.080	-1.378	0.859	2.767	0.752	51.1
600S200-97	50	1.067	3.63	5.612	1.871	2.293	0.530	0.705	5.612	1.871	56.01	55.26	10472	3805	3.679	4.080	-1.378	0.859	2.767	0.752	41.2
600S200-118	33	1.283	4.36	6.641	2.214	2.275	0.611	0.690	6.641	2.214	43.74	43.51	8267	2391	6.595	4.753	-1.351	0.845	2.735	0.756	51.1
600S200-118	50	1.283	4.36	6.641	2.214	2.275	0.611	0.690	6.641	2.214	66.28	65.93	12526	3622	6.595	4.753	-1.351	0.845	2.735	0.756	41.1
600S250-43	33	0.537	1.83	3.082	1.027	2.396	0.458	0.923	3.082	0.918	18.14	15.74	1416	1240	0.364	3.411	-1.874	1.136	3.179	0.652	62.4
600S250-54	33	0.670	2.28	3.819	1.273	2.388	0.562	0.917	3.819	1.159	22.90	21.24	2739	1890	0.715	4.194	-1.860	1.129	3.163	0.654	62.3
600S250-54	50	0.670	2.28	3.819	1.273	2.388	0.562	0.917	3.766	1.069	32.00	27.74	2823	1947	0.715	4.194	-1.860	1.129	3.163	0.654	50.5
600S250-68	33	0.836	2.84	4.727	1.576	2.378	0.688	0.908	4.727	1.522	30.08	28.53	4347	2339	1.416	5.145	-1.842	1.119	3.142	0.656	62.2
600S250-68	50	0.836	2.84	4.727	1.576	2.378	0.688	0.908	4.723	1.386	41.49	37.68	5350	2879	1.416	5.145	-1.842	1.119	3.142	0.656	50.4
600S250-97	33	1.169	3.98	6.496	2.165	2.357	0.923	0.889	6.496	2.165	42.79	42.60	6911	2512	4.030	6.947	-1.803	1.100	3.098	0.661	62.2
600S250-97	50	1.169	3.98	6.496	2.165	2.357	0.923	0.889	6.496	2.079	62.25	59.31	10472	3805	4.030	6.947	-1.803	1.100	3.098	0.661	50.2
600S250-118	33	1.407	4.79	7.713	2.571	2.342	1.075	0.874	7.713	2.571	50.80	50.57	8267	2391	7.234	8.142	-1.775	1.085	3.066	0.665	62.4
600S250-118	50	1.407	4.79	7.713	2.571	2.342	1.075	0.874	7.713	2.551	76.38	75.57	12526	3622	7.234	8.142	-1.775	1.085	3.066	0.665	50.1
600S300-54	33	0.740	2.52	4.395	1.465	2.436	0.932	1.122	4.395	1.305	25.79	23.76	2739	1890	0.791	7.238	-2.392	1.427	3.594	0.557	75.5
600S300-54	50	0.740	2.52	4.395	1.465	2.436	0.932	1.122	4.233	1.189	35.59	30.95	2823	1947	0.791	7.238	-2.392	1.427	3.594	0.557	61.2
600S300-68	33	0.925	3.15	5.449	1.816	2.427	1.146	1.113	5.449	1.67	33.00	31.99	4347	2339	1.567	8.907	-2.374	1.417	3.573	0.559	75.5
600S300-68	50	0.925	3.15	5.449	1.816	2.427	1.146	1.113	5.391	1.523	45.60	42.07	5350	2879	1.567	8.907	-2.374	1.417	3.573	0.559	61.1
600S300-97	33	1.296	4.41	7.517	2.506	2.408	1.553	1.095	7.517	2.472	48.85	49.20	6911	2512	4.468	12.103	-2.335	1.398	3.529	0.562	75.6
600S300-97	50	1.296	4.41	7.517	2.506	2.408	1.553	1.095	7.517	2.355	70.52	66.41	10472	3805	4.468	12.103	-2.335	1.398	3.529	0.562	61.0
600S300-118	33	1.562	5.32	8.951	2.984	2.394	1.824	1.081	8.951	2.984	58.96	58.73	8267	2391	8.032	14.255	-2.306	1.383	3.495	0.565	75.9
600S300-118	50	1.562	5.32	8.951	2.984	2.394	1.824	1.081	8.951	2.869	85.90	84.87	12526	3622	8.032	14.255	-2.306	1.383	3.495	0.565	61.0
600S350-54	33	0.825	2.81	5.022	1.674	2.467	1.491	1.344	4.911	1.452	28.70	27.45	2739	1890	0.881	12.942	-3.037	1.787	4.137	0.461	91.8
600S350-54	50	0.825	2.81	5.022	1.674	2.467	1.491	1.344	4.721	1.335	39.97	35.79	2823	1947	0.881	12.942	-3.037	1.787	4.137	0.461	74.4
600S350-68	33	1.032	3.51	6.237	2.079	2.459	1.841	1.336	6.237												

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup>

Section	Fy (ksi)	Gross Properties						Effective Properties						Torsional Properties						Lu (in)	
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)		β
725S125-27 <sup>1</sup>	33	0.279	0.95	1.852	0.511	2.577	0.036	0.360	1.693	0.332	6.56	5.11	287	287	0.074	0.387	-0.554	0.370	2.661	0.957	27.1
725S125-30 <sup>1</sup>	33	0.307	1.04	2.036	0.562	2.575	0.039	0.358	1.886	0.387	7.65	5.94	384	384	0.100	0.423	-0.552	0.368	2.658	0.957	27.1
725S125-33 <sup>1</sup>	33	0.340	1.16	2.251	0.621	2.573	0.043	0.357	2.114	0.456	9.00	6.97	525	525	0.136	0.464	-0.549	0.366	2.655	0.957	27.0
725S125-43	33	0.441	1.50	2.905	0.802	2.566	0.055	0.352	2.835	0.691	13.65	10.47	1163	1163	0.299	0.586	-0.540	0.361	2.646	0.958	26.7
725S125-54	33	0.549	1.87	3.582	0.988	2.554	0.065	0.344	3.582	0.92	18.17	14.69	2316	2072	0.587	0.708	-0.528	0.354	2.631	0.960	26.4
725S125-54	50	0.549	1.87	3.582	0.988	2.554	0.065	0.344	3.504	0.841	25.18	18.98	2316	2072	0.587	0.708	-0.528	0.354	2.631	0.960	21.4
725S125-68	33	0.684	2.33	4.403	1.215	2.537	0.076	0.334	4.396	1.210	23.91	20.51	4347	3044	1.159	0.851	-0.514	0.347	2.610	0.961	26.0
725S125-68	50	0.684	2.33	4.403	1.215	2.537	0.076	0.334	4.396	1.141	34.15	26.84	4680	3278	1.159	0.851	-0.514	0.347	2.610	0.961	21.1
725S137-33 <sup>1</sup>	33	0.362	1.23	2.509	0.692	2.634	0.072	0.445	2.392	0.559	11.05	9.41	525	525	0.144	0.766	-0.733	0.480	2.770	0.930	32.9
725S137-43	33	0.469	1.60	3.241	0.894	2.628	0.091	0.441	3.178	0.802	15.84	13.71	1163	1163	0.318	0.971	-0.724	0.474	2.761	0.931	32.6
725S137-54	33	0.585	1.99	4.003	1.104	2.617	0.110	0.434	4.003	1.048	20.72	18.71	2316	2072	0.624	1.181	-0.712	0.468	2.746	0.933	32.4
725S137-54	50	0.585	1.99	4.003	1.104	2.617	0.110	0.434	3.945	0.968	28.99	24.49	2316	2072	0.624	1.181	-0.712	0.468	2.746	0.933	26.2
725S137-68	33	0.729	2.48	4.932	1.360	2.602	0.131	0.424	4.932	1.359	26.86	25.37	4347	3044	1.235	1.430	-0.697	0.460	2.726	0.935	32.1
725S137-68	50	0.729	2.48	4.932	1.360	2.602	0.131	0.424	4.932	1.304	39.03	33.66	4680	3278	1.235	1.430	-0.697	0.460	2.726	0.935	26.0
725S137-97	33	1.016	3.46	6.710	1.851	2.569	0.166	0.404	6.710	1.851	36.58	36.42	8484	4049	3.504	1.875	-0.665	0.443	2.685	0.939	31.5
725S137-97	50	1.016	3.46	6.710	1.851	2.569	0.166	0.404	6.710	1.851	55.42	53.60	10885	5195	3.504	1.875	-0.665	0.443	2.685	0.939	25.4
725S162-33 <sup>1</sup>	33	0.388	1.32	2.822	0.778	2.698	0.122	0.562	2.706	0.638	12.61	11.10	525	525	0.155	1.309	-0.982	0.631	2.926	0.887	40.5
725S162-43	33	0.503	1.71	3.648	1.006	2.692	0.156	0.557	3.585	0.913	18.04	16.01	1163	1163	0.341	1.666	-0.972	0.625	2.916	0.889	40.2
725S162-54	33	0.627	2.13	4.513	1.245	2.683	0.190	0.550	4.513	1.188	23.48	21.67	2316	2072	0.670	2.036	-0.960	0.618	2.902	0.891	40.0
725S162-54	50	0.627	2.13	4.513	1.245	2.683	0.190	0.550	4.455	1.100	32.93	28.46	2316	2072	0.670	2.036	-0.960	0.618	2.902	0.891	32.5
725S162-68	33	0.782	2.66	5.572	1.537	2.669	0.229	0.541	5.572	1.536	30.35	29.15	4347	3044	1.325	2.479	-0.944	0.610	2.882	0.893	39.8
725S162-68	50	0.782	2.66	5.572	1.537	2.669	0.229	0.541	5.572	1.479	44.29	38.81	4680	3278	1.325	2.479	-0.944	0.610	2.882	0.893	32.2
725S162-97	33	1.093	3.72	7.618	2.101	2.640	0.297	0.522	7.618	2.101	41.53	41.37	8484	4049	3.767	3.293	-0.911	0.592	2.841	0.897	39.3
725S162-97	50	1.093	3.72	7.618	2.101	2.640	0.297	0.522	7.618	2.101	62.92	61.18	10885	5195	3.767	3.293	-0.911	0.592	2.841	0.897	31.8
725S162-118	33	1.314	4.47	9.007	2.485	2.618	0.337	0.507	9.007	2.485	49.10	48.91	10189	3896	6.755	3.811	-0.886	0.579	2.810	0.901	39.0
725S162-118	50	1.314	4.47	9.007	2.485	2.618	0.337	0.507	9.007	2.485	74.39	74.10	15437	5903	6.755	3.811	-0.886	0.579	2.810	0.901	31.4
725S200-33 <sup>1</sup>	33	0.422	1.44	3.241	0.894	2.771	0.221	0.724	3.234	0.743	14.67	12.79	525	525	0.168	2.395	-1.346	0.847	3.164	0.819	50.9
725S200-43	33	0.548	1.87	4.193	1.157	2.765	0.284	0.719	4.193	1.131	22.34	18.38	1163	1163	0.372	3.059	-1.335	0.840	3.154	0.821	50.7
725S200-54	33	0.684	2.33	5.195	1.433	2.756	0.347	0.713	5.195	1.433	28.32	24.80	2316	2072	0.730	3.755	-1.322	0.833	3.139	0.823	50.5
725S200-54	50	0.684	2.33	5.195	1.433	2.756	0.347	0.713	5.195	1.321	39.55	32.55	2316	2072	0.730	3.755	-1.322	0.833	3.139	0.823	41.0
725S200-68	33	0.853	2.90	6.428	1.773	2.744	0.423	0.704	6.428	1.773	35.04	33.30	4347	3044	1.446	4.596	-1.305	0.824	3.119	0.825	50.3
725S200-68	50	0.853	2.90	6.428	1.773	2.744	0.423	0.704	6.428	1.736	51.96	44.25	4680	3278	1.446	4.596	-1.305	0.824	3.119	0.825	40.8
725S200-97	33	1.194	4.06	8.831	2.436	2.719	0.561	0.685	8.831	2.436	48.14	47.98	8484	4049	4.118	6.175	-1.270	0.806	3.078	0.830	50.0
725S200-97	50	1.194	4.06	8.831	2.436	2.719	0.561	0.685	8.831	2.436	72.93	69.62	10885	5195	4.118	6.175	-1.270	0.806	3.078	0.830	40.4
725S200-118	33	1.438	4.89	10.480	2.891	2.700	0.647	0.671	10.480	2.891	57.13	56.94	10189	3896	7.393	7.210	-1.244	0.792	3.047	0.833	49.9
725S200-118	50	1.438	4.89	10.480	2.891	2.700	0.647	0.671	10.480	2.891	86.56	86.27	15437	5903	7.393	7.210	-1.244	0.792	3.047	0.833	40.2
725S250-43	33	0.593	2.02	4.778	1.318	2.838	0.486	0.905	4.778	1.186	23.44	19.33	1163	1163	0.402	5.134	-1.744	1.076	3.451	0.745	61.8
725S250-54	33	0.740	2.52	5.927	1.635	2.829	0.597	0.898	5.927	1.495	29.55	26.22	2316	2072	0.791	6.319	-1.730	1.069	3.436	0.747	61.7
725S250-54	50	0.740	2.52	5.927	1.635	2.829	0.597	0.898	5.837	1.388	41.55	34.11	2316	2072	0.791	6.319	-1.730	1.069	3.436	0.747	50.0
725S250-68	33	0.925	3.15	7.347	2.027	2.819	0.730	0.889	7.347	1.960	38.72	35.46	4347	3044	1.567	7.765	-1.712	1.059	3.415	0.749	61.5
725S250-68	50	0.925	3.15	7.347	2.027	2.819	0.730	0.889	7.334	1.795	53.75	46.60	4680	3278	1.567	7.765	-1.712	1.059	3.415	0.749	49.9
725S250-97	33	1.296	4.41	10.130	2.794	2.796	0.980	0.869	10.130	2.794	55.22	54.99	8484	4049	4.468	10.516	-1.675	1.040	3.373	0.753	61.3
725S250-97	50	1.296	4.41	10.130	2.794	2.796	0.980	0.869	10.130	2.686	80.42	74.21	10885	5195	4.468	10.516	-1.675	1.040	3.373	0.753	49.6
725S250-118	33	1.562	5.32	12.057	3.326	2.778	1.141	0.855	12.057	3.326	65.73	65.53	10189	3896	8.032	12.355	-1.647	1.026	3.341	0.757	61.2
725S250-118	50	1.562	5.32	12.057	3.326	2.778	1.141	0.855	12.057	3.301	98.83	95.30	15437	5903	8.032	12.355	-1.647	1.026	3.341	0.757	49.4
725S300-54	33	0.811	2.76	6.781	1.871	2.892	0.992	1.106	6.781	1.677	33.13	29.26	2316	2072	0.866	10.770	-2.240	1.359	3.821	0.656	74.8
725S300-54	50	0.811	2.76	6.781	1.871	2.892	0.992	1.106	6.537	1.523	45.61	37.97	2316	2072	0.866	10.770	-2.240	1.359	3.821	0.656	60.7
725S300-68	33	1.014	3.45	8.419	2.323	2.882	1.220	1.097	8.419	2.142	42.33	39.60	4347	3044	1.718	13.275	-2.222	1.350	3.801	0.658	74.7
725S300-68	50	1.014	3.45	8.419	2.323	2.882	1.220	1.097	8.320	1.966	58.85	51.87	4680	3278	1.718	13.275	-2.222	1.350	3.801	0.658	60.5
725S300-97	33	1.423	4.84	11.648	3.213	2.861	1.655	1.078	11.648	3.170	62.64	61.89	8484	4049	4.907	18.093	-2.184	1.330	3.757	0.662	74.6
725S300-97	50	1.423	4.84	11.648	3.213	2.861	1.655	1.078	11.648	3.024	90.55	82.64	10885	5195	4.907	18.093	-2.184	1.330	3.757	0.662	60.3
725S300-118	33	1.717	5.84	13.902	3.835	2.845	1.945	1.064	13.902	3.835	75.78	75.59	10189	3896	8.830	21.359	-2.156	1.316	3.725	0.665	74.6
725S300-118	50	1.717	5.84	13.902	3.835	2.845	1.945	1.064	13.902	3.689	110.44	106.32	15437	5903	8.830	21.359	-2.156	1.316	3.7		

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
725S350-97	50	1.576	5.36	13.332	3.678	2.909	2.692	1.307	13.332	3.322	99.45	94.95	10885	5195	5.433	31.730	-2.804	1.681	4.247	0.564	73.2
725S350-118	33	1.904	6.48	15.948	4.400	2.894	3.186	1.294	15.948	4.400	86.94	86.75	10189	3896	9.788	37.602	-2.776	1.666	4.214	0.566	90.7
725S350-118	50	1.904	6.48	15.948	4.400	2.894	3.186	1.294	15.948	4.226	126.54	121.92	15437	5903	9.788	37.602	-2.776	1.666	4.214	0.566	73.2
800S125-30'	33	0.330	1.12	2.606	0.651	2.808	0.040	0.349	2.366	0.430	8.50	6.46	347	347	0.107	0.531	-0.522	0.351	2.878	0.967	26.7
800S125-33'	33	0.366	1.25	2.881	0.720	2.806	0.044	0.347	2.656	0.507	10.02	7.60	474	474	0.146	0.582	-0.519	0.349	2.875	0.967	26.6
800S125-43	33	0.475	1.62	3.721	0.930	2.799	0.056	0.342	3.581	0.773	15.27	11.50	1051	1051	0.322	0.735	-0.510	0.344	2.865	0.968	26.3
800S125-54	33	0.592	2.01	4.593	1.148	2.786	0.066	0.335	4.566	1.035	20.46	16.24	2091	2091	0.632	0.889	-0.499	0.338	2.850	0.969	26.0
800S125-54	50	0.592	2.01	4.593	1.148	2.786	0.066	0.335	4.431	0.942	28.21	20.90	2091	2091	0.632	0.889	-0.499	0.338	2.850	0.969	21.1
800S125-68	33	0.738	2.51	5.653	1.413	2.768	0.078	0.324	5.644	1.375	27.18	22.84	4221	3367	1.250	1.068	-0.485	0.330	2.829	0.971	25.6
800S125-68	50	0.738	2.51	5.653	1.413	2.768	0.078	0.324	5.632	1.287	38.54	29.74	4221	3367	1.250	1.068	-0.485	0.330	2.829	0.971	20.8
800S137-33'	33	0.388	1.32	3.198	0.799	2.873	0.073	0.435	2.998	0.622	12.30	10.29	474	474	0.155	0.957	-0.696	0.460	2.987	0.946	32.5
800S137-43	33	0.503	1.71	4.134	1.033	2.866	0.093	0.430	4.001	0.896	17.70	15.09	1051	1051	0.341	1.214	-0.687	0.454	2.978	0.947	32.2
800S137-54	33	0.627	2.13	5.110	1.277	2.855	0.112	0.423	5.077	1.179	23.29	20.73	2091	2091	0.670	1.478	-0.676	0.448	2.964	0.948	32.0
800S137-54	50	0.627	2.13	5.110	1.277	2.855	0.112	0.423	4.974	1.083	32.42	27.00	2091	2091	0.670	1.478	-0.676	0.448	2.964	0.948	25.9
800S137-68	33	0.782	2.66	6.303	1.576	2.839	0.134	0.414	6.303	1.541	30.45	28.33	4221	3367	1.325	1.789	-0.661	0.440	2.944	0.950	31.6
800S137-68	50	0.782	2.66	6.303	1.576	2.839	0.134	0.414	6.285	1.468	43.96	37.37	4221	3367	1.325	1.789	-0.661	0.440	2.944	0.950	25.6
800S137-97	33	1.093	3.72	8.597	2.149	2.805	0.169	0.394	8.597	2.149	42.47	42.33	8843	4824	3.767	2.349	-0.630	0.423	2.902	0.953	31.0
800S137-97	50	1.093	3.72	8.597	2.149	2.805	0.169	0.394	8.597	2.149	64.35	60.24	10885	5938	3.767	2.349	-0.630	0.423	2.902	0.953	25.0
800S162-33'	33	0.413	1.41	3.582	0.896	2.943	0.125	0.550	3.384	0.710	14.03	12.21	474	474	0.165	1.630	-0.936	0.607	3.137	0.911	40.1
800S162-43	33	0.537	1.83	4.633	1.158	2.937	0.160	0.546	4.500	1.019	20.14	17.71	1051	1051	0.364	2.076	-0.926	0.601	3.128	0.912	39.8
800S162-54	33	0.670	2.28	5.736	1.434	2.927	0.194	0.539	5.702	1.334	26.36	24.10	2091	2091	0.715	2.539	-0.914	0.594	3.113	0.914	39.6
800S162-54	50	0.670	2.28	5.736	1.434	2.927	0.194	0.539	5.600	1.229	36.79	31.51	2091	2091	0.715	2.539	-0.914	0.594	3.113	0.914	32.1
800S162-68	33	0.836	2.84	7.089	1.772	2.913	0.235	0.530	7.089	1.737	34.32	32.63	4221	3367	1.416	3.093	-0.899	0.586	3.094	0.916	39.3
800S162-68	50	0.836	2.84	7.089	1.772	2.913	0.235	0.530	7.070	1.663	49.80	43.21	4221	3367	1.416	3.093	-0.899	0.586	3.094	0.916	31.9
800S162-97	33	1.169	3.98	9.713	2.428	2.883	0.305	0.510	9.713	2.428	47.98	47.84	8843	4824	4.030	4.114	-0.866	0.568	3.053	0.919	38.8
800S162-97	50	1.169	3.98	9.713	2.428	2.883	0.305	0.510	9.713	2.428	72.70	68.86	10885	5938	4.030	4.114	-0.866	0.568	3.053	0.919	31.4
800S162-118	33	1.407	4.79	11.504	2.876	2.860	0.345	0.496	11.504	2.876	56.83	56.66	11341	4971	7.234	4.766	-0.842	0.556	3.022	0.922	38.4
800S162-118	50	1.407	4.79	11.504	2.876	2.860	0.345	0.496	11.504	2.876	86.11	85.85	16235	7115	7.234	4.766	-0.842	0.556	3.022	0.922	31.0
800S200-33'	33	0.448	1.52	4.096	1.024	3.023	0.227	0.712	4.096	0.816	16.12	14.15	474	474	0.179	2.971	-1.288	0.817	3.363	0.853	50.6
800S200-43	33	0.582	1.98	5.302	1.325	3.018	0.292	0.708	5.302	1.293	25.54	20.40	1051	1051	0.395	3.797	-1.277	0.811	3.353	0.855	50.3
800S200-54	33	0.726	2.47	6.573	1.643	3.009	0.357	0.701	6.573	1.643	32.47	27.65	2091	2091	0.775	4.663	-1.265	0.804	3.338	0.856	50.1
800S200-54	50	0.726	2.47	6.573	1.643	3.009	0.357	0.701	6.573	1.499	44.87	36.16	2091	2091	0.775	4.663	-1.265	0.804	3.338	0.856	40.7
800S200-68	33	0.907	3.09	8.140	2.035	2.996	0.435	0.692	8.140	2.035	40.21	37.31	4221	3367	1.537	5.712	-1.248	0.796	3.319	0.859	49.9
800S200-68	50	0.907	3.09	8.140	2.035	2.996	0.435	0.692	8.140	1.993	59.66	49.37	4221	3367	1.537	5.712	-1.248	0.796	3.319	0.859	40.4
800S200-97	33	1.271	4.32	11.203	2.801	2.969	0.576	0.673	11.203	2.801	55.35	55.20	8843	4824	4.381	7.684	-1.214	0.777	3.278	0.863	49.5
800S200-97	50	1.271	4.32	11.203	2.801	2.969	0.576	0.673	11.203	2.801	83.86	78.32	10885	5938	4.381	7.684	-1.214	0.777	3.278	0.863	40.0
800S200-118	33	1.531	5.21	13.316	3.329	2.949	0.665	0.659	13.316	3.329	65.78	65.61	11341	4971	7.872	8.981	-1.188	0.764	3.247	0.866	49.2
800S200-118	50	1.531	5.21	13.316	3.329	2.949	0.665	0.659	13.316	3.329	99.67	99.41	16235	7115	7.872	8.981	-1.188	0.764	3.247	0.866	39.7
800S250-43	33	0.627	2.13	6.015	1.504	3.097	0.500	0.893	6.015	1.313	25.95	21.47	1051	1051	0.425	6.374	-1.675	1.043	3.632	0.787	61.5
800S250-54	33	0.783	2.66	7.465	1.866	3.088	0.614	0.886	7.465	1.712	33.82	29.21	2091	2091	0.836	7.850	-1.661	1.036	3.617	0.789	61.4
800S250-54	50	0.783	2.66	7.465	1.866	3.088	0.614	0.886	7.378	1.525	45.66	37.91	2091	2091	0.836	7.850	-1.661	1.036	3.617	0.789	49.8
800S250-68	33	0.978	3.33	9.261	2.315	3.077	0.752	0.877	9.261	2.240	44.26	39.66	4221	3367	1.658	9.652	-1.644	1.027	3.597	0.791	61.2
800S250-68	50	0.978	3.33	9.261	2.315	3.077	0.752	0.877	9.240	2.059	61.65	51.97	4221	3367	1.658	9.652	-1.644	1.027	3.597	0.791	49.6
800S250-97	33	1.372	4.67	12.789	3.197	3.053	1.009	0.857	12.789	3.197	63.18	62.23	8843	4824	4.731	13.091	-1.607	1.008	3.555	0.796	60.8
800S250-97	50	1.372	4.67	12.789	3.197	3.053	1.009	0.857	12.789	3.076	92.09	83.29	10885	5938	4.731	13.091	-1.607	1.008	3.555	0.796	49.2
800S250-118	33	1.655	5.63	15.242	3.810	3.035	1.175	0.843	15.242	3.810	75.29	75.12	11341	4971	8.511	15.395	-1.580	0.994	3.524	0.799	60.7
800S250-118	50	1.655	5.63	15.242	3.810	3.035	1.175	0.843	15.242	3.782	113.23	107.44	16235	7115	8.511	15.395	-1.580	0.994	3.524	0.799	49.0
800S300-54	33	0.853	2.90	8.514	2.128	3.158	1.023	1.095	8.514	1.914	37.83	32.58	2091	2091	0.911	13.310	-2.159	1.322	3.980	0.706	74.5
800S300-54	50	0.853	2.90	8.514	2.128	3.158	1.023	1.095	8.258	1.673	50.10	42.20	2091	2091	0.911	13.310	-2.159	1.322	3.980	0.706	60.4
800S300-68	33	1.067	3.63	10.577	2.644	3.148	1.259	1.086	10.577	2.443	48.28	44.23	4221	3367	1.809	16.415	-2.141	1.313	3.959	0.707	74.3
800S300-68	50	1.067	3.63	10.577	2.644	3.148	1.259	1.086	10.446	2.250	67.36	57.80	4221	3367	1.809	16.415	-2.141	1.313	3.959	0.707	60.3
800S300-97	33	1.499	5.10	14.654	3.664	3.126	1.708	1.067	14.654	3.615	71.43	69.52	8843	4824	5.170	22.406	-2.104	1.293	3.916	0.711	74.1
800S300-97	50	1.499	5.10	14.654	3.66																

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties								Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β		
800S350-68	50	1.174	4.00	12.046	3.012	3.203	2.034	1.316	11.909	2.596	77.73	66.61	4221	3367	1.990	28.308	-2.748	1.658	4.421	0.614	72.9	
800S350-97	33	1.652	5.62	16.737	4.184	3.183	2.784	1.298	16.737	4.173	82.45	79.72	8843	4824	5.696	38.834	-2.710	1.639	4.377	0.617	89.8	
800S350-97	50	1.652	5.62	16.737	4.184	3.183	2.784	1.298	16.737	3.785	113.34	106.21	10885	5938	5.696	38.834	-2.710	1.639	4.377	0.617	72.7	
800S350-118	33	1.997	6.79	20.041	5.010	3.168	3.295	1.285	20.041	5.010	99.00	98.83	11341	4971	10.267	46.068	-2.682	1.624	4.345	0.619	89.9	
800S350-118	50	1.997	6.79	20.041	5.010	3.168	3.295	1.285	20.041	4.812	144.09	136.79	16235	7115	10.267	46.068	-2.682	1.624	4.345	0.619	72.6	
925S137-43	33	0.560	1.90	5.941	1.284	3.258	0.096	0.414	5.612	1.053	20.80	17.18	905	905	0.379	1.688	-0.633	0.424	3.345	0.964	31.6	
925S137-54	33	0.698	2.37	7.352	1.590	3.246	0.116	0.407	7.175	1.396	27.58	23.85	1800	1800	0.745	2.055	-0.623	0.418	3.330	0.965	31.3	
925S137-54	50	0.698	2.37	7.352	1.590	3.246	0.116	0.407	6.993	1.274	38.15	30.84	1800	1800	0.745	2.055	-0.623	0.418	3.330	0.965	25.4	
925S137-68	33	0.871	2.96	9.084	1.964	3.229	0.138	0.398	9.084	1.846	36.47	32.99	3628	3483	1.476	2.491	-0.609	0.410	3.310	0.966	30.9	
925S137-68	50	0.871	2.96	9.084	1.964	3.229	0.138	0.398	8.905	1.743	52.19	43.14	3628	3483	1.476	2.491	-0.609	0.410	3.310	0.966	25.1	
925S137-97	33	1.220	4.15	12.437	2.689	3.193	0.174	0.378	12.437	2.689	53.14	52.83	8843	5830	4.205	3.275	-0.580	0.394	3.267	0.968	30.2	
925S137-97	50	1.220	4.15	12.437	2.689	3.193	0.174	0.378	12.437	2.637	78.95	70.85	10710	7061	4.205	3.275	-0.580	0.394	3.267	0.968	24.4	
925S162-43	33	0.593	2.02	6.616	1.430	3.339	0.165	0.528	6.288	1.196	23.64	20.34	905	905	0.402	2.877	-0.859	0.564	3.488	0.939	39.2	
925S162-54	33	0.740	2.52	8.198	1.773	3.328	0.201	0.521	8.019	1.576	31.15	27.93	1800	1800	0.791	3.521	-0.848	0.558	3.473	0.940	38.9	
925S162-54	50	0.740	2.52	8.198	1.773	3.328	0.201	0.521	7.841	1.443	43.22	36.27	1800	1800	0.791	3.521	-0.848	0.558	3.473	0.940	31.6	
925S162-68	33	0.925	3.15	10.148	2.194	3.313	0.242	0.512	10.148	2.074	40.98	38.22	3628	3483	1.567	4.293	-0.833	0.550	3.454	0.942	38.6	
925S162-68	50	0.925	3.15	10.148	2.194	3.313	0.242	0.512	9.965	1.970	58.99	50.20	3628	3483	1.567	4.293	-0.833	0.550	3.454	0.942	31.3	
925S162-97	33	1.296	4.41	13.947	3.016	3.280	0.315	0.493	13.947	3.016	59.59	59.47	8843	5830	4.468	5.719	-0.802	0.533	3.413	0.945	38.0	
925S162-97	50	1.296	4.41	13.947	3.016	3.280	0.315	0.493	13.947	2.962	88.70	81.36	10710	7061	4.468	5.719	-0.802	0.533	3.413	0.945	30.8	
925S162-118	33	1.562	5.32	16.559	3.580	3.256	0.357	0.478	16.559	3.580	70.75	70.60	13189	7010	8.032	6.634	-0.779	0.521	3.382	0.947	37.5	
925S162-118	50	1.562	5.32	16.559	3.580	3.256	0.357	0.478	16.559	3.580	107.19	105.14	16235	8628	8.032	6.634	-0.779	0.521	3.382	0.947	30.3	
925S200-43	33	0.639	2.17	7.519	1.626	3.431	0.303	0.689	7.204	1.351	26.70	23.64	905	905	0.433	5.240	-1.193	0.767	3.697	0.896	49.7	
925S200-54	33	0.797	2.71	9.329	2.017	3.422	0.371	0.682	9.147	1.818	35.92	32.25	1800	1800	0.851	6.438	-1.180	0.761	3.683	0.897	49.5	
925S200-54	50	0.797	2.71	9.329	2.017	3.422	0.371	0.682	9.009	1.567	46.91	41.95	1800	1800	0.851	6.438	-1.180	0.761	3.683	0.897	40.1	
925S200-68	33	0.996	3.39	11.568	2.501	3.408	0.451	0.673	11.568	2.379	47.00	43.87	3628	3483	1.688	7.893	-1.164	0.752	3.664	0.899	49.2	
925S200-68	50	0.996	3.39	11.568	2.501	3.408	0.451	0.673	11.398	2.217	66.36	57.67	3628	3483	1.688	7.893	-1.164	0.752	3.664	0.899	39.9	
925S200-97	33	1.398	4.76	15.963	3.451	3.379	0.598	0.654	15.963	3.451	68.20	68.08	8843	5830	4.819	10.637	-1.131	0.735	3.623	0.902	48.7	
925S200-97	50	1.398	4.76	15.963	3.451	3.379	0.598	0.654	15.963	3.397	101.71	92.71	10710	7061	4.819	10.637	-1.131	0.735	3.623	0.902	39.4	
925S200-118	33	1.686	5.74	19.010	4.110	3.358	0.690	0.640	19.010	4.110	81.22	81.07	13189	7010	8.670	12.449	-1.107	0.722	3.593	0.905	48.3	
925S200-118	50	1.686	5.74	19.010	4.110	3.358	0.690	0.640	19.010	4.110	123.07	119.57	16235	8628	8.670	12.449	-1.107	0.722	3.593	0.905	39.0	
925S250-43	33	0.684	2.33	8.474	1.832	3.521	0.520	0.872	8.474	1.502	29.69	24.96	905	905	0.464	8.801	-1.573	0.993	3.953	0.842	61.0	
925S250-54	33	0.853	2.90	10.525	2.276	3.512	0.640	0.866	10.525	2.096	41.42	34.14	1800	1800	0.911	10.847	-1.559	0.986	3.939	0.843	60.8	
925S250-54	50	0.853	2.90	10.525	2.276	3.512	0.640	0.866	10.469	1.746	52.27	44.14	1800	1800	0.911	10.847	-1.559	0.986	3.939	0.843	49.3	
925S250-68	33	1.067	3.63	13.070	2.826	3.499	0.783	0.856	13.070	2.737	54.09	46.62	3628	3483	1.809	13.349	-1.542	0.977	3.919	0.845	60.6	
925S250-68	50	1.067	3.63	13.070	2.826	3.499	0.783	0.856	13.031	2.529	75.73	60.83	3628	3483	1.809	13.349	-1.542	0.977	3.919	0.845	49.1	
925S250-97	33	1.499	5.10	18.090	3.911	3.473	1.050	0.837	18.090	3.911	77.29	74.01	8843	5830	5.170	18.137	-1.507	0.959	3.878	0.849	60.1	
925S250-97	50	1.499	5.10	18.090	3.911	3.473	1.050	0.837	18.090	3.769	112.83	98.49	10710	7061	5.170	18.137	-1.507	0.959	3.878	0.849	48.7	
925S250-118	33	1.810	6.16	21.596	4.669	3.454	1.224	0.822	21.596	4.669	92.27	92.12	13189	7010	9.309	21.358	-1.481	0.945	3.847	0.852	59.8	
925S250-118	50	1.810	6.16	21.596	4.669	3.454	1.224	0.822	21.596	4.636	138.80	127.92	16235	8628	9.309	21.358	-1.481	0.945	3.847	0.852	48.4	
925S300-54	33	0.924	3.14	11.940	2.582	3.594	1.069	1.076	11.940	2.335	46.13	38.11	1800	1800	0.987	18.277	-2.038	1.265	4.270	0.772	73.9	
925S300-54	50	0.924	3.14	11.940	2.582	3.594	1.069	1.076	11.679	1.923	57.58	49.21	1800	1800	0.987	18.277	-2.038	1.265	4.270	0.772	60.0	
925S300-68	33	1.156	3.94	14.848	3.210	3.583	1.315	1.066	14.848	2.976	58.80	51.97	3628	3483	1.960	22.561	-2.021	1.256	4.250	0.774	73.7	
925S300-68	50	1.156	3.94	14.848	3.210	3.583	1.315	1.066	14.653	2.754	82.45	67.68	3628	3483	1.960	22.561	-2.021	1.256	4.250	0.774	59.8	
925S300-97	33	1.627	5.53	20.613	4.457	3.560	1.785	1.047	20.613	4.398	86.91	82.45	8843	5830	5.608	30.851	-1.984	1.237	4.208	0.778	73.4	
925S300-97	50	1.627	5.53	20.613	4.457	3.560	1.785	1.047	20.613	4.207	125.97	109.27	10710	7061	5.608	30.851	-1.984	1.237	4.208	0.778	59.4	
925S300-118	33	1.966	6.69	24.664	5.333	3.542	2.098	1.033	24.664	5.333	105.38	105.21	13189	7010	10.107	36.507	-1.957	1.223	4.177	0.780	73.2	
925S300-118	50	1.966	6.69	24.664	5.333	3.542	2.098	1.033	24.664	5.137	153.81	141.86	16235	8628	10.107	36.507	-1.957	1.223	4.177	0.780	59.2	
925S350-54	33	1.009	3.43	13.534	2.926	3.662	1.726	1.308	13.258	2.575	50.89	44.01	1800	1800	1.078	30.988	-2.624	1.602	4.691	0.687	89.3	
925S350-54	50	1.009	3.43	13.534	2.926	3.662	1.726	1.308	12.946	2.156	64.54	56.92	1800	1800	1.078	30.988	-2.624	1.602	4.691	0.687	72.5	
925S350-68	33	1.263	4.30	16.852	3.644	3.652	2.132	1.299	16.852	3.443	68.03	59.83	3628	3483	2.141	38.345	-2.606	1.593	4.671	0.689	89.2	
925S350-68	50	1.263	4.30	16.852	3.644	3.652	2.132	1.299	16.660	3.162	94.66	78.03	3628	3483	2.141	38.345	-2.606	1.593	4.671	0.689	72.3	
925S350-97	33	1.779	6.05	23.456	5.072	3.631	2.920	1.281	23.456	5.057	99.93	94.39	8843	5830	6.134	52.700	-2.569	1.574				



TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup>

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
1000S137-68	33	0.925	3.15	11.076	2.215	3.461	0.140	0.389	11.010	2.029	40.09	35.61	3345	3345	1.567	2.975	-0.581	0.394	3.531	0.973	30.5
1000S137-68	50	0.925	3.15	11.076	2.215	3.461	0.140	0.389	10.732	1.908	57.13	46.33	3345	3345	1.567	2.975	-0.581	0.394	3.531	0.973	24.8
1000S137-97	33	1.296	4.41	15.192	3.038	3.424	0.177	0.369	15.192	3.038	60.04	57.72	8843	6434	4.468	3.913	-0.554	0.379	3.488	0.975	29.8
1000S137-97	50	1.296	4.41	15.192	3.038	3.424	0.177	0.369	15.192	2.917	87.32	76.86	9864	7177	4.468	3.913	-0.554	0.379	3.488	0.975	24.1
1000S162-43'	33	0.627	2.13	8.025	1.605	3.577	0.168	0.518	7.523	1.302	25.74	21.80	836	836	0.425	3.430	-0.823	0.545	3.707	0.951	38.8
1000S162-54	33	0.783	2.66	9.950	1.990	3.565	0.204	0.511	9.627	1.722	34.02	30.08	1661	1661	0.836	4.198	-0.812	0.538	3.692	0.952	38.6
1000S162-54	50	0.783	2.66	9.950	1.990	3.565	0.204	0.511	9.391	1.572	47.07	38.92	1661	1661	0.836	4.198	-0.812	0.538	3.692	0.952	31.3
1000S162-68	33	0.978	3.33	12.325	2.465	3.550	0.246	0.502	12.256	2.276	44.98	41.41	3345	3345	1.658	5.121	-0.798	0.531	3.673	0.953	38.2
1000S162-68	50	0.978	3.33	12.325	2.465	3.550	0.246	0.502	11.978	2.154	64.51	54.14	3345	3345	1.658	5.121	-0.798	0.531	3.673	0.953	31.0
1000S162-97	33	1.372	4.67	16.967	3.393	3.516	0.320	0.483	16.967	3.393	67.06	66.16	8843	6434	4.731	6.827	-0.768	0.514	3.631	0.955	37.5
1000S162-97	50	1.372	4.67	16.967	3.393	3.516	0.320	0.483	16.967	3.269	97.89	88.58	9864	7177	4.731	6.827	-0.768	0.514	3.631	0.955	30.4
1000S162-118	33	1.655	5.63	20.169	4.034	3.491	0.363	0.468	20.169	4.034	79.71	79.57	13189	7747	8.511	7.924	-0.746	0.502	3.600	0.957	37.0
1000S162-118	50	1.655	5.63	20.169	4.034	3.491	0.363	0.468	20.169	4.034	120.77	115.21	16235	9536	8.511	7.924	-0.746	0.502	3.600	0.957	30.0
1000S200-43'	33	0.672	2.29	9.085	1.817	3.676	0.309	0.677	8.602	1.470	29.05	25.49	836	836	0.456	6.236	-1.147	0.743	3.910	0.914	49.3
1000S200-54	33	0.839	2.86	11.278	2.256	3.666	0.378	0.671	10.953	1.984	39.20	34.90	1661	1661	0.896	7.665	-1.135	0.737	3.896	0.915	49.1
1000S200-54	50	0.839	2.86	11.278	2.256	3.666	0.378	0.671	10.769	1.705	51.05	45.25	1661	1661	0.896	7.665	-1.135	0.737	3.896	0.915	39.8
1000S200-68	33	1.050	3.57	13.994	2.799	3.652	0.460	0.662	13.920	2.607	51.51	47.69	3345	3345	1.779	9.401	-1.120	0.729	3.876	0.917	48.8
1000S200-68	50	1.050	3.57	13.994	2.799	3.652	0.460	0.662	13.665	2.420	72.46	62.46	3345	3345	1.779	9.401	-1.120	0.729	3.876	0.917	39.6
1000S200-97	33	1.474	5.02	19.336	3.867	3.622	0.609	0.643	19.336	3.867	76.42	75.54	8843	6434	5.082	12.679	-1.088	0.711	3.836	0.920	48.2
1000S200-97	50	1.474	5.02	19.336	3.867	3.622	0.609	0.643	19.336	3.741	112.00	101.18	9864	7177	5.082	12.679	-1.088	0.711	3.836	0.920	39.0
1000S200-118	33	1.779	6.05	23.052	4.610	3.599	0.703	0.629	23.052	4.610	91.90	90.97	13189	7747	9.149	14.848	-1.064	0.699	3.805	0.922	47.8
1000S200-118	50	1.779	6.05	23.052	4.610	3.599	0.703	0.629	23.052	4.610	138.04	131.18	16235	9536	9.149	14.848	-1.064	0.699	3.805	0.922	38.7
1000S250-43'	33	0.717	2.44	10.203	2.041	3.771	0.531	0.860	10.203	1.617	31.95	26.99	836	836	0.486	10.481	-1.518	0.965	4.155	0.867	60.7
1000S250-54	33	0.896	3.05	12.677	2.535	3.762	0.653	0.854	12.677	2.277	44.99	37.02	1661	1661	0.957	12.922	-1.505	0.958	4.140	0.868	60.5
1000S250-54	50	0.896	3.05	12.677	2.535	3.762	0.653	0.854	12.660	1.879	56.26	47.77	1661	1661	0.957	12.922	-1.505	0.958	4.140	0.868	49.1
1000S250-68	33	1.121	3.81	15.751	3.150	3.749	0.799	0.844	15.751	3.054	60.34	50.74	3345	3345	1.899	15.909	-1.488	0.950	4.121	0.870	60.2
1000S250-68	50	1.121	3.81	15.751	3.150	3.749	0.799	0.844	15.741	2.768	82.89	66.04	3345	3345	1.899	15.909	-1.488	0.950	4.121	0.870	48.8
1000S250-97	33	1.576	5.36	21.827	4.365	3.722	1.072	0.825	21.827	4.365	86.26	81.09	8843	6434	5.433	21.632	-1.454	0.932	4.080	0.873	59.7
1000S250-97	50	1.576	5.36	21.827	4.365	3.722	1.072	0.825	21.827	4.210	126.04	107.55	9864	7177	5.433	21.632	-1.454	0.932	4.080	0.873	48.4
1000S250-118	33	1.904	6.48	26.080	5.216	3.701	1.249	0.810	26.080	5.216	103.07	102.93	13189	7747	9.788	25.490	-1.428	0.918	4.049	0.876	59.4
1000S250-118	50	1.904	6.48	26.080	5.216	3.701	1.249	0.810	26.080	5.179	155.07	140.26	16235	9536	9.788	25.490	-1.428	0.918	4.049	0.876	48.0
1000S300-54	33	0.967	3.29	14.339	2.868	3.851	1.093	1.064	14.339	2.519	49.77	41.40	1661	1661	1.032	21.714	-1.973	1.233	4.456	0.804	73.6
1000S300-54	50	0.967	3.29	14.339	2.868	3.851	1.093	1.064	14.086	2.074	62.08	53.36	1661	1661	1.032	21.714	-1.973	1.233	4.456	0.804	59.8
1000S300-68	33	1.210	4.12	17.840	3.568	3.840	1.345	1.054	17.840	3.313	65.48	56.61	3345	3345	2.050	26.816	-1.955	1.224	4.436	0.806	73.4
1000S300-68	50	1.210	4.12	17.840	3.568	3.840	1.345	1.054	17.660	2.962	88.68	73.56	3345	3345	2.050	26.816	-1.955	1.224	4.436	0.806	59.6
1000S300-97	33	1.703	5.79	24.791	4.958	3.816	1.825	1.035	24.791	4.894	96.71	90.26	8843	6434	5.871	36.699	-1.919	1.206	4.395	0.809	73.0
1000S300-97	50	1.703	5.79	24.791	4.958	3.816	1.825	1.035	24.791	4.686	140.31	119.31	9864	7177	5.871	36.699	-1.919	1.206	4.395	0.809	59.1
1000S300-118	33	2.059	7.01	29.686	5.937	3.797	2.146	1.021	29.686	5.937	117.32	116.01	13189	7747	10.586	43.456	-1.893	1.192	4.364	0.812	72.7
1000S300-118	50	2.059	7.01	29.686	5.937	3.797	2.146	1.021	29.686	5.724	171.36	155.40	16235	9536	10.586	43.456	-1.893	1.192	4.364	0.812	58.9
1000S350-54	33	1.052	3.58	16.220	3.244	3.927	1.768	1.297	15.942	2.772	54.77	47.86	1661	1661	1.123	36.575	-2.546	1.566	4.857	0.725	88.9
1000S350-54	50	1.052	3.58	16.220	3.244	3.927	1.768	1.297	15.577	2.328	69.69	61.80	1661	1661	1.123	36.575	-2.546	1.566	4.857	0.725	72.2
1000S350-68	33	1.317	4.48	20.204	4.041	3.917	2.185	1.288	20.204	3.824	75.57	65.20	3345	3345	2.232	45.277	-2.529	1.557	4.837	0.727	88.7
1000S350-68	50	1.317	4.48	20.204	4.041	3.917	2.185	1.288	20.026	3.417	102.32	84.87	3345	3345	2.232	45.277	-2.529	1.557	4.837	0.727	72.0
1000S350-97	33	1.855	6.31	28.148	5.630	3.895	2.992	1.270	28.148	5.614	110.93	103.29	8843	6434	6.397	62.280	-2.492	1.538	4.795	0.730	88.4
1000S350-97	50	1.855	6.31	28.148	5.630	3.895	2.992	1.270	28.148	5.118	153.25	136.71	9864	7177	6.397	62.280	-2.492	1.538	4.795	0.730	71.6
1000S350-118	33	2.245	7.64	33.772	6.754	3.878	3.543	1.256	33.772	6.754	133.47	132.31	13189	7747	11.544	74.030	-2.465	1.524	4.764	0.732	88.3
1000S350-118	50	2.245	7.64	33.772	6.754	3.878	3.543	1.256	33.772	6.492	194.36	177.33	16235	9536	11.544	74.030	-2.465	1.524	4.764	0.732	71.4
1150S137-43'	33	0.661	2.25	10.325	1.796	3.952	0.100	0.388	9.301	1.334	26.36	20.36	725	725	0.448	2.764	-0.556	0.379	4.010	0.981	30.5
1150S137-54	33	0.825	2.81	12.800	2.226	3.938	0.120	0.381	12.025	1.786	35.30	28.70	1439	1439	0.881	3.369	-0.546	0.373	3.994	0.981	30.2
1150S137-54	50	0.825	2.81	12.800	2.226	3.938	0.120	0.381	11.627	1.617	48.43	36.73	1439	1439	0.881	3.369	-0.546	0.373	3.994	0.981	24.5
1150S137-68	33	1.032	3.51	15.854	2.757	3.920	0.143	0.372	15.463	2.396	47.34	40.41	2895	2895	1.748	4.085	-0.534	0.366	3.974	0.982	29.8
1150S137-68	50	1.032	3.51	15.854	2.757	3.920	0.143	0.372	14.977	2.238	67.01	52.15	2895	2895	1.748	4.085	-0.534	0.366	3.974	0.982	24.2
1150S137-97	33	1.449	4.93	21																	

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties							Effective Properties					Torsional Properties						Lu (in)	
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)		β
1150S162-97	33	1.525	5.19	24.186	4.206	3.983	0.329	0.464	24.186	4.098	80.97	77.22	8518	7361	5.257	9.379	-0.709	0.480	4.072	0.970	36.7
1150S162-97	50	1.525	5.19	24.186	4.206	3.983	0.329	0.464	24.098	3.885	116.33	102.21	8518	7361	5.257	9.379	-0.709	0.480	4.072	0.970	29.7
1150S162-118	33	1.841	6.27	28.813	5.011	3.956	0.373	0.450	28.813	5.011	99.02	98.90	13189	9222	9.469	10.894	-0.688	0.469	4.040	0.971	36.1
1150S162-118	50	1.841	6.27	28.813	5.011	3.956	0.373	0.450	28.813	4.891	146.44	134.47	15674	10960	9.469	10.894	-0.688	0.469	4.040	0.971	29.2
1150S200-43'	33	0.740	2.52	12.796	2.225	4.158	0.319	0.656	11.815	1.708	33.75	28.89	725	725	0.502	8.534	-1.067	0.700	4.343	0.940	48.6
1150S200-54	33	0.924	3.14	15.896	2.765	4.147	0.390	0.650	15.121	2.315	45.75	39.86	1439	1439	0.987	10.494	-1.056	0.694	4.328	0.941	48.3
1150S200-54	50	0.924	3.14	15.896	2.765	4.147	0.390	0.650	14.823	1.981	59.31	51.37	1439	1439	0.987	10.494	-1.056	0.694	4.328	0.941	39.2
1150S200-68	33	1.156	3.94	19.747	3.434	4.132	0.475	0.641	19.342	3.063	60.53	54.96	2895	2895	1.960	12.878	-1.041	0.686	4.309	0.942	48.0
1150S200-68	50	1.156	3.94	19.747	3.434	4.132	0.475	0.641	18.904	2.827	84.65	71.48	2895	2895	1.960	12.878	-1.041	0.686	4.309	0.942	38.9
1150S200-97	33	1.627	5.53	27.348	4.756	4.100	0.629	0.622	27.348	4.645	91.79	88.55	8518	7361	5.608	17.390	-1.010	0.669	4.268	0.944	47.3
1150S200-97	50	1.627	5.53	27.348	4.756	4.100	0.629	0.622	27.250	4.430	132.63	117.49	8518	7361	5.608	17.390	-1.010	0.669	4.268	0.944	38.3
1150S200-118	33	1.966	6.69	32.663	5.680	4.076	0.726	0.608	32.663	5.680	112.25	112.13	13189	9222	10.107	20.383	-0.987	0.657	4.238	0.946	46.8
1150S200-118	50	1.966	6.69	32.663	5.680	4.076	0.726	0.608	32.663	5.558	166.40	153.83	15674	10960	10.107	20.383	-0.987	0.657	4.238	0.946	37.9
1150S250-43'	33	0.785	2.67	14.275	2.483	4.264	0.550	0.837	13.394	1.766	34.90	30.85	725	725	0.532	14.361	-1.419	0.915	4.571	0.904	60.0
1150S250-54	33	0.981	3.34	17.749	3.087	4.254	0.676	0.830	17.089	2.371	46.85	42.56	1439	1439	1.047	17.713	-1.407	0.908	4.557	0.905	59.8
1150S250-54	50	0.981	3.34	17.749	3.087	4.254	0.676	0.830	16.736	2.054	61.50	54.68	1439	1439	1.047	17.713	-1.407	0.908	4.557	0.905	48.5
1150S250-68	33	1.228	4.18	22.075	3.839	4.240	0.827	0.821	21.712	3.334	65.87	58.74	2895	2895	2.081	21.822	-1.391	0.900	4.537	0.906	59.5
1150S250-68	50	1.228	4.18	22.075	3.839	4.240	0.827	0.821	21.380	2.871	85.97	76.07	2895	2895	2.081	21.822	-1.391	0.900	4.537	0.906	48.3
1150S250-97	33	1.728	5.88	30.651	5.331	4.211	1.110	0.801	30.651	5.217	103.10	95.10	8518	7361	5.959	29.711	-1.358	0.882	4.497	0.909	58.9
1150S250-97	50	1.728	5.88	30.651	5.331	4.211	1.110	0.801	30.602	4.794	143.54	125.32	8518	7361	5.959	29.711	-1.358	0.882	4.497	0.909	47.7
1150S250-118	33	2.090	7.11	36.681	6.379	4.189	1.294	0.787	36.681	6.379	126.06	123.25	13189	9222	10.746	35.043	-1.333	0.869	4.466	0.911	58.5
1150S250-118	50	2.090	7.11	36.681	6.379	4.189	1.294	0.787	36.681	6.207	185.84	164.70	15674	10960	10.746	35.043	-1.333	0.869	4.466	0.911	47.3
1150S300-54	33	1.052	3.58	19.965	3.472	4.357	1.136	1.039	19.965	2.864	56.59	47.82	1439	1439	1.123	29.655	-1.855	1.175	4.848	0.854	73.0
1150S300-54	50	1.052	3.58	19.965	3.472	4.357	1.136	1.039	19.757	2.375	71.11	61.44	1439	1439	1.123	29.655	-1.855	1.175	4.848	0.854	59.3
1150S300-68	33	1.317	4.48	24.860	4.323	4.345	1.398	1.030	24.860	4.029	79.62	65.74	2895	2895	2.232	36.647	-1.838	1.166	4.829	0.855	72.7
1150S300-68	50	1.317	4.48	24.860	4.323	4.345	1.398	1.030	24.777	3.369	100.88	85.09	2895	2895	2.232	36.647	-1.838	1.166	4.829	0.855	59.0
1150S300-97	33	1.855	6.31	34.606	6.018	4.319	1.897	1.011	34.606	5.943	117.44	105.88	8518	7361	6.397	50.223	-1.803	1.148	4.788	0.858	72.2
1150S300-97	50	1.855	6.31	34.606	6.018	4.319	1.897	1.011	34.606	5.702	170.72	139.25	8518	7361	6.397	50.223	-1.803	1.148	4.788	0.858	58.5
1150S300-118	33	2.245	7.64	41.495	7.216	4.299	2.230	0.997	41.495	7.216	142.60	137.03	13189	9222	11.544	59.530	-1.777	1.135	4.757	0.860	71.9
1150S300-118	50	2.245	7.64	41.495	7.216	4.299	2.230	0.997	41.495	6.967	208.58	182.47	15674	10960	11.544	59.530	-1.777	1.135	4.757	0.860	58.2
1150S350-54	33	1.136	3.87	22.491	3.911	4.449	1.844	1.274	22.229	3.164	62.53	55.49	1439	1439	1.214	49.461	-2.406	1.499	5.215	0.787	88.2
1150S350-54	50	1.136	3.87	22.491	3.911	4.449	1.844	1.274	21.748	2.672	80.01	71.44	1439	1439	1.214	49.461	-2.406	1.499	5.215	0.787	71.6
1150S350-68	33	1.424	4.85	28.036	4.876	4.437	2.278	1.265	28.036	4.628	91.45	75.90	2895	2895	2.413	61.271	-2.389	1.490	5.196	0.789	88.0
1150S350-68	50	1.424	4.85	28.036	4.876	4.437	2.278	1.265	27.924	3.900	116.76	98.46	2895	2895	2.413	61.271	-2.389	1.490	5.196	0.789	71.4
1150S350-97	33	2.008	6.83	39.118	6.803	4.414	3.120	1.247	39.118	6.784	134.06	121.21	8518	7361	6.923	84.399	-2.353	1.471	5.155	0.792	87.6
1150S350-97	50	2.008	6.83	39.118	6.803	4.414	3.120	1.247	39.118	6.209	185.91	159.69	8518	7361	6.923	84.399	-2.353	1.471	5.155	0.792	71.0
1150S350-118	33	2.431	8.27	46.989	8.172	4.396	3.695	1.233	46.989	8.172	161.48	156.13	13189	9222	12.502	100.426	-2.326	1.457	5.124	0.794	87.3
1150S350-118	50	2.431	8.27	46.989	8.172	4.396	3.695	1.233	46.989	7.862	235.38	208.15	15674	10960	12.502	100.426	-2.326	1.457	5.124	0.794	70.7
1200S137-54'	33	0.853	2.90	14.283	2.380	4.091	0.121	0.376	13.296	1.873	37.01	29.66	1377	1377	0.911	3.709	-0.532	0.365	4.142	0.984	30.0
1200S137-54'	50	0.853	2.90	14.283	2.380	4.091	0.121	0.376	12.836	1.694	50.71	37.88	1377	1377	0.911	3.709	-0.532	0.365	4.142	0.984	24.3
1200S137-68	33	1.067	3.63	17.698	2.950	4.072	0.144	0.367	17.142	2.518	49.76	41.89	2771	2771	1.809	4.499	-0.520	0.358	4.121	0.984	29.5
1200S137-68	50	1.067	3.63	17.698	2.950	4.072	0.144	0.367	16.572	2.348	70.30	53.93	2771	2771	1.809	4.499	-0.520	0.358	4.121	0.984	24.0
1200S137-97	33	1.499	5.10	24.379	4.063	4.032	0.182	0.348	24.379	3.899	77.04	69.85	8147	7411	5.170	5.925	-0.494	0.343	4.077	0.985	28.7
1200S137-97	50	1.499	5.10	24.379	4.063	4.032	0.182	0.348	24.161	3.666	109.75	91.58	8147	7411	5.170	5.925	-0.494	0.343	4.077	0.985	23.2
1200S162-54'	33	0.896	3.05	15.730	2.622	4.190	0.212	0.486	14.743	2.109	41.68	35.23	1377	1377	0.957	6.340	-0.732	0.493	4.281	0.971	37.5
1200S162-54'	50	0.896	3.05	15.730	2.622	4.190	0.212	0.486	14.298	1.914	57.31	45.19	1377	1377	0.957	6.340	-0.732	0.493	4.281	0.971	30.5
1200S162-68	33	1.121	3.81	19.518	3.253	4.173	0.255	0.477	18.												

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy (ksi)	Gross Properties							Effective Properties						Torsional Properties						Lu (in)
		Area (in <sup>2</sup> )	W (lb/ft)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	m (in)	Ro (in)	β	
1200S200-118	50	2.028	6.90	36.347	6.058	4.234	0.732	0.601	36.347	5.865	175.59	161.15	14986	11037	10.427	22.451	-0.964	0.644	4.384	0.952	37.7
1200S250-54 <sup>1</sup>	33	1.009	3.43	19.681	3.280	4.416	0.683	0.823	18.832	2.482	49.05	44.32	1377	1377	1.078	19.505	-1.378	0.892	4.699	0.914	59.6
1200S250-54 <sup>1</sup>	50	1.009	3.43	19.681	3.280	4.416	0.683	0.823	18.433	2.149	64.34	56.87	1377	1377	1.078	19.505	-1.378	0.892	4.699	0.914	48.3
1200S250-68	33	1.263	4.30	24.484	4.081	4.402	0.836	0.813	23.963	3.496	69.08	61.31	2771	2771	2.141	24.034	-1.362	0.884	4.679	0.915	59.2
1200S250-68	50	1.263	4.30	24.484	4.081	4.402	0.836	0.813	23.575	3.007	90.04	79.28	2771	2771	2.141	24.034	-1.362	0.884	4.679	0.915	48.1
1200S250-97	33	1.779	6.05	34.016	5.669	4.373	1.121	0.794	34.016	5.496	108.60	99.68	8147	7411	6.134	32.734	-1.329	0.867	4.639	0.918	58.6
1200S250-97	50	1.779	6.05	34.016	5.669	4.373	1.121	0.794	33.835	5.037	150.82	131.09	8147	7411	6.134	32.734	-1.329	0.867	4.639	0.918	47.5
1200S250-118	33	2.152	7.32	40.726	6.788	4.350	1.307	0.779	40.726	6.541	134.13	129.57	13189	9714	11.065	38.619	-1.305	0.854	4.608	0.920	58.2
1200S250-118	50	2.152	7.32	40.726	6.788	4.350	1.307	0.779	40.726	6.541	195.84	172.71	14986	11037	11.065	38.619	-1.305	0.854	4.608	0.920	47.1
1200S300-54 <sup>1</sup>	33	1.080	3.67	22.098	3.683	4.524	1.149	1.031	22.098	2.979	58.87	49.90	1377	1377	1.153	32.627	-1.819	1.157	4.983	0.867	72.8
1200S300-54 <sup>1</sup>	50	1.080	3.67	22.098	3.683	4.524	1.149	1.031	21.982	2.476	74.13	64.04	1377	1377	1.153	32.627	-1.819	1.157	4.983	0.867	59.1
1200S300-68	33	1.353	4.60	27.523	4.587	4.511	1.413	1.022	27.523	4.280	84.58	68.72	2771	2771	2.292	40.327	-1.802	1.148	4.964	0.868	72.5
1200S300-68	50	1.353	4.60	27.523	4.587	4.511	1.413	1.022	27.495	3.506	104.97	88.84	2771	2771	2.292	40.327	-1.802	1.148	4.964	0.868	58.8
1200S300-97	33	1.906	6.49	38.333	6.389	4.484	1.918	1.003	38.333	6.310	124.69	111.04	8147	7411	6.572	55.286	-1.767	1.130	4.923	0.871	72.0
1200S300-97	50	1.906	6.49	38.333	6.389	4.484	1.918	1.003	38.333	6.058	181.38	145.80	8147	7411	6.572	55.286	-1.767	1.130	4.923	0.871	58.3
1200S300-118	33	2.307	7.85	45.982	7.664	4.464	2.255	0.989	45.982	7.664	151.44	144.04	13189	9714	11.864	65.549	-1.742	1.117	4.893	0.873	71.6
1200S300-118	50	2.307	7.85	45.982	7.664	4.464	2.255	0.989	45.982	7.402	221.61	191.43	14986	11037	11.864	65.549	-1.742	1.117	4.893	0.873	58.0
1200S350-54 <sup>1</sup>	33	1.165	3.96	24.860	4.143	4.620	1.866	1.266	24.610	3.295	65.12	58.00	1377	1377	1.244	54.279	-2.363	1.478	5.341	0.804	88.0
1200S350-54 <sup>1</sup>	50	1.165	3.96	24.860	4.143	4.620	1.866	1.266	24.087	2.787	83.46	74.60	1377	1377	1.244	54.279	-2.363	1.478	5.341	0.804	71.4
1200S350-68	33	1.460	4.97	30.996	5.166	4.608	2.306	1.257	30.996	4.908	96.98	79.43	2771	2771	2.473	67.251	-2.346	1.469	5.322	0.806	87.7
1200S350-68	50	1.460	4.97	30.996	5.166	4.608	2.306	1.257	30.916	4.061	121.59	102.93	2771	2771	2.473	67.251	-2.346	1.469	5.322	0.806	71.2
1200S350-97	33	2.059	7.01	43.269	7.211	4.584	3.159	1.239	43.269	7.191	142.10	127.18	8147	7411	7.098	92.672	-2.310	1.450	5.281	0.809	87.3
1200S350-97	50	2.059	7.01	43.269	7.211	4.584	3.159	1.239	43.269	6.590	197.31	167.31	8147	7411	7.098	92.672	-2.310	1.450	5.281	0.809	70.8
1200S350-118	33	2.494	8.48	51.992	8.665	4.566	3.741	1.225	51.992	8.665	171.23	164.11	13189	9714	12.821	110.302	-2.284	1.436	5.250	0.811	87.0
1200S350-118	50	2.494	8.48	51.992	8.665	4.566	3.741	1.225	51.992	8.339	249.68	218.42	14986	11037	12.821	110.302	-2.284	1.436	5.250	0.811	70.5
1350S137-54 <sup>1</sup>	33	0.938	3.19	19.386	2.872	4.545	0.123	0.362	17.546	2.133	42.14	32.30	1221	1221	1.002	4.839	-0.493	0.341	4.586	0.988	29.3
1350S137-54 <sup>1</sup>	50	0.938	3.19	19.386	2.872	4.545	0.123	0.362	16.866	1.922	57.54	41.04	1221	1221	1.002	4.839	-0.493	0.341	4.586	0.988	23.8
1350S137-68	33	1.174	4.00	24.050	3.563	4.526	0.147	0.353	22.783	2.885	57.02	46.03	2455	2455	1.990	5.870	-0.482	0.334	4.565	0.989	28.8
1350S137-68	50	1.174	4.00	24.050	3.563	4.526	0.147	0.353	21.907	2.677	80.15	58.90	2455	2455	1.990	5.870	-0.482	0.334	4.565	0.989	23.4
1350S137-97	33	1.652	5.62	33.215	4.921	4.484	0.185	0.335	33.215	4.535	89.62	78.13	7206	7206	5.696	7.735	-0.458	0.321	4.520	0.990	27.9
1350S137-97	50	1.652	5.62	33.215	4.921	4.484	0.185	0.335	32.333	4.229	126.61	101.54	7206	7206	5.696	7.735	-0.458	0.321	4.520	0.990	22.7
1350S162-54 <sup>1</sup>	33	0.981	3.34	21.228	3.145	4.652	0.216	0.469	19.394	2.399	47.41	38.58	1221	1221	1.047	8.273	-0.682	0.463	4.725	0.979	36.8
1350S162-54 <sup>1</sup>	50	0.981	3.34	21.228	3.145	4.652	0.216	0.469	18.737	2.170	64.98	49.23	1221	1221	1.047	8.273	-0.682	0.463	4.725	0.979	29.9
1350S162-68	33	1.228	4.18	26.368	3.906	4.634	0.261	0.461	25.092	3.222	63.66	54.37	2455	2455	2.081	10.101	-0.669	0.456	4.705	0.980	36.4
1350S162-68	50	1.228	4.18	26.368	3.906	4.634	0.261	0.461	24.228	3.012	90.19	69.90	2455	2455	2.081	10.101	-0.669	0.456	4.705	0.980	29.6
1350S162-97	33	1.728	5.88	36.510	5.409	4.596	0.338	0.442	36.510	5.018	99.15	90.70	7206	7206	5.959	13.494	-0.643	0.441	4.662	0.981	35.6
1350S162-97	50	1.728	5.88	36.510	5.409	4.596	0.338	0.442	35.611	4.709	140.98	118.57	7206	7206	5.959	13.494	-0.643	0.441	4.662	0.981	28.9
1350S162-118	33	2.090	7.11	43.598	6.459	4.567	0.383	0.428	43.598	6.346	125.39	119.26	13189	11189	10.746	15.684	-0.624	0.431	4.630	0.982	35.0
1350S162-118	50	2.090	7.11	43.598	6.459	4.567	0.383	0.428	43.598	6.003	179.72	158.01	13240	11232	10.746	15.684	-0.624	0.431	4.630	0.982	28.4
1350S200-54 <sup>1</sup>	33	1.037	3.53	23.688	3.509	4.778	0.403	0.623	21.864	2.756	54.46	45.72	1221	1221	1.108	15.066	-0.966	0.644	4.915	0.961	47.3
1350S200-54 <sup>1</sup>	50	1.037	3.53	23.688	3.509	4.778	0.403	0.623	21.358	2.348	70.31	58.53	1221	1221	1.108	15.066	-0.966	0.644	4.915	0.961	38.4
1350S200-68	33	1.299	4.42	29.461	4.365	4.762	0.491	0.615	28.180	3.672	72.55	63.74	2455	2455	2.201	18.498	-0.952	0.636	4.895	0.962	46.9
1350S200-68	50	1.299	4.42	29.461	4.365	4.762	0.491	0.615	27.397	3.369	100.88	82.24	2455	2455	2.201	18.498	-0.952	0.636	4.895	0.962	38.1
1350S200-97	33	1.830	6.23	40.907	6.060	4.728	0.650	0.596	40.905	5.662	111.89	104.84	7206	7206	6.309	25.008	-0.923	0.620	4.854	0.964	46.2
1350S200-97	50	1.830	6.23	40.907	6.060	4.728	0.650	0.596	39.991	5.350	160.18	137.58	7206	7206	6.309	25.008	-0.923	0.620	4.854	0.964	37.5
1350S200-118	33	2.214	7.53	48.953	7.252	4.702	0.750	0.582	48.953	7.137	141.02	137.00	13189	11189	11.385	29.336	-0.902	0.609	4.823	0.965	45.7
1350S200-118	50	2.214	7.53	48.953	7.252	4.702	0.750	0.582	48.953	6.788	203.24	182.25	13240	11232	11.385	29.336	-0.902	0.609	4.823	0.965	37.0
1350S250-54 <sup>1</sup>	33	1.094	3.72	26.245	3.888	4.898	0.701	0.801	24.632	2.816	55.64	49.34	1221	1221	1.168	25.480	-1.296	0.849	5.129	0.936	58.8
1350S250-54 <sup>1</sup>	50	1.094	3.72	26.245	3.888	4.898	0.701	0.801	24.075	2.432	72.82	63.07	1221	1221	1.168	25.480	-1.296	0.849	5.129	0.936	47.8
1350S250-68	33	1.370	4.66	32.675	4.841	4.883	0.858	0.791	31.477	3.983	78.70	68.69	2455	2455	2.322	31.409	-1.281	0.841	5.110	0.937	58.5
1350S250-68	50	1.370	4.66	32.675	4.841	4.883	0.858	0.791	30.883	3.415	102.23	88.44	2455	2455	2.322	31.409	-1.281	0.841			

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup>

Section	Fy (ksi)	Gross Properties							Effective Properties					Torsional Properties					Lu (in)		
		Area (in²)	W (lb/ft)	Ixx (in⁴)	Sxx (in³)	Rx (in)	Iyy (in⁴)	Ry (in)	Ixx (in⁴)	Sxx (in³)	Ma-L (in-k)	Ma-D (in-k)	Vag (lb)	VaNet (lb)	Jx1000 (in⁴)	Cw (in⁶)	Xo (in)	m (in)		Ro (in)	β
1350S300-68	50	1.460	4.97	36.545	5.414	5.004	1.456	0.999	34.870	3.714	111.19	99.70	2455	2455	2.473	52.605	-1.703	1.097	5.379	0.900	58.3
1350S300-97	33	2.059	7.01	50.970	7.551	4.976	1.975	0.979	50.970	7.039	139.10	126.28	7206	7206	7.098	72.186	-1.670	1.080	5.339	0.902	71.2
1350S300-97	50	2.059	7.01	50.970	7.551	4.976	1.975	0.979	50.206	6.391	191.33	165.03	7206	7206	7.098	72.186	-1.670	1.080	5.339	0.902	57.8
1350S300-118	33	2.494	8.48	61.205	9.067	4.954	2.322	0.965	61.205	8.947	176.80	164.90	13189	11189	12.821	85.646	-1.645	1.067	5.309	0.904	70.8
1350S300-118	50	2.494	8.48	61.205	9.067	4.954	2.322	0.965	61.205	8.254	247.12	217.94	13240	11232	12.821	85.646	-1.645	1.067	5.309	0.904	57.4
1350S350-54¹	33	1.250	4.25	32.857	4.868	5.128	1.928	1.242	32.660	3.69	72.93	65.36	1221	1221	1.334	70.347	-2.243	1.418	5.733	0.847	87.3
1350S350-54¹	50	1.250	4.25	32.857	4.868	5.128	1.928	1.242	30.857	3.133	93.81	83.83	1221	1221	1.334	70.347	-2.243	1.418	5.733	0.847	70.9
1350S350-68	33	1.566	5.33	40.990	6.073	5.115	2.383	1.233	40.990	5.515	108.97	89.86	2455	2455	2.654	87.201	-2.227	1.410	5.714	0.848	87.0
1350S350-68	50	1.566	5.33	40.990	6.073	5.115	2.383	1.233	40.990	4.547	136.13	116.06	2455	2455	2.654	87.201	-2.227	1.410	5.714	0.848	70.6
1350S350-97	33	2.211	7.52	57.289	8.487	5.090	3.264	1.215	57.289	8.464	167.26	144.95	7206	7206	7.624	120.281	-2.192	1.391	5.673	0.851	86.5
1350S350-97	50	2.211	7.52	57.289	8.487	5.090	3.264	1.215	57.289	7.784	233.07	189.90	7206	7206	7.624	120.281	-2.192	1.391	5.673	0.851	70.2
1350S350-118	33	2.680	9.12	68.904	10.208	5.071	3.865	1.201	68.904	10.208	201.71	188.04	13189	11189	13.779	143.266	-2.166	1.378	5.643	0.853	86.1
1350S350-118	50	2.680	9.12	68.904	10.208	5.071	3.865	1.201	68.904	9.835	294.45	249.03	13240	11232	13.779	143.266	-2.166	1.378	5.643	0.853	69.8
1400S137-54¹	33	0.967	3.29	21.317	3.045	4.696	0.124	0.358	19.109	2.219	43.85	33.12	1177	1177	1.032	5.251	-0.482	0.334	4.734	0.990	29.0
1400S137-54¹	50	0.967	3.29	21.317	3.045	4.696	0.124	0.358	18.345	1.998	59.82	42.02	1177	1177	1.032	5.251	-0.482	0.334	4.734	0.990	23.6
1400S137-68	33	1.210	4.12	26.455	3.779	4.676	0.147	0.349	24.868	3.008	59.43	47.32	2365	2365	2.050	6.372	-0.470	0.327	4.712	0.990	28.6
1400S137-68	50	1.210	4.12	26.455	3.779	4.676	0.147	0.349	23.871	2.787	83.44	60.44	2365	2365	2.050	6.372	-0.470	0.327	4.712	0.990	23.2
1400S137-97	33	1.703	5.79	36.565	5.224	4.634	0.186	0.331	36.434	4.748	93.82	80.77	6939	6939	5.871	8.397	-0.447	0.314	4.667	0.991	27.7
1400S137-97	50	1.703	5.79	36.565	5.224	4.634	0.186	0.331	35.366	4.417	132.24	104.71	6939	6939	5.871	8.397	-0.447	0.314	4.667	0.991	22.5
1400S162-54¹	33	1.009	3.43	23.302	3.329	4.805	0.218	0.464	21.103	2.496	49.32	39.61	1177	1177	1.078	8.980	-0.667	0.454	4.873	0.981	36.6
1400S162-54¹	50	1.009	3.43	23.302	3.329	4.805	0.218	0.464	20.365	2.256	67.54	50.47	1177	1177	1.078	8.980	-0.667	0.454	4.873	0.981	29.7
1400S162-68	33	1.263	4.30	28.952	4.136	4.787	0.262	0.456	27.357	3.357	66.33	55.97	2365	2365	2.141	10.966	-0.654	0.447	4.853	0.982	36.2
1400S162-68	50	1.263	4.30	28.952	4.136	4.787	0.262	0.456	26.375	3.135	93.85	71.83	2365	2365	2.141	10.966	-0.654	0.447	4.853	0.982	29.4
1400S162-97	33	1.779	6.05	40.115	5.731	4.748	0.340	0.437	39.965	5.248	103.71	93.84	6939	6939	6.134	14.651	-0.628	0.433	4.810	0.983	35.3
1400S162-97	50	1.779	6.05	40.115	5.731	4.748	0.340	0.437	38.897	4.915	147.14	122.34	6939	6939	6.134	14.651	-0.628	0.433	4.810	0.983	28.7
1400S162-118	33	2.152	7.32	47.928	6.847	4.719	0.385	0.423	47.928	6.659	131.59	123.83	12745	11287	11.065	17.032	-0.609	0.422	4.777	0.984	34.7
1400S162-118	50	2.152	7.32	47.928	6.847	4.719	0.385	0.423	47.772	6.282	188.07	163.51	12745	11287	11.065	17.032	-0.609	0.422	4.777	0.984	28.1
1400S200-54¹	33	1.066	3.63	25.951	3.707	4.935	0.406	0.617	23.767	2.866	56.63	47.05	1177	1177	1.138	16.355	-0.946	0.633	5.062	0.965	47.0
1400S200-54¹	50	1.066	3.63	25.951	3.707	4.935	0.406	0.617	23.199	2.440	73.05	60.15	1177	1177	1.138	16.355	-0.946	0.633	5.062	0.965	38.2
1400S200-68	33	1.335	4.54	32.284	4.612	4.918	0.494	0.608	30.684	3.824	75.56	65.77	2365	2365	2.262	20.083	-0.932	0.625	5.043	0.966	46.7
1400S200-68	50	1.335	4.54	32.284	4.612	4.918	0.494	0.608	29.797	3.505	104.93	84.71	2365	2365	2.262	20.083	-0.932	0.625	5.043	0.966	37.9
1400S200-97	33	1.881	6.40	44.853	6.408	4.883	0.655	0.590	44.683	5.917	116.93	108.69	6939	6939	6.484	27.156	-0.904	0.609	5.001	0.967	45.9
1400S200-97	50	1.881	6.40	44.853	6.408	4.883	0.655	0.590	43.616	5.580	167.07	142.28	6939	6939	6.484	27.156	-0.904	0.609	5.001	0.967	37.3
1400S200-118	33	2.276	7.75	53.698	7.671	4.857	0.755	0.576	53.698	7.480	147.81	142.48	12745	11287	11.704	31.861	-0.883	0.598	4.970	0.968	45.4
1400S200-118	50	2.276	7.75	53.698	7.671	4.857	0.755	0.576	53.520	7.096	212.47	188.96	12745	11287	11.704	31.861	-0.883	0.598	4.970	0.968	36.8
1400S250-54¹	33	1.122	3.82	28.702	4.100	5.057	0.707	0.794	26.758	2.927	57.83	50.91	1177	1177	1.198	27.675	-1.272	0.835	5.275	0.942	58.6
1400S250-54¹	50	1.122	3.82	28.702	4.100	5.057	0.707	0.794	26.141	2.527	75.65	65.00	1177	1177	1.198	27.675	-1.272	0.835	5.275	0.942	47.6
1400S250-68	33	1.406	4.78	35.743	5.106	5.042	0.865	0.784	34.239	4.145	81.90	71.03	2365	2365	2.383	34.118	-1.257	0.827	5.255	0.943	58.3
1400S250-68	50	1.406	4.78	35.743	5.106	5.042	0.865	0.784	33.565	3.550	106.29	91.32	2365	2365	2.383	34.118	-1.257	0.827	5.255	0.943	47.3
1400S250-97	33	1.983	6.75	49.764	7.109	5.010	1.160	0.765	49.579	6.611	130.64	117.38	6939	6939	6.835	46.520	-1.225	0.811	5.214	0.945	57.6
1400S250-97	50	1.983	6.75	49.764	7.109	5.010	1.160	0.765	48.650	6.010	179.95	153.18	6939	6939	6.835	46.520	-1.225	0.811	5.214	0.945	46.7
1400S250-118	33	2.400	8.17	59.676	8.525	4.986	1.352	0.750	59.676	8.330	164.61	154.26	12745	11287	12.342	54.927	-1.203	0.798	5.184	0.946	57.1
1400S250-118	50	2.400	8.17	59.676	8.525	4.986	1.352	0.750	59.504	7.881	235.94	203.70	12745	11287	12.342	54.927	-1.203	0.798	5.184	0.946	46.2
1400S300-54¹	33	1.193	4.06	32.017	4.574	5.180	1.194	1.000	30.124	3.281	64.84	57.84	1177	1177	1.274	46.187	-1.689	1.090	5.540	0.907	71.9
1400S300-54¹	50	1.193	4.06	32.017	4.574	5.180	1.194	1.000	28.831	2.807	84.04	73.93	1177	1177	1.274	46.187	-1.689	1.090	5.540	0.907	58.4
1400S300-68	33	1.495	5.09	39.911	5.702	5.167	1.469	0.991	38.530	4.476	88.45	80.19	2365	2365	2.534	57.119	-1.673	1.081	5.520	0.908	71.6
1400S300-68	50	1.495	5.09	39.911	5.702	5.167	1.469	0.991	37.870	3.860	115.58	103.18	2365	2365	2.534	57.119	-1.673	1.081	5.520	0.908	58.1
1400S300-97	33	2.110	7.18	55.688	7.955	5.138	1.992	0.972	55.525	7.344	145.13	131.26	6939	6939	7.273	78.400	-1.640	1.064	5.480	0.910	70.9
1400S300-97	50	2.110	7.18	55.688	7.955	5.138	1.992	0.972	54.632	6.656	199.29	171.27	6939	6939	7.273	78.400	-1.640	1.064	5.480	0.910	57.6
1400S300-118	33	2.556	8.70	66.892	9.556	5.116	2.342	0.957	66.892	9.358	184.91	171.77	12745	11287	13.141	93.036	-1.615	1.051	5.450	0.912	70.5
1400S300-118	50	2.556	8.70	66.892	9.556	5.116	2.342	0.957	66.798	8.613	257.89	226.60	12745	11287	13.141	93.036	-1.615	1.051	5.450	0.912	57.2
1400S350-54¹	33	1.278	4.35	35.830	5.119	5.295	1.947	1.234	35.659	3.823	75.54	67.75	1177	1177	1.365	76.252	-2.207	1.400	5.868	0.859</	

TABLE 3—C-SECTION (STUD) SECTION PROPERTIES<sup>2,3,4,5</sup> (Continued)

Section	Fy	Gross Properties							Effective Properties						Torsional Properties						Lu
		Area	W	Ixx	Sxx	Rx	Iyy	Ry	Ixx	Sxx	Ma-L	Ma-D	Vag	VaNet	Jx1000	Cw	Xo	m	Ro	β	
		(ksi)	(in <sup>2</sup> )	(lb/ft)	(in <sup>4</sup> )	(in <sup>3</sup> )	(in)	(in <sup>4</sup> )	(in)	(in <sup>4</sup> )	(in <sup>3</sup> )	(in-k)	(in-k)	(lb)	(lb)	(in <sup>4</sup> )	(in <sup>6</sup> )	(in)	(in)	(in)	
1400S350-118	50	2.742	9.33	75.200	10.743	5.237	3.903	1.193	75.200	10.354	310.00	259.12	12745	11287	14.099	155.387	-2.130	1.360	5.778	0.864	69.6
1600S162-68'	33	1.406	4.78	40.913	5.114	5.394	0.268	0.436	37.533	3.896	76.99	61.87	2062	2062	2.383	14.816	-0.601	0.415	5.445	0.988	35.2
1600S162-68'	50	1.406	4.78	40.913	5.114	5.394	0.268	0.436	35.986	3.624	108.49	78.88	2062	2062	2.383	14.816	-0.601	0.415	5.445	0.988	28.6
1600S162-97	33	1.983	6.75	56.824	7.103	5.354	0.347	0.418	55.563	6.173	121.97	105.56	6043	6043	6.835	19.807	-0.577	0.401	5.401	0.989	34.4
1600S162-97	50	1.983	6.75	56.824	7.103	5.354	0.347	0.418	53.725	5.738	171.79	136.38	6043	6043	6.835	19.807	-0.577	0.401	5.401	0.989	27.9
1600S162-118	33	2.400	8.17	68.014	8.502	5.323	0.393	0.405	68.014	7.920	156.50	141.09	11088	11088	12.342	23.035	-0.559	0.391	5.368	0.989	33.7
1600S162-118	50	2.400	8.17	68.014	8.502	5.323	0.393	0.405	66.535	7.399	221.51	184.21	11088	11088	12.342	23.035	-0.559	0.391	5.368	0.989	27.3
1600S200-68'	33	1.477	5.03	45.291	5.661	5.537	0.506	0.585	41.916	4.431	87.56	73.25	2062	2062	2.503	27.155	-0.862	0.584	5.634	0.977	45.7
1600S200-68'	50	1.477	5.03	45.291	5.661	5.537	0.506	0.585	40.523	4.045	121.11	93.73	2062	2062	2.503	27.155	-0.862	0.584	5.634	0.977	37.1
1600S200-97	33	2.084	7.09	63.050	7.881	5.500	0.670	0.567	61.757	6.938	137.10	123.13	6043	6043	7.186	36.744	-0.835	0.569	5.592	0.978	44.9
1600S200-97	50	2.084	7.09	63.050	7.881	5.500	0.670	0.567	59.933	6.500	194.61	159.78	6043	6043	7.186	36.744	-0.835	0.569	5.592	0.978	36.4
1600S200-118	33	2.525	8.59	75.601	9.450	5.472	0.773	0.553	75.601	8.859	175.05	163.28	11088	11088	12.981	43.132	-0.815	0.558	5.560	0.979	44.3
1600S200-118	50	2.525	8.59	75.601	9.450	5.472	0.773	0.553	74.084	8.331	249.44	214.23	11088	11088	12.981	43.132	-0.815	0.558	5.560	0.979	35.9
1600S250-68'	33	1.549	5.27	49.814	6.227	5.672	0.889	0.758	46.607	4.792	94.70	79.79	2062	2062	2.624	46.230	-1.167	0.778	5.840	0.960	57.3
1600S250-68'	50	1.549	5.27	49.814	6.227	5.672	0.889	0.758	45.550	4.092	122.51	102.05	2062	2062	2.624	46.230	-1.167	0.778	5.840	0.960	46.5
1600S250-97	33	2.186	7.44	69.476	8.685	5.638	1.192	0.738	68.160	7.728	152.72	133.82	6043	6043	7.536	63.082	-1.138	0.762	5.799	0.962	56.5
1600S250-97	50	2.186	7.44	69.476	8.685	5.638	1.192	0.738	66.577	6.983	209.06	173.43	6043	6043	7.536	63.082	-1.138	0.762	5.799	0.962	45.9
1600S250-118	33	2.649	9.01	83.427	10.428	5.612	1.389	0.724	83.427	9.827	194.19	177.59	11088	11088	13.620	74.524	-1.116	0.750	5.768	0.963	56.0
1600S250-118	50	2.649	9.01	83.427	10.428	5.612	1.389	0.724	81.923	9.222	276.12	232.57	11088	11088	13.620	74.524	-1.116	0.750	5.768	0.963	45.4
1600S300-68'	33	1.638	5.57	55.289	6.911	5.810	1.514	0.962	52.293	5.169	102.14	90.79	2062	2062	2.775	77.327	-1.562	1.022	6.093	0.934	70.6
1600S300-68'	50	1.638	5.57	55.289	6.911	5.810	1.514	0.962	51.250	4.446	133.12	116.29	2062	2062	2.775	77.327	-1.562	1.022	6.093	0.934	57.3
1600S300-97	33	2.313	7.87	77.262	9.658	5.779	2.054	0.942	75.986	8.564	169.23	150.44	6043	6043	7.975	106.226	-1.531	1.005	6.053	0.936	69.9
1600S300-97	50	2.313	7.87	77.262	9.658	5.779	2.054	0.942	74.472	7.719	231.09	195.17	6043	6043	7.975	106.226	-1.531	1.005	6.053	0.936	56.7
1600S300-118	33	2.804	9.54	92.914	11.614	5.756	2.414	0.928	92.914	11.003	217.43	198.52	11088	11088	14.418	126.134	-1.507	0.993	6.022	0.937	69.4
1600S300-118	50	2.804	9.54	92.914	11.614	5.756	2.414	0.928	91.558	10.053	300.98	260.10	11088	11088	14.418	126.134	-1.507	0.993	6.022	0.937	56.3
1600S350-68'	33	1.745	5.94	61.622	7.703	5.943	2.490	1.195	58.537	6.041	119.38	106.38	2062	2062	2.957	127.370	-2.055	1.322	6.401	0.897	85.8
1600S350-68'	50	1.745	5.94	61.622	7.703	5.943	2.490	1.195	57.437	5.180	155.08	136.70	2062	2062	2.957	127.370	-2.055	1.322	6.401	0.897	69.7
1600S350-97	33	2.466	8.39	86.270	10.784	5.915	3.410	1.176	84.926	9.771	193.09	173.68	6043	6043	8.501	175.896	-2.022	1.304	6.361	0.899	85.2
1600S350-97	50	2.466	8.39	86.270	10.784	5.915	3.410	1.176	83.691	8.382	250.96	226.04	6043	6043	8.501	175.896	-2.022	1.304	6.361	0.899	69.1
1600S350-118	33	2.990	10.18	103.892	12.987	5.894	4.038	1.162	103.892	12.367	244.38	227.20	11088	11088	15.376	209.692	-1.998	1.291	6.331	0.900	84.8
1600S350-118	50	2.990	10.18	103.892	12.987	5.894	4.038	1.162	102.530	11.305	338.47	298.58	11088	11088	15.376	209.692	-1.998	1.291	6.331	0.900	68.8

For SI: 1 inch = 25.4mm, 1 pound = 4.4482 N.

<sup>1</sup> Web height to thickness ratio, h/t, exceeds 200. Web must have bearing stiffeners in accordance with AISI S100.

<sup>2</sup>Gross properties and torsional properties are based on the full-unreduced cross section of the studs, away from web punch-outs.

<sup>3</sup>Effective properties are based on punched sections.

<sup>4</sup>Use the effective moment of inertia for deflection calculations.

<sup>5</sup>Ma-D based on  $K\phi = 0$ .

**SYMBOLS:**

- Ixx=Strong axis moment of inertia.
- Rx=Strong axis radius of gyration.
- Iyy=Weak axis moment of inertia.
- Ry=Weak axis radius of gyration.
- Sxx=Strong axis section modulus.
- Vag = Allowable shear at unpunched web section.
- Ma - L = Allowable moment based on local buckling
- K $\phi$  = Distortional buckling moment (Ma-D) is calculation without the beneficial effect of sheathing to rotational stiffness,  $K\phi = 0$ .
- Lu = Critical unbraced length for lateral-torsional buckling. Members are considered fully braced when unbraced length is less than Lu.
- J=St. Venant torsion constant.
- Cw=Warping constant.
- Xo=Distance from shear center to neutral axis.
- m = distance from shear center to mid-plane of web.
- Ro = Radii of gyration.
- VaNet = Allowable shear of punched web section.
- Ma-D = Allowable moment based on distortional buckling.
- $\beta$ =Torsional flexural constant.



TABLE 4—CHANNEL (TRACK) SECTION PROPERTIES

Section	Gross Properties <sup>1</sup>						33 ksi Effective Properties <sup>2</sup>				50 ksi Effective Properties <sup>2</sup>				Torsional Properties				
	Area	Weight	I <sub>xx</sub> (in <sup>4</sup> )	R <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	R <sub>y</sub> (in)	I <sub>xx</sub> (in <sup>4</sup> )	S <sub>xx</sub> (in <sup>3</sup> )	Ma (in-k)	Va (lb)	I <sub>xx</sub> (in <sup>4</sup> )	S <sub>xx</sub> (in <sup>3</sup> )	Ma (in-k)	Va (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	Ro (in)	β
162T125-18	0.077	0.26	0.041	0.733	0.013	0.411	0.030	0.025	0.50	302	---	---	---	---	0.009	0.007	-0.878	1.215	0.478
162T125-27	0.117	0.40	0.063	0.735	0.020	0.410	0.050	0.044	0.87	541	---	---	---	---	0.031	0.010	-0.872	1.211	0.482
162T125-30	0.129	0.44	0.070	0.735	0.022	0.409	0.057	0.050	1.00	597	---	---	---	---	0.042	0.012	-0.870	1.210	0.483
162T125-33	0.143	0.49	0.077	0.736	0.024	0.408	0.066	0.058	1.15	663	---	---	---	---	0.057	0.013	-0.868	1.209	0.484
162T125-43	0.186	0.63	0.101	0.737	0.031	0.407	0.093	0.085	1.68	867	---	---	---	---	0.126	0.017	-0.863	1.206	0.488
162T125-54	0.233	0.79	0.129	0.746	0.038	0.404	0.126	0.119	2.36	1079	0.120	0.109	3.27	1634	0.249	0.021	-0.856	1.205	0.496
162T125-68	0.293	1.00	0.168	0.757	0.047	0.401	0.168	0.168	3.33	1339	0.166	0.155	4.65	2029	0.497	0.028	-0.846	1.205	0.506
162T125-97	0.417	1.42	0.255	0.781	0.065	0.395	0.255	0.257	5.81	1853	0.255	0.257	7.70	2808	1.439	0.042	-0.827	1.204	0.528
162T150-27	0.131	0.45	0.074	0.75	0.032	0.495	0.055	0.045	0.90	541	---	---	---	---	0.035	0.017	-1.100	1.420	0.400
162T150-30	0.144	0.49	0.081	0.751	0.035	0.494	0.062	0.052	1.03	597	---	---	---	---	0.047	0.019	-1.098	1.419	0.401
162T150-33	0.16	0.54	0.09	0.751	0.039	0.494	0.072	0.060	1.19	663	---	---	---	---	0.064	0.021	-1.096	1.418	0.402
162T150-43	0.208	0.71	0.118	0.753	0.050	0.492	0.102	0.089	1.75	867	---	---	---	---	0.141	0.027	-1.091	1.414	0.405
162T150-54	0.261	0.89	0.151	0.762	0.063	0.490	0.140	0.126	2.48	1079	0.132	0.114	3.42	1634	0.279	0.035	-1.083	1.412	0.411
162T150-68	0.329	1.12	0.197	0.774	0.078	0.487	0.194	0.180	3.55	1339	0.185	0.164	4.91	2029	0.557	0.046	-1.073	1.410	0.421
162T150-97	0.468	1.59	0.299	0.800	0.108	0.481	0.299	0.302	5.97	1853	0.299	0.283	8.48	2808	1.614	0.070	-1.053	1.407	0.440
162T200-33	0.194	0.66	0.116	0.773	0.085	0.660	0.081	0.063	1.25	663	---	---	---	---	0.078	0.047	-1.565	1.866	0.297
162T200-43	0.253	0.86	0.152	0.775	0.110	0.658	0.117	0.094	1.85	867	---	---	---	---	0.172	0.061	-1.559	1.861	0.298
162T200-54	0.318	1.08	0.196	0.785	0.137	0.656	0.164	0.134	2.65	1079	0.153	0.121	3.62	1634	0.339	0.078	-1.551	1.858	0.303
162T200-68	0.400	1.36	0.255	0.799	0.171	0.653	0.232	0.195	3.86	1339	0.218	0.176	5.26	2029	0.678	0.102	-1.540	1.854	0.310
162T200-97	0.570	1.94	0.389	0.827	0.239	0.648	0.389	0.345	6.82	1853	0.373	0.313	9.38	2808	1.965	0.157	-1.519	1.846	0.323
250T125-18	0.094	0.32	0.103	1.051	0.015	0.400	0.078	0.045	0.90	249	---	---	---	---	0.011	0.018	-0.769	1.362	0.681
250T125-27	0.141	0.48	0.157	1.053	0.022	0.398	0.129	0.079	1.56	685	---	---	---	---	0.038	0.027	-0.763	1.360	0.685
250T125-30	0.156	0.53	0.173	1.053	0.025	0.397	0.145	0.090	1.77	832	---	---	---	---	0.051	0.03	-0.762	1.359	0.686
250T125-33	0.173	0.59	0.192	1.054	0.027	0.397	0.166	0.103	2.03	1024	---	---	---	---	0.069	0.033	-0.76	1.358	0.687
250T125-43	0.225	0.77	0.250	1.055	0.035	0.395	0.231	0.147	2.91	1356	---	---	---	---	0.153	0.042	-0.755	1.356	0.690
250T125-54	0.282	0.96	0.318	1.062	0.043	0.392	0.310	0.203	4.01	1692	0.297	0.188	5.64	2563	0.301	0.054	-0.749	1.357	0.696
250T125-68	0.355	1.21	0.408	1.072	0.054	0.389	0.408	0.281	5.56	2111	0.402	0.262	7.85	3199	0.602	0.069	-0.740	1.360	0.704
250T125-97	0.506	1.72	0.604	1.092	0.074	0.383	0.604	0.423	9.56	2954	0.604	0.423	12.67	4476	1.745	0.101	-0.724	1.365	0.719
250T150-27	0.156	0.53	0.181	1.078	0.037	0.486	0.139	0.082	1.61	685	---	---	---	---	0.042	0.044	-0.976	1.534	0.595
250T150-30	0.172	0.58	0.199	1.078	0.040	0.486	0.157	0.093	1.83	832	---	---	---	---	0.056	0.049	-0.975	1.533	0.595
250T150-33	0.190	0.65	0.221	1.079	0.045	0.485	0.179	0.107	2.11	1024	---	---	---	---	0.076	0.054	-0.973	1.532	0.596
250T150-43	0.248	0.84	0.289	1.080	0.058	0.483	0.252	0.154	3.03	1356	---	---	---	---	0.168	0.070	-0.968	1.529	0.599
250T150-54	0.311	1.06	0.368	1.088	0.072	0.481	0.342	0.213	4.22	1692	0.325	0.197	5.89	2563	0.332	0.089	-0.961	1.529	0.605
250T150-68	0.391	1.33	0.472	1.099	0.089	0.478	0.465	0.299	5.92	2111	0.445	0.276	8.27	3199	0.663	0.114	-0.953	1.531	0.613
250T150-97	0.557	1.90	0.701	1.121	0.124	0.471	0.701	0.491	9.69	2954	0.701	0.463	13.86	4476	1.921	0.168	-0.935	1.534	0.629
250T200-33	0.225	0.76	0.28	1.117	0.097	0.658	0.203	0.112	2.22	1024	---	---	---	---	0.09	0.118	-1.418	1.921	0.455
250T200-43	0.293	1.00	0.366	1.118	0.126	0.657	0.288	0.163	3.21	1356	---	---	---	---	0.198	0.153	-1.413	1.918	0.457
250T200-54	0.367	1.25	0.466	1.127	0.157	0.654	0.396	0.228	4.51	1692	0.371	0.209	6.25	2563	0.392	0.195	-1.405	1.917	0.462
250T200-68	0.462	1.57	0.600	1.139	0.196	0.652	0.548	0.324	6.41	2111	0.517	0.296	8.86	3199	0.783	0.251	-1.396	1.916	0.469
250T200-97	0.659	2.24	0.893	1.165	0.275	0.646	0.893	0.556	10.99	2954	0.856	0.510	15.27	4476	2.271	0.374	-1.376	1.915	0.484
250T250-43	0.338	1.15	0.443	1.146	0.230	0.826	0.318	0.169	3.34	1356	---	---	---	---	0.229	0.283	-1.873	2.346	0.362
250T250-54	0.424	1.44	0.565	1.155	0.287	0.824	0.440	0.238	4.70	1692	0.410	0.217	6.50	2563	0.453	0.361	-1.865	2.343	0.366
250T250-68	0.534	1.82	0.728	1.168	0.360	0.821	0.616	0.341	6.74	2111	0.576	0.310	9.27	3199	0.904	0.466	-1.855	2.341	0.372
250T250-97	0.761	2.59	1.086	1.195	0.506	0.815	1.028	0.596	11.79	2954	0.972	0.541	16.20	4476	2.622	0.696	-1.834	2.336	0.384
250T300-54	0.480	1.63	0.664	1.176	0.470	0.989	0.477	0.245	4.85	1692	0.443	0.223	6.69	2563	0.513	0.599	-2.335	2.795	0.302
250T300-68	0.605	2.06	0.856	1.189	0.589	0.987	0.674	0.353	6.98	2111	0.626	0.319	9.56	3199	1.025	0.773	-2.324	2.791	0.307
250T300-97	0.862	2.93	1.279	1.218	0.830	0.981	1.144	0.625	12.35	2954	1.072	0.563	16.86	4476	2.973	1.158	-2.303	2.784	0.316
350T125-18	0.113	0.38	0.219	1.394	0.016	0.383	0.174	0.063	1.25	175	---	---	---	---	0.013	0.038	-0.675	1.595	0.821
350T125-27	0.170	0.58	0.331	1.396	0.025	0.381	0.277	0.128	2.53	590	---	---	---	---	0.045	0.057	-0.670	1.595	0.823
350T125-30	0.187	0.64	0.365	1.396	0.027	0.380	0.312	0.145	2.86	790	---	---	---	---	0.061	0.063	-0.669	1.594	0.824
350T125-33	0.207	0.71	0.405	1.397	0.030	0.379	0.354	0.165	3.27	1024	---	---	---	---	0.083	0.070	-0.668	1.594	0.824
350T125-43	0.270	0.92	0.528	1.397	0.038	0.377	0.490	0.233	4.61	1739	---	---	---	---	0.183	0.090	-0.663	1.592	0.826
350T125-54	0.339	1.15	0.668	1.404	0.048	0.375	0.651	0.317	6.26	2392	0.626	0.297	8.89	3372	0.362	0.114	-0.658	1.595	0.830
350T125-68	0.427	1.45	0.851	1.412	0.059	0.372	0.851	0.433	8.55	2994	0.839	0.407	12.18	4536	0.723	0.144	-0.650	1.599	0.835
350T125-97	0.608	2.07	1.243	1.430	0.081	0.366	1.243	0.645	14.56	4213	1.243	0.645	19.30	6383	2.096	0.209	-0.636	1.607	0.844
350T125-118	0.608	2.07	1.243	1.430	0.081	0.366	1.243	0.645	14.56	4213	1.243	0.645	19.30	6383	2.096	0.209	-0.636	1.607	0.844
350T150-27	0.184	0.63	0.377	1.431	0.041	0.470	0.298	0.132	2.62	590	---	---	---	---	0.049	0.094	-0.869	1.739	0.750
350T150-30	0.203	0.69	0.416	1.432	0.045	0.469	0.336	0.150	2.96	790	---	---	---	---	0.066	0.103	-0.867	1.739	0.751
350T150-33	0.225	0.76	0.461	1.432	0.049	0.469	0.382	0.171	3.39	1024	---	---	---	---	0.09	0.114	-0.866	1.738	0.752
350T150-43	0.293	1.00	0.601	1.433	0.064	0.467	0.531	0.243	4.80	1739	---	---	---	---	0.198	0.148	-0.861	1.736	0.754
350T150-54	0.367	1.25	0.761	1.440	0.079	0.465	0.712	0											

TABLE 4—CHANNEL (TRACK) SECTION PROPERTIES (Continued)

Section	Gross Properties <sup>1</sup>						33 ksi Effective Properties <sup>2</sup>				50 ksi Effective Properties <sup>2</sup>				Torsional Properties				
	Area	Weight	Ixx (in <sup>4</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>2</sup> )	Ma (in-k)	Va (lb)	Ixx (in <sup>4</sup> )	Sxx (in <sup>2</sup> )	Ma (in-k)	Va (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	Ro (in)	β
350T400-68	0.819	2.79	2.177	1.631	1.427	1.320	1.536	0.568	11.22	2994	1.427	0.518	15.52	4536	1.388	3.510	-3.085	3.731	0.316
350T400-97	1.167	3.97	3.214	1.659	2.019	1.315	2.598	0.989	19.55	4213	2.419	0.895	26.80	6383	4.024	5.188	-3.064	3.724	0.323
350T400-118	1.167	3.97	3.214	1.659	2.019	1.315	2.598	0.989	19.55	4213	2.419	0.895	26.80	6383	4.024	5.188	-3.064	3.724	0.323
362T125-18	0.115	0.39	0.237	1.435	0.017	0.38	0.189	0.065	1.29	169	---	---	---	---	0.014	0.042	-0.665	1.627	0.833
362T125-27	0.173	0.59	0.358	1.438	0.025	0.378	0.301	0.135	2.66	569	---	---	---	---	0.046	0.062	-0.661	1.627	0.835
362T125-30	0.191	0.65	0.395	1.438	0.027	0.378	0.339	0.152	3.01	762	---	---	---	---	0.062	0.068	-0.659	1.626	0.836
362T125-33	0.212	0.72	0.438	1.438	0.030	0.377	0.384	0.174	3.44	1024	---	---	---	---	0.085	0.076	-0.658	1.626	0.836
362T125-43	0.276	0.94	0.571	1.439	0.039	0.375	0.531	0.245	4.84	1739	---	---	---	---	0.187	0.098	-0.654	1.625	0.838
362T125-54	0.346	1.18	0.723	1.445	0.048	0.373	0.705	0.332	6.57	2480	0.678	0.312	9.34	3372	0.369	0.123	-0.648	1.627	0.841
362T125-68	0.436	1.48	0.921	1.454	0.060	0.370	0.921	0.453	8.95	3104	0.907	0.427	12.78	4703	0.738	0.156	-0.641	1.631	0.846
362T125-97	0.621	2.11	1.343	1.471	0.082	0.363	1.343	0.675	15.24	4370	1.343	0.675	20.20	6622	2.14	0.226	-0.626	1.639	0.854
362T125-118	0.621	2.11	1.343	1.471	0.082	0.363	1.343	0.675	15.24	4370	1.343	0.675	20.20	6622	2.14	0.226	-0.626	1.639	0.854
362T150-27	0.187	0.64	0.408	1.475	0.041	0.468	0.323	0.140	2.76	569	---	---	---	---	0.05	0.102	-0.857	1.769	0.765
362T150-30	0.207	0.70	0.449	1.475	0.045	0.467	0.364	0.158	3.12	762	---	---	---	---	0.067	0.112	-0.856	1.768	0.766
362T150-33	0.229	0.78	0.499	1.475	0.050	0.467	0.414	0.180	3.56	1024	---	---	---	---	0.091	0.124	-0.854	1.767	0.766
362T150-43	0.298	1.02	0.650	1.476	0.064	0.465	0.574	0.255	5.04	1739	---	---	---	---	0.202	0.160	-0.850	1.766	0.768
362T150-54	0.374	1.27	0.823	1.483	0.080	0.462	0.769	0.349	6.89	2480	0.735	0.325	9.74	3372	0.4	0.202	-0.844	1.768	0.772
362T150-68	0.471	1.60	1.050	1.492	0.099	0.459	1.034	0.480	9.49	3104	0.993	0.449	13.43	4703	0.799	0.257	-0.836	1.771	0.777
362T150-97	0.672	2.29	1.534	1.512	0.138	0.453	1.534	0.771	15.23	4370	1.534	0.733	21.94	6622	2.315	0.374	-0.820	1.778	0.787
362T150-118	0.672	2.29	1.534	1.512	0.138	0.453	1.534	0.771	15.23	4370	1.534	0.733	21.94	6622	2.315	0.374	-0.820	1.778	0.787
362T200-33	0.264	0.90	0.619	1.532	0.110	0.645	0.464	0.190	3.76	1024	---	---	---	---	0.105	0.269	-1.270	2.092	0.631
362T200-43	0.343	1.17	0.808	1.534	0.142	0.643	0.649	0.270	5.34	1739	---	---	---	---	0.233	0.350	-1.265	2.090	0.633
362T200-54	0.431	1.47	1.024	1.541	0.177	0.640	0.879	0.372	7.35	2480	0.832	0.345	10.34	3372	0.46	0.442	-1.259	2.091	0.637
362T200-68	0.543	1.85	1.307	1.552	0.221	0.638	1.199	0.519	10.26	3104	1.138	0.480	14.37	4703	0.919	0.564	-1.250	2.093	0.643
362T200-97	0.773	2.63	1.917	1.575	0.308	0.631	1.915	0.867	17.14	4370	1.839	0.803	24.06	6622	2.666	0.825	-1.232	2.097	0.655
362T200-118	0.773	2.63	1.917	1.575	0.308	0.631	1.915	0.867	17.14	4370	1.839	0.803	24.06	6622	2.666	0.825	-1.232	2.097	0.655
362T250-43	0.389	1.32	0.966	1.577	0.260	0.818	0.713	0.281	5.56	1739	---	---	---	---	0.263	0.641	-1.702	2.460	0.521
362T250-54	0.487	1.66	1.224	1.585	0.324	0.816	0.971	0.389	7.69	2480	0.914	0.360	10.77	3372	0.521	0.812	-1.695	2.460	0.525
362T250-68	0.614	2.09	1.565	1.597	0.406	0.813	1.337	0.546	10.79	3104	1.259	0.502	15.04	4703	1.04	1.038	-1.686	2.460	0.530
362T250-97	0.875	2.98	2.300	1.621	0.570	0.807	2.180	0.928	18.34	4370	2.069	0.851	25.49	6622	3.016	1.524	-1.667	2.461	0.541
362T250-118	0.875	2.98	2.300	1.621	0.570	0.807	2.180	0.928	18.34	4370	2.069	0.851	25.49	6622	3.016	1.524	-1.667	2.461	0.541
362T300-54	0.544	1.85	1.425	1.618	0.531	0.988	1.051	0.402	7.94	2480	0.985	0.371	11.11	3372	0.581	1.337	-2.146	2.863	0.439
362T300-68	0.685	2.33	1.823	1.631	0.665	0.985	1.456	0.566	11.19	3104	1.364	0.519	15.55	4703	1.161	1.711	-2.136	2.862	0.443
362T300-97	0.977	3.32	2.682	1.657	0.937	0.979	2.409	0.972	19.21	4370	2.268	0.887	26.54	6622	3.367	2.518	-2.116	2.860	0.453
362T300-118	0.977	3.32	2.682	1.657	0.937	0.979	2.409	0.972	19.21	4370	2.268	0.887	26.54	6622	3.367	2.518	-2.116	2.860	0.453
362T400-68	0.828	2.82	2.339	1.681	1.444	1.321	1.654	0.595	11.75	3104	1.537	0.544	16.28	4703	1.403	3.785	-3.063	3.735	0.328
362T400-97	1.180	4.02	3.447	1.709	2.042	1.316	2.790	1.033	20.41	4370	2.599	0.936	28.02	6622	4.068	5.585	-3.041	3.729	0.335
362T400-118	1.180	4.02	3.447	1.709	2.042	1.316	2.790	1.033	20.41	4370	2.599	0.936	28.02	6622	4.068	5.585	-3.041	3.729	0.335
400T125-18 <sup>3</sup>	0.122	0.41	0.297	1.560	0.017	0.374	0.241	0.072	1.42	153	---	---	---	---	0.014	0.052	-0.637	1.726	0.864
400T125-27	0.184	0.63	0.449	1.562	0.025	0.372	0.380	0.156	3.08	515	---	---	---	---	0.049	0.078	-0.633	1.726	0.866
400T125-30	0.203	0.69	0.495	1.562	0.028	0.371	0.427	0.176	3.49	689	---	---	---	---	0.066	0.085	-0.632	1.726	0.866
400T125-33	0.225	0.76	0.549	1.563	0.031	0.371	0.484	0.201	3.97	940	---	---	---	---	0.09	0.095	-0.630	1.725	0.867
400T125-43	0.293	1.00	0.716	1.563	0.040	0.369	0.666	0.282	5.57	1739	---	---	---	---	0.198	0.122	-0.626	1.724	0.868
400T125-54	0.367	1.25	0.904	1.569	0.049	0.366	0.882	0.381	7.53	2739	0.849	0.359	10.74	3372	0.392	0.154	-0.621	1.727	0.871
400T125-68	0.462	1.57	1.150	1.577	0.061	0.363	1.150	0.517	10.22	3435	1.134	0.488	14.62	5205	0.783	0.194	-0.614	1.731	0.874
400T125-97	0.659	2.24	1.673	1.594	0.084	0.357	1.673	0.768	17.35	4842	1.673	0.768	23.00	7337	2.271	0.280	-0.600	1.740	0.881
400T125-118	0.659	2.24	1.673	1.594	0.084	0.357	1.673	0.768	17.35	4842	1.673	0.768	23.00	7337	2.271	0.280	-0.600	1.740	0.881
400T150-27	0.198	0.67	0.509	1.602	0.042	0.461	0.409	0.154	3.04	515	---	---	---	---	0.053	0.127	-0.824	1.860	0.804
400T150-30	0.218	0.74	0.561	1.603	0.046	0.461	0.458	0.183	3.61	689	---	---	---	---	0.071	0.140	-0.823	1.859	0.804
400T150-33	0.242	0.82	0.622	1.603	0.051	0.460	0.519	0.208	4.12	940	---	---	---	---	0.097	0.155	-0.821	1.859	0.805
400T150-43	0.315	1.07	0.811	1.604	0.066	0.458	0.719	0.293	5.80	1739	---	---	---	---	0.214	0.200	-0.817	1.857	0.807
400T150-54	0.396	1.35	1.025	1.610	0.082	0.456	0.960	0.399	7.89	2739	0.918	0.374	11.19	3372	0.422	0.252	-0.811	1.860	0.810
400T150-68	0.498	1.69	1.306	1.619	0.102	0.453	1.286	0.548	10.82	3435	1.237	0.513	15.35	5205	0.844	0.32	-0.804	1.864	0.814
400T150-97	0.710	2.41	1.903	1.638	0.141	0.447	1.903	0.874	17.27	4842	1.903	0.832	24.92	7337	2.447	0.463	-0.788	1.872	0.823
400T150-118	0.710	2.41	1.903	1.638	0.141	0.447	1.903	0.874	17.27	4842	1.903	0.832	24.92	7337	2.447	0.463	-0.788	1.872	0.823
400T200-33	0.277	0.94	0.768	1.666	0.113	0.639	0.581	0.220	4.34	940	---	---	---	---	0.11	0.336	-1.229	2.166	0.678
400T200-43	0.360	1.23	1.002	1.668	0.146	0.637	0.811	0.311	6.14	1739	---	---	---	---	0.244	0.436	-1.224	2.164	0.680
400T200-54	0.452	1.54	1.268	1.675	0.182	0.635	1.093	0.426	8.42	2739	1.037	0.397	11.88	3372	0.483	0.551	-1.217	2.165	0.684
400T200-68	0.569	1.94	1.617	1.685	0.227	0.632	1.485	0.591	11.68	3435	1.412	0.549	16.42	5205	0.965	0.702	-1.209	2.168	0.689
400T200-97	0.811	2.76	2.363	1.707	0.317	0.625	2.360	0.981	19.38	4842	2.268	0.911	27.2						

TABLE 4—CHANNEL (TRACK) SECTION PROPERTIES (Continued)

Section	Gross Properties <sup>1</sup>						33 ksi Effective Properties <sup>2</sup>				50 ksi Effective Properties <sup>2</sup>				Torsional Properties				
	Area	Weight	Ixx (in <sup>4</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>2</sup> )	Ma (in-k)	Va (lb)	Ixx (in <sup>4</sup> )	Sxx (in <sup>2</sup> )	Ma (in-k)	Va (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	Ro (in)	β
550T125-97	0.811	2.76	3.483	2.072	0.090	0.333	3.483	1.190	26.87	6730	3.483	1.190	35.62	10197	2.797	0.564	-0.514	2.161	0.943
550T125-118	0.811	2.76	3.483	2.072	0.090	0.333	3.483	1.190	26.87	6730	3.483	1.190	35.62	10197	2.797	0.564	-0.514	2.161	0.943
550T150-27	0.241	0.82	1.059	2.098	0.046	0.436	0.893	0.207	4.10	372	---	---	---	---	0.064	0.263	-0.716	2.259	0.900
550T150-30	0.265	0.90	1.168	2.098	0.050	0.435	0.995	0.251	4.96	499	---	---	---	---	0.086	0.289	-0.715	2.259	0.900
550T150-33	0.294	1.00	1.295	2.099	0.055	0.434	1.115	0.310	6.12	680	---	---	---	---	0.117	0.320	-0.714	2.259	0.900
550T150-43	0.383	1.30	1.688	2.099	0.072	0.432	1.516	0.468	9.25	1504	---	---	---	---	0.26	0.414	-0.709	2.258	0.901
550T150-54	0.480	1.63	2.128	2.105	0.089	0.420	2.005	0.628	12.41	2739	1.928	0.595	17.81	2980	0.513	0.519	-0.704	2.261	0.903
550T150-68	0.605	2.06	2.699	2.112	0.110	0.427	2.660	0.850	16.80	4347	2.569	0.804	24.07	5350	1.025	0.655	-0.698	2.265	0.905
550T150-97	0.862	2.93	3.904	2.128	0.153	0.421	3.904	1.333	26.35	6730	3.904	1.278	38.27	10197	2.973	0.937	-0.684	2.275	0.909
550T150-118	0.862	2.93	3.904	2.128	0.153	0.421	3.904	1.333	26.35	6730	3.904	1.278	38.27	10197	2.973	0.937	-0.684	2.275	0.909
550T200-33	0.329	1.12	1.567	2.184	0.123	0.613	1.246	0.307	6.060	680	---	---	---	---	0.131	0.694	-1.088	2.516	0.813
550T200-43	0.428	1.46	2.043	2.185	0.160	0.611	1.690	0.495	9.79	1504	---	---	---	---	0.290	0.900	-1.083	2.514	0.814
550T200-54	0.537	1.83	2.578	2.191	0.199	0.609	2.253	0.669	13.21	2739	2.153	0.630	18.86	2980	0.573	1.133	-1.077	2.517	0.817
550T200-68	0.676	2.3	3.274	2.200	0.248	0.606	3.027	0.914	18.06	4347	2.894	0.857	25.67	5350	1.146	1.434	-1.070	2.521	0.820
550T200-97	0.964	3.28	4.746	2.219	0.347	0.600	4.735	1.483	29.30	6730	4.566	1.391	41.64	10197	3.323	2.067	-1.055	2.529	0.826
550T200-118	1.177	4.00	5.863	2.232	0.416	0.594	5.863	1.936	38.25	8167	5.863	1.826	54.66	12374	6.050	2.543	-1.043	2.535	0.831
550T250-43	0.473	1.61	2.399	2.252	0.295	0.79	1.841	0.516	10.20	1504	---	---	---	---	0.321	1.643	-1.484	2.810	0.721
550T250-54	0.594	2.02	3.029	2.259	0.368	0.788	2.466	0.699	13.81	2739	2.346	0.657	19.66	2980	0.634	2.070	-1.478	2.812	0.724
550T250-68	0.748	2.54	3.849	2.269	0.460	0.785	3.338	0.960	18.97	4347	3.172	0.897	26.86	5350	1.267	2.627	-1.470	2.815	0.727
550T250-97	1.066	3.63	5.588	2.290	0.646	0.779	5.314	1.580	31.23	6730	5.073	1.470	44.01	10197	3.674	3.801	-1.453	2.822	0.735
550T250-118	1.301	4.43	6.912	2.305	0.779	0.774	6.869	2.093	41.36	8167	6.601	1.949	58.36	12374	6.688	4.691	-1.441	2.826	0.740
550T300-54	0.65	2.21	3.479	2.313	0.606	0.965	2.654	0.723	14.28	2739	2.526	0.663	19.84	2980	0.694	3.390	-1.898	3.144	0.636
550T300-68	0.819	2.79	4.424	2.324	0.758	0.962	3.610	0.996	19.68	4347	3.417	0.929	27.80	5350	1.388	4.307	-1.889	3.146	0.639
550T300-97	1.167	3.97	6.430	2.347	1.068	0.956	5.816	1.654	32.68	6730	5.516	1.531	45.83	10197	4.024	6.248	-1.871	3.150	0.647
550T300-118	1.425	4.85	7.960	2.364	1.291	0.952	7.592	2.208	43.64	8167	7.232	2.042	61.13	12374	7.327	7.726	-1.858	3.153	0.653
550T400-68	0.961	3.27	5.573	2.408	1.655	1.312	4.073	1.049	20.74	4347	3.834	0.976	29.21	5350	1.629	9.418	-2.766	3.895	0.496
550T400-97	1.371	4.66	8.113	2.433	2.339	1.306	6.666	1.759	34.76	6730	6.265	1.619	48.49	10197	4.726	13.707	-2.746	3.895	0.503
550T400-118	1.673	5.69	10.056	2.452	2.837	1.302	8.809	2.371	46.84	8167	8.298	2.174	65.10	12374	8.604	16.987	-2.732	3.895	0.508
600T125-27 <sup>3</sup>	0.241	0.82	1.168	2.204	0.028	0.340	0.958	0.210	4.16	341	---	---	---	---	0.064	0.196	-0.519	2.290	0.949
600T125-30	0.265	0.90	1.288	2.204	0.031	0.340	1.095	0.249	4.92	456	---	---	---	---	0.086	0.215	-0.518	2.289	0.949
600T125-33	0.294	1.00	1.428	2.204	0.034	0.339	1.258	0.297	5.87	622	---	---	---	---	0.117	0.238	-0.516	2.289	0.949
600T125-43	0.383	1.30	1.861	2.205	0.044	0.337	1.768	0.461	9.11	1377	---	---	---	---	0.260	0.307	-0.513	2.288	0.950
600T125-54	0.48	1.63	2.344	2.209	0.054	0.335	2.299	0.666	13.15	2728	2.241	0.592	17.73	2728	0.513	0.384	-0.508	2.291	0.951
600T125-68	0.605	2.06	2.969	2.215	0.067	0.332	2.969	0.916	18.09	4347	2.934	0.858	25.69	5350	1.025	0.483	-0.503	2.296	0.952
600T125-97	0.862	2.93	4.281	2.228	0.092	0.326	4.281	1.347	30.43	7359	4.281	1.347	40.33	10885	2.973	0.685	-0.491	2.305	0.955
600T125-118	1.052	3.58	5.268	2.237	0.109	0.321	5.268	1.637	37.94	8936	5.268	1.637	56.32	13539	5.411	0.832	-0.483	2.311	0.956
600T150-27 <sup>3</sup>	0.255	0.87	1.300	2.260	0.047	0.427	1.011	0.214	4.23	341	---	---	---	---	0.068	0.320	-0.686	2.400	0.918
600T150-30	0.281	0.96	1.434	2.260	0.051	0.427	1.159	0.253	5.01	456	---	---	---	---	0.091	0.352	-0.685	2.400	0.918
600T150-33	0.311	1.06	1.590	2.260	0.057	0.426	1.334	0.303	5.99	622	---	---	---	---	0.124	0.390	-0.684	2.399	0.919
600T150-43	0.405	1.38	2.072	2.261	0.073	0.424	1.890	0.474	9.36	1377	---	---	---	---	0.275	0.504	-0.680	2.398	0.920
600T150-54	0.509	1.73	2.611	2.266	0.091	0.422	2.473	0.689	13.62	2728	2.400	0.609	18.24	2728	0.543	0.632	-0.675	2.401	0.921
600T150-68	0.641	2.18	3.309	2.273	0.113	0.419	3.262	0.963	19.03	4347	3.162	0.891	26.68	5350	1.086	0.797	-0.669	2.406	0.923
600T150-97	0.913	3.11	4.778	2.288	0.156	0.413	4.778	1.504	29.71	7359	4.778	1.444	43.23	10885	3.148	1.138	-0.656	2.415	0.926
600T150-118	1.114	3.79	5.886	2.298	0.186	0.409	5.886	1.829	41.41	8936	5.886	1.829	61.64	13539	5.730	1.389	-0.647	2.422	0.929
600T200-33	0.346	1.18	1.913	2.352	0.126	0.604	1.542	0.333	6.59	622	---	---	---	---	0.138	0.847	-1.048	2.645	0.843
600T200-43	0.451	1.53	2.494	2.353	0.163	0.602	2.076	0.565	11.16	1377	---	---	---	---	0.305	1.098	-1.044	2.643	0.844
600T200-54	0.565	1.92	3.145	2.359	0.203	0.600	2.759	0.759	15.00	2728	2.641	0.717	21.48	2728	0.604	1.381	-1.038	2.646	0.846
600T200-68	0.712	2.42	3.990	2.367	0.254	0.597	3.696	1.034	20.42	4347	3.540	0.973	29.12	5350	1.206	1.746	-1.031	2.650	0.849
600T200-97	1.015	3.45	5.773	2.385	0.354	0.591	5.758	1.667	32.95	7359	5.558	1.568	46.94	10885	3.499	2.510	-1.016	2.659	0.854
600T200-118	1.239	4.21	7.122	2.398	0.426	0.586	7.122	2.170	42.88	8936	7.122	2.051	61.42	13539	6.369	3.083	-1.006	2.665	0.858
600T250-43	0.496	1.69	2.916	2.425	0.303	0.781	2.269	0.563	11.13	1377	---	---	---	---	0.336	2.004	-1.436	2.925	0.759
600T250-54	0.622	2.12	3.678	2.432	0.377	0.779	3.014	0.793	15.68	2728	2.881	0.732	21.92	2728	0.664	2.523	-1.430	2.927	0.761
600T250-68	0.783	2.67	4.670	2.442	0.472	0.776	4.065	1.085	21.45	4347	3.871	1.017	30.46	5350	1.327	3.198	-1.422	2.930	0.764
600T250-97	1.116	3.80	6.767	2.462	0.														

TABLE 4—CHANNEL (TRACK) SECTION PROPERTIES (Continued)

Section	Gross Properties <sup>1</sup>					33 ksi Effective Properties <sup>2</sup>				50 ksi Effective Properties <sup>2</sup>				Torsional Properties					
	Area	Weight	Ixx (in <sup>4</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>2</sup> )	Ma (in-k)	Va (lb)	Ixx (in <sup>4</sup> )	Sxx (in <sup>2</sup> )	Ma (in-k)	Va (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	Ro (in)	β
725T200-43	0.507	1.73	3.872	2.764	0.171	0.581	3.307	0.678	13.39	1137	---	---	---	---	0.344	1.695	-0.958	2.982	0.897
725T200-54	0.636	2.16	4.877	2.769	0.213	0.579	4.319	1.007	19.90	2252	4.188	0.881	26.37	2252	0.679	2.127	-0.953	2.985	0.898
725T200-68	0.801	2.73	6.178	2.777	0.266	0.576	5.749	1.359	26.86	4347	5.526	1.287	38.54	4516	1.357	2.684	-0.946	2.990	0.900
725T200-97	1.142	3.89	8.908	2.793	0.371	0.570	8.881	2.166	42.80	8843	8.593	2.048	61.33	10885	3.937	3.839	-0.933	2.999	0.903
725T200-118	1.394	4.74	10.965	2.805	0.445	0.565	10.965	2.802	55.37	10857	10.965	2.662	79.69	16235	7.167	4.698	-0.923	3.006	0.906
725T250-43	0.552	1.88	4.484	2.85	0.318	0.759	3.602	0.673	13.30	1137	---	---	---	---	0.374	3.092	-1.330	3.235	0.831
725T250-54	0.693	2.36	5.650	2.856	0.397	0.757	4.693	1.052	20.78	2252	4.564	0.874	26.16	2252	0.740	3.887	-1.324	3.238	0.833
725T250-68	0.872	2.97	7.161	2.865	0.496	0.754	6.285	1.426	28.17	4347	6.011	1.345	40.28	4516	1.478	4.914	-1.317	3.242	0.835
725T250-97	1.244	4.23	10.34	2.884	0.696	0.748	9.863	2.300	45.45	8843	9.457	2.159	64.65	10885	4.287	7.061	-1.302	3.251	0.840
725T250-118	1.518	5.17	12.74	2.897	0.839	0.744	12.655	3.014	59.56	10857	12.200	2.831	84.76	16235	7.806	8.667	-1.291	3.257	0.843
725T300-54	0.749	2.55	6.424	2.928	0.657	0.936	5.034	1.075	21.25	2252	4.905	0.868	25.99	2252	0.800	6.354	-1.718	3.521	0.762
725T300-68	0.944	3.21	8.145	2.938	0.822	0.933	6.761	1.478	29.21	4347	6.444	1.392	41.68	4516	1.599	8.044	-1.710	3.525	0.765
725T300-97	1.345	4.58	11.772	2.958	1.157	0.927	10.717	2.403	47.49	8843	10.216	2.246	67.26	10885	4.638	11.589	-1.693	3.532	0.77
725T300-118	1.642	5.59	14.515	2.973	1.398	0.923	13.873	3.173	62.70	10857	13.268	2.960	88.64	16235	8.445	14.256	-1.681	3.538	0.774
725T400-68	1.086	3.70	10.112	3.051	1.805	1.289	7.582	1.559	30.81	4347	7.256	1.379	41.29	4516	1.841	17.505	-2.542	4.175	0.629
725T400-97	1.549	5.27	14.635	3.074	2.550	1.283	12.177	2.556	50.51	8843	11.522	2.378	71.19	10885	5.339	25.302	-2.524	4.180	0.635
725T400-118	1.891	6.43	18.064	3.091	3.092	1.279	15.935	3.402	67.22	10857	15.091	3.151	94.35	16235	9.722	31.200	-2.511	4.183	0.640
800T125-30 <sup>3</sup>	0.328	1.11	2.611	2.824	0.032	0.314	2.113	0.339	6.71	341	---	---	---	---	0.106	0.413	-0.44	2.875	0.977
800T125-33 <sup>3</sup>	0.363	1.24	2.895	2.824	0.036	0.313	2.441	0.407	8.03	465	---	---	---	---	0.145	0.456	-0.439	2.875	0.977
800T125-43	0.473	1.61	3.773	2.824	0.046	0.311	3.484	0.640	12.65	1030	---	---	---	---	0.321	0.589	-0.436	2.874	0.977
800T125-54	0.594	2.02	4.745	2.827	0.057	0.309	4.668	0.940	18.58	2039	4.426	0.824	24.66	2039	0.634	0.735	-0.432	2.877	0.977
800T125-68	0.748	2.54	5.998	2.833	0.070	0.306	5.998	1.356	26.80	4087	5.956	1.216	36.39	4087	1.267	0.920	-0.427	2.881	0.978
800T125-97	1.066	3.63	8.613	2.843	0.096	0.301	8.613	2.062	40.74	8843	8.613	2.062	61.72	10885	3.674	1.296	-0.417	2.889	0.979
800T125-118	1.301	4.43	10.569	2.850	0.114	0.297	10.569	2.506	58.08	12009	10.569	2.506	86.21	16235	6.688	1.567	-0.410	2.895	0.980
800T150-30 <sup>1</sup>	0.343	1.17	2.868	2.891	0.054	0.398	2.219	0.345	6.82	341	---	---	---	---	0.111	0.679	-0.589	2.977	0.961
800T150-33 <sup>3</sup>	0.380	1.29	3.180	2.891	0.060	0.397	2.569	0.414	8.18	465	---	---	---	---	0.152	0.751	-0.588	2.977	0.961
800T150-43	0.496	1.69	4.144	2.891	0.077	0.395	3.689	0.655	12.95	1030	---	---	---	---	0.336	0.972	-0.584	2.976	0.961
800T150-54	0.622	2.12	5.214	2.896	0.096	0.393	4.976	0.969	19.15	2039	4.692	0.844	25.27	2039	0.664	1.215	-0.58	2.979	0.962
800T150-68	0.783	2.67	6.594	2.902	0.119	0.390	6.527	1.412	27.91	4087	6.361	1.255	37.58	4087	1.327	1.526	-0.575	2.984	0.963
800T150-97	1.116	3.80	9.479	2.914	0.165	0.384	9.479	2.269	44.83	8843	9.479	2.192	65.62	10885	3.849	2.162	-0.564	2.993	0.965
800T150-118	1.363	4.64	11.641	2.923	0.197	0.380	11.641	2.760	62.48	12009	11.641	2.760	93.00	16235	7.008	2.627	-0.555	2.999	0.966
800T200-33 <sup>3</sup>	0.415	1.41	3.749	3.005	0.135	0.571	2.788	0.424	8.37	465	---	---	---	---	0.166	1.638	-0.917	3.194	0.918
800T200-43	0.541	1.84	4.887	3.006	0.175	0.569	4.043	0.676	13.35	1030	---	---	---	---	0.367	2.124	-0.913	3.193	0.918
800T200-54	0.679	2.31	6.152	3.011	0.218	0.567	5.505	1.009	19.93	2039	5.149	0.871	26.09	2039	0.725	2.664	-0.908	3.196	0.919
800T200-68	0.854	2.91	7.786	3.019	0.272	0.564	7.306	1.490	29.45	4087	7.051	1.310	39.22	4087	1.448	3.357	-0.902	3.201	0.921
800T200-97	1.218	4.15	11.212	3.034	0.379	0.558	11.176	2.491	49.22	8843	10.833	2.347	70.27	10885	4.200	4.792	-0.889	3.210	0.923
800T200-118	1.487	5.06	13.785	3.045	0.455	0.553	13.785	3.212	63.48	12009	13.785	3.059	91.59	16235	7.646	5.854	-0.879	3.217	0.925
800T250-43	0.586	1.99	5.629	3.100	0.326	0.746	4.593	0.739	14.60	1030	---	---	---	---	0.397	3.877	-1.274	3.433	0.862
800T250-54	0.735	2.50	7.090	3.106	0.407	0.744	5.948	1.193	23.57	2039	5.816	0.959	28.71	2039	0.785	4.870	-1.268	3.436	0.864
800T250-68	0.926	3.15	8.978	3.114	0.509	0.741	7.917	1.648	32.57	4087	7.588	1.560	46.72	4087	1.569	6.151	-1.261	3.441	0.866
800T250-97	1.320	4.49	12.944	3.132	0.713	0.735	12.361	2.641	52.19	8843	11.872	2.487	74.47	10885	4.550	8.818	-1.247	3.450	0.869
800T250-118	1.611	5.48	15.930	3.144	0.860	0.731	15.822	3.448	68.14	12009	15.272	3.248	97.26	16235	8.285	10.807	-1.236	3.457	0.872
80T3000-54	0.792	2.69	8.028	3.184	0.675	0.923	6.396	1.178	23.28	2039	6.237	0.956	28.62	2039	0.845	7.960	-1.652	3.704	0.801
800T300-68	0.997	3.39	10.171	3.194	0.844	0.920	8.497	1.709	33.76	4087	8.160	1.548	46.36	4087	1.690	10.067	-1.644	3.708	0.803
800T300-97	1.422	4.84	14.676	3.213	1.188	0.914	13.395	2.757	54.49	8843	12.794	2.586	77.43	10885	4.901	14.472	-1.628	3.716	0.808
800T300-118	1.735	5.91	18.074	3.227	1.436	0.910	17.291	3.626	71.65	12009	16.563	3.394	101.63	16235	8.924	17.775	-1.617	3.722	0.811
800T400-68	1.14	3.88	12.555	3.319	1.859	1.277	9.505	1.802	35.62	4087	9.180	1.520	45.51	4087	1.931	21.882	-2.458	4.323	0.677
800T400-97	1.625	5.53	18.141	3.341	2.626	1.271	15.169	2.932	57.93	8843	14.387	2.737	81.95	10885	5.602	31.564	-2.441	4.329	0.682
800T400-118	1.984	6.75	22.363	3.357	3.184	1.267	19.784	3.885	76.76	12009	18.774	3.612	108.14	16235	10.201	38.863	-2.428	4.333	0.686
925T125-43 <sup>3</sup>	0.53	1.80	5.436	3.204	0.047	0.297	4.902	0.752	14.86	890	---	---	---	---	0.359	0.817	-0.399	3.243	0.985
925T125-54	0.664	2.26	6.834	3.207	0.058	0.296	6.607	1.112	21.98	1761	6.228	0.968	28.99	1761	0.709	1.018	-0.395	3.245	0.985
925T125-68	0.837	2.85	8.632	3.212	0.072	0.293	8.632	1.621	32.04	3528	8.429	1.440	43.11	3528	1.418	1.273	-0.391	3.249	0.986
925T125-97	1.193	4.06	12.377	3.221	0.099	0.288	12.377	2.577	58.21	8843	12.377	2.495	74.71	10291	4.112	1.787	-0.381	3.257	0.986
925T125-118	1.456	4.95	15.171	3.228	0.117	0.283	15.171	3.133	72.61	13189	15.171	3.133	107.78	16235	7.487	2.156	-0.375	3.262	0.987
925T150-43 <sup>3</sup>	0.552	1.88	5.931	3.278	0.079	0.379	5.170	0.769	15.19	890	---	---	---	---	0.374	1.351	-0.538	3.343	0.974
925T150-54	0.693	2.36	7.458	3.281	0.099	0.377	7.013	1.144	22.61	1761	6.575	0.991	29.66	1761	0.740	1.688	-0.534	3.346	0.975
925T150-68	0.872	2.97	9.424	3.287	0.122	0.374	9.362	1.683	33.26	3528	8.962	1.484	44.42	3528	1.478	2.117	-0.529	3.350	0.975
925T150-97	1.244	4.23	13.526	3.298	0.169	0.369	13.526	2.816	55.65	8843	13.526	2.636	78.91	10291	4.287	2.990	-0		



TABLE 4—CHANNEL (TRACK) SECTION PROPERTIES (Continued)

Section	Gross Properties <sup>1</sup>						33 ksi Effective Properties <sup>2</sup>				50 ksi Effective Properties <sup>2</sup>				Torsional Properties				
	Area	Weight	Ixx (in <sup>4</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma (in-k)	Va (lb)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma (in-k)	Va (lb)	Jx1000 (in <sup>4</sup> )	Cw (in <sup>6</sup> )	Xo (in)	Ro (in)	β
1000T125-68	0.89	3.03	10.522	3.438	0.073	0.286	10.452	1.781	35.19	3261	10.155	1.575	47.15	3261	1.508	1.515	-0.372	3.470	0.989
1000T125-97	1.269	4.32	15.077	3.447	0.100	0.280	15.077	2.907	57.44	8843	15.077	2.753	82.42	9507	4.375	2.123	-0.363	3.477	0.989
1000T125-118	1.549	5.27	18.471	3.453	0.118	0.276	18.471	3.540	82.05	13189	18.471	3.535	105.85	16235	7.966	2.558	-0.357	3.482	0.990
1000T150-43 <sup>3</sup>	0.586	1.99	7.207	3.507	0.080	0.370	6.195	0.837	16.54	822	---	---	---	---	0.397	1.612	-0.513	3.564	0.979
1000T150-54	0.735	2.50	9.061	3.511	0.100	0.368	8.430	1.249	24.69	1628	7.880	1.079	32.29	1628	0.785	2.013	-0.509	3.567	0.980
1000T150-68	0.926	3.15	11.445	3.516	0.124	0.366	11.342	1.846	36.48	3261	10.774	1.621	48.53	3261	1.569	2.522	-0.505	3.571	0.980
1000T150-97	1.320	4.49	16.413	3.526	0.171	0.360	16.413	3.165	62.54	8843	16.413	2.902	86.90	9507	4.550	3.557	-0.495	3.579	0.981
1000T150-118	1.611	5.48	20.121	3.534	0.204	0.356	20.121	3.857	87.30	13189	20.121	3.852	115.32	16235	8.285	4.307	-0.488	3.585	0.982
1000T200-43 <sup>3</sup>	0.631	2.15	8.361	3.64	0.183	0.539	6.722	0.861	17.01	822	---	---	---	---	0.428	3.540	-0.813	3.769	0.953
1000T200-54	0.792	2.69	10.516	3.645	0.228	0.537	9.231	1.295	25.60	1628	8.560	1.111	33.26	1628	0.845	4.434	-0.809	3.772	0.954
1000T200-68	0.997	3.39	13.292	3.651	0.284	0.534	12.551	1.936	38.26	3261	11.820	1.684	50.42	3261	1.690	5.576	-0.803	3.776	0.955
1000T200-97	1.422	4.84	19.087	3.664	0.397	0.528	19.031	3.427	67.72	8843	18.583	3.081	92.25	9507	4.901	7.924	-0.791	3.786	0.956
1000T200-118	1.735	5.91	23.422	3.674	0.476	0.524	23.422	4.420	87.35	13189	23.422	4.208	125.99	16235	8.924	9.649	-0.783	3.793	0.957
1000T250-43 <sup>3</sup>	0.676	2.30	9.515	3.751	0.344	0.713	7.172	0.876	17.32	822	---	---	---	---	0.458	6.477	-1.147	3.987	0.917
1000T250-54	0.848	2.89	11.972	3.757	0.429	0.711	9.913	1.326	26.20	1628	9.141	1.132	33.89	1628	0.906	8.125	-1.142	3.99	0.918
1000T250-68	1.068	3.64	15.138	3.764	0.536	0.708	13.578	1.997	39.46	3261	12.708	1.726	51.68	3261	1.810	10.240	-1.135	3.995	0.919
1000T250-97	1.523	5.18	21.760	3.780	0.751	0.702	20.871	3.596	71.05	8843	20.254	3.201	95.84	9507	5.252	14.617	-1.122	4.005	0.921
1000T250-118	1.860	6.33	26.723	3.791	0.905	0.698	26.538	4.721	93.29	13189	25.721	4.422	132.38	16235	9.562	17.858	-1.112	4.012	0.923
1000T300-54	0.905	3.08	13.427	3.852	0.714	0.888	11.083	1.452	28.69	1628	10.826	1.191	35.65	1628	0.966	13.289	-1.500	4.228	0.874
1000T300-68	1.140	3.88	16.985	3.860	0.893	0.885	14.416	2.377	46.96	3261	14.106	1.904	57.01	3261	1.931	16.771	-1.493	4.233	0.876
1000T300-97	1.625	5.53	24.434	3.878	1.257	0.879	22.441	3.798	75.04	8843	21.530	3.589	107.45	9507	5.602	24.009	-1.478	4.242	0.879
1000T300-118	1.984	6.75	30.024	3.890	1.519	0.875	28.792	4.950	97.82	13189	27.680	4.668	139.76	16235	10.201	29.395	-1.468	4.249	0.881
1000T400-68	1.282	4.36	20.678	4.016	1.982	1.243	16.172	2.330	46.04	3261	15.757	1.894	56.72	3261	2.173	36.414	-2.262	4.774	0.775
1000T400-97	1.828	6.22	29.781	4.036	2.799	1.237	25.207	4.032	79.68	8843	24.036	3.795	113.63	9507	6.304	52.310	-2.246	4.782	0.779
1000T400-118	2.232	7.60	36.626	4.051	3.392	1.233	32.638	5.292	104.58	13189	31.116	4.960	148.50	16235	11.478	64.212	-2.234	4.787	0.782
1150T125-43 <sup>3</sup>	0.631	2.15	9.503	3.881	0.048	0.277	8.164	0.953	18.84	714	---	---	---	---	0.428	1.330	-0.346	3.906	0.992
1150T125-54 <sup>3</sup>	0.792	2.69	11.940	3.883	0.06	0.275	11.109	1.423	28.11	1414	10.376	1.228	36.78	1414	0.845	1.656	-0.343	3.908	0.992
1150T125-68	0.997	3.39	15.067	3.887	0.074	0.272	14.658	2.100	41.49	2832	14.174	1.844	55.21	2832	1.690	2.066	-0.339	3.912	0.992
1150T125-97	1.422	4.84	21.568	3.895	0.102	0.267	21.568	3.493	69.03	8250	21.405	3.270	97.89	8250	4.901	2.888	-0.331	3.918	0.993
1150T125-118	1.735	5.91	26.404	3.901	0.120	0.263	26.404	4.425	87.43	13189	26.404	4.251	127.26	15072	8.924	3.474	-0.325	3.923	0.993
1150T150-43 <sup>3</sup>	0.654	2.22	3.963	0.082	0.354	8.563	0.973	19.220	714.00	7.262	---	---	---	---	2.209	-0.470	4.006	0.986	0.986
1150T150-54 <sup>3</sup>	0.820	2.79	3.966	0.102	0.353	11.726	1.460	28.840	1414.00	6.87	1.254	37.56	1414.00	7.221	2.757	-0.467	4.009	0.986	0.986
1150T150-68	1.033	3.51	3.971	0.127	0.350	15.864	2.173	42.930	2832.00	6.494	1.895	56.74	2832.00	6.825	3.450	-0.463	4.013	0.987	0.987
1150T150-97	1.472	5.01	3.980	0.175	0.345	23.324	3.788	74.850	8250.00	6.038	3.437	102.92	8250.00	6.287	4.854	-0.454	4.021	0.987	0.987
1150T150-118	1.798	6.12	3.987	0.209	0.341	28.569	4.788	94.610	13189.00	5.967	4.611	138.05	15072.00	6.077	5.866	-0.447	4.026	0.988	0.988
1150T200-43 <sup>3</sup>	0.699	2.38	4.107	0.188	0.519	9.239	0.999	19.750	714.00	7.502	---	---	---	---	4.871	-0.752	4.208	0.968	0.968
1150T200-54 <sup>3</sup>	0.877	2.98	4.111	0.234	0.517	12.758	1.510	29.840	1414.00	7.095	1.290	38.630	1414.00	7.46	6.095	-0.748	4.210	0.968	0.968
1150T200-68	1.104	3.76	4.117	0.292	0.514	17.440	2.271	44.890	2832.00	6.695	1.965	58.820	2832.00	7.048	7.657	-0.743	4.215	0.969	0.969
1150T200-97	1.574	5.36	4.129	0.407	0.508	26.818	4.079	80.610	8250.00	6.173	3.634	108.820	8250.00	6.464	10.855	-0.732	4.224	0.970	0.970
1150T200-118	1.922	6.54	4.138	0.488	0.504	32.901	5.435	107.40	13189.00	5.995	5.010	149.990	15072.00	6.196	13.195	-0.724	4.231	0.971	0.971
1150T250-43 <sup>3</sup>	0.744	2.53	13.307	4.230	0.354	0.690	9.811	1.0170	20.09	714	---	---	---	---	0.504	8.930	-1.068	4.417	0.942
1150T250-54 <sup>3</sup>	0.933	3.18	16.734	4.235	0.442	0.688	13.633	1.544	30.51	1414	12.505	1.314	39.33	1414	0.997	11.194	-1.063	4.420	0.942
1150T250-68	1.175	4.00	21.145	4.242	0.552	0.685	18.774	2.338	46.19	2832	17.476	2.011	60.20	2832	1.992	14.091	-1.057	4.425	0.943
1150T250-97	1.676	5.70	30.350	4.256	0.773	0.679	29.267	4.265	84.27	8250	28.347	3.765	112.73	8250	5.778	20.068	-1.045	4.434	0.944
1150T250-118	2.046	6.96	37.232	4.266	0.932	0.675	36.975	5.784	114.30	13189	36.017	5.244	157.00	15072	10.520	24.476	-1.036	4.441	0.946
1150T300-54 <sup>3</sup>	0.990	3.37	18.651	4.341	0.738	0.863	15.715	1.659	32.78	1414	14.899	1.368	40.97	1414	1.057	18.327	-1.404	4.643	0.909
1150T300-68	1.247	4.24	23.576	4.349	0.923	0.860	20.405	2.683	53.01	2832	19.977	2.173	65.06	2832	2.113	23.104	-1.397	4.648	0.910
1150T300-97	1.778	6.05	33.862	4.365	1.298	0.855	31.233	4.668	92.25	8250	30.048	4.432	132.69	8250	6.128	32.999	-1.384	4.658	0.912
1150T300-118	2.170	7.38	41.563	4.376	1.569	0.850	39.925	6.054	119.62	13189	38.473	5.734	171.67	15072	11.159	40.336	-1.374	4.665	0.913
1150T400-68	1.389	4.73	28.438	4.524	2.057	1.217	22.766	2.659	52.54	2832	22.207	2.176	65.14	2832	2.354	50.181	-2.136	5.149	0.828
1150T400-97	1.981	6.74	40.888	4.543	2.905	1.211	34.891	4.950	97.82	8250	33.497	4.547	136.13	8250	6.829	71.928	-2.121	5.158	0.831
1150T400-118	2.419	8.23	50.225	4.557	3.520	1.206	44.979	6.460	127.66	13189	43.009	6.084	182.16	15072	12.436	88.152	-2.110	5.165	0.833
1200T125-54 <sup>3</sup>	0.820	2.79	13.335	4.033	0.060	0.271	12.296	1.491	29.47	1354	11.460	1.286	38.51	1354	0.876	1.820	-0.333	4.055	0.993
1200T125-68	1.033	3.51	16.826	4.036	0.074	0.268	16.246	2.206	43.60	2713	15.686	1.934	57.90	2713	1.750	2.270	-0.329	4.059	0.993
1200T125-97	1.472	5.01	24.078	4.044	0.102	0.263	24.078	3.690	72.92	7902	23.751	3.442	103.06	7902	5.076	3.171	-0.322	4.065	0.994
1200T125-118	1.798	6.12	29.472	4.049	0.121	0.259	29.472	4.740	93.67	13189	29.472	4.490	134.44	14434	9.243	3.812	-0.316	4.070	0.994
120																			



TABLE 4—CHANNEL (TRACK) SECTION PROPERTIES (Continued)

Section	Gross Properties <sup>1</sup>						33 ksi Effective Properties <sup>2</sup>				50 ksi Effective Properties <sup>2</sup>				Torsional Properties				
	Area	Weight	Ixx (in <sup>4</sup> )	Rx (in)	Iyy (in <sup>4</sup> )	Ry (in)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma (in-k)	Va (lb)	Ixx (in <sup>4</sup> )	Sxx (in <sup>3</sup> )	Ma (in-k)	Va (lb)	Jx1000 (in <sup>6</sup> )	Cw (in <sup>6</sup> )	Xo (in)	Ro (in)	β
1350T125-118	1.984	6.75	40.054	4.493	0.123	0.249	40.054	5.577	110.20	12808	39.969	5.212	156.05	12808	10.201	4.928	-0.291	4.510	0.996
1350T150-54 <sup>3</sup>	0.933	3.18	19.467	4.567	0.104	0.334	17.098	1.740	34.38	1203	15.773	1.489	44.57	1203	0.997	3.947	-0.421	4.599	0.992
1350T150-68	1.175	4.00	24.562	4.571	0.129	0.332	23.293	2.608	51.53	2409	21.855	2.261	67.68	2409	1.992	4.933	-0.417	4.602	0.992
1350T150-97	1.676	5.70	35.144	4.579	0.179	0.327	35.067	4.624	91.38	7014	34.160	4.153	124.33	7014	5.778	6.924	-0.408	4.609	0.992
1350T150-118	2.046	6.96	43.016	4.585	0.213	0.323	43.016	6.000	118.55	12808	42.912	5.631	168.58	12808	10.520	8.353	-0.402	4.614	0.992
1350T200-54 <sup>3</sup>	0.990	3.37	22.100	4.725	0.240	0.493	18.481	1.797	35.50	1203	16.933	1.529	45.78	1203	1.057	8.769	-0.680	4.799	0.980
1350T200-68	1.247	4.24	27.896	4.730	0.299	0.490	25.437	2.719	53.72	2409	23.666	2.339	70.02	2409	2.113	11.002	-0.675	4.803	0.980
1350T200-97	1.778	6.05	39.954	4.741	0.418	0.485	39.954	4.955	97.91	7014	38.298	4.374	130.95	7014	6.128	15.561	-0.666	4.812	0.981
1350T200-118	2.170	7.38	48.938	4.749	0.501	0.481	48.938	6.745	133.29	12808	48.938	6.084	182.17	12808	11.159	18.883	-0.658	4.818	0.981
1350T250-54 <sup>3</sup>	1.046	3.56	24.733	4.862	0.455	0.660	19.647	1.834	36.25	1203	17.905	1.556	46.57	1203	1.117	16.152	-0.974	5.002	0.962
1350T250-68	1.318	4.48	31.231	4.868	0.569	0.657	27.222	2.792	55.18	2409	25.180	2.390	71.56	2409	2.233	20.311	-0.969	5.007	0.963
1350T250-97	1.879	6.39	44.764	4.881	0.797	0.651	43.449	5.161	101.99	7014	41.227	4.519	135.30	7014	6.479	28.858	-0.957	5.016	0.964
1350T250-118	2.294	7.81	54.860	4.890	0.961	0.647	54.611	7.112	140.55	12808	53.395	6.346	189.99	12808	11.797	35.137	-0.949	5.023	0.964
1350T300-54 <sup>3</sup>	1.103	3.75	27.366	4.981	0.764	0.832	20.668	1.862	36.79	1203	18.754	1.574	47.14	1203	1.178	26.494	-1.295	5.213	0.938
1350T300-68	1.389	4.73	34.566	4.988	0.955	0.829	28.793	2.846	56.23	2409	26.515	2.427	72.67	2409	2.354	33.361	-1.289	5.218	0.939
1350T300-97	1.981	6.74	49.574	5.003	1.343	0.824	46.466	5.312	104.97	7014	43.800	4.624	138.45	7014	6.829	47.541	-1.276	5.228	0.940
1350T300-118	2.419	8.23	60.782	5.013	1.623	0.819	58.718	7.381	145.84	12808	57.131	6.535	195.67	12808	12.436	58.014	-1.267	5.235	0.941
1350T400-68	1.532	5.21	41.236	5.188	2.141	1.182	33.862	3.099	61.24	2409	33.002	2.552	76.41	2409	2.596	72.561	-1.990	5.681	0.877
1350T400-97	2.184	7.43	59.194	5.206	3.023	1.176	51.002	6.297	124.44	7014	49.671	5.259	157.45	7014	7.531	103.775	-1.976	5.691	0.879
1350T400-118	2.667	9.08	72.626	5.218	3.663	1.172	65.435	8.167	161.38	12808	62.783	7.733	231.52	12808	13.713	126.976	-1.965	5.698	0.881
1400T125-54 <sup>3</sup>	0.933	3.18	19.977	4.627	0.061	0.256	17.725	1.767	34.91	1160	16.407	1.517	45.42	1160	0.997	2.559	-0.299	4.643	0.996
1400T125-68	1.175	4.00	25.196	4.630	0.076	0.254	23.552	2.632	52.01	2322	22.62	2.293	68.64	2322	1.992	3.189	-0.296	4.646	0.996
1400T125-97	1.676	5.70	36.024	4.636	0.104	0.249	35.775	4.480	88.53	6761	34.588	4.134	123.76	6761	5.778	4.445	-0.289	4.652	0.996
1400T125-118	2.046	6.96	44.068	4.641	0.123	0.245	44.068	5.853	115.67	12344	43.752	5.453	163.27	12344	10.520	5.334	-0.284	4.656	0.996
1400T150-54 <sup>3</sup>	0.962	3.27	21.392	4.717	0.105	0.330	18.620	1.810	35.76	1160	17.153	1.547	46.33	1160	1.027	4.280	-0.410	4.746	0.993
1400T150-68	1.211	4.12	26.987	4.721	0.130	0.327	25.409	2.717	53.68	2322	23.803	2.352	70.42	2322	2.052	5.349	-0.407	4.749	0.993
1400T150-97	1.727	5.88	38.607	4.729	0.180	0.322	38.340	4.834	95.52	6761	37.285	4.332	129.69	6761	5.953	7.503	-0.399	4.756	0.993
1400T150-118	2.108	7.17	47.247	4.734	0.214	0.319	47.247	6.291	124.31	12344	46.911	5.886	176.24	12344	10.839	9.048	-0.393	4.761	0.993
1400T200-54 <sup>3</sup>	1.018	3.46	24.221	4.878	0.242	0.487	20.098	1.868	36.92	1160	18.387	1.589	47.56	1160	1.087	9.520	-0.665	4.947	0.982
1400T200-68	1.282	4.36	30.571	4.883	0.301	0.485	27.707	2.830	55.93	2322	25.738	2.432	72.81	2322	2.173	11.942	-0.661	4.951	0.982
1400T200-97	1.828	6.22	43.773	4.893	0.420	0.479	43.679	5.174	102.24	6761	41.749	4.559	136.48	6761	6.304	16.883	-0.651	4.959	0.983
1400T200-118	2.232	7.60	53.606	4.900	0.504	0.475	53.606	7.062	139.54	12344	53.453	6.354	190.23	12344	11.478	20.479	-0.644	4.965	0.983
1400T250-54 <sup>3</sup>	1.075	3.66	27.051	5.017	0.458	0.653	21.342	1.907	37.68	1160	19.421	1.616	48.38	1160	1.148	17.550	-0.954	5.149	0.966
1400T250-68	1.354	4.61	34.154	5.023	0.573	0.650	29.615	2.906	57.42	2322	27.352	2.485	74.40	2322	2.294	22.063	-0.949	5.153	0.966
1400T250-97	1.930	6.57	48.939	5.036	0.803	0.645	47.449	5.386	106.42	6761	44.883	4.708	140.94	6761	6.654	31.333	-0.938	5.163	0.967
1400T250-118	2.356	8.02	59.964	5.044	0.967	0.641	59.734	7.438	146.99	12344	58.277	6.622	198.25	12344	12.117	38.137	-0.930	5.169	0.968
1400T300-54 <sup>3</sup>	1.131	3.85	29.881	5.139	0.769	0.825	22.429	1.935	38.24	1160	20.324	1.635	48.96	1160	1.208	28.800	-1.271	5.358	0.944
1400T300-68	1.425	4.85	37.737	5.146	0.962	0.822	31.291	2.961	58.50	2322	28.775	2.523	75.54	2322	2.415	36.257	-1.265	5.363	0.944
1400T300-97	2.032	6.91	54.105	5.160	1.353	0.816	50.615	5.540	109.48	6761	47.633	4.815	144.17	6761	7.005	51.644	-1.252	5.373	0.946
1400T300-118	2.481	8.44	66.323	5.171	1.635	0.812	64.159	7.713	152.42	12344	62.201	6.816	204.06	12344	12.755	62.998	-1.243	5.38	0.947
1400T400-68	1.567	5.33	44.903	5.352	2.160	1.174	37.078	3.210	63.43	2322	35.376	2.647	79.24	2322	2.656	78.896	-1.957	5.818	0.887
1400T400-97	2.235	7.61	64.437	5.369	3.049	1.168	55.644	6.656	131.52	6761	54.354	5.437	162.79	6761	7.706	112.783	-1.943	5.828	0.889
1400T400-118	2.729	9.29	79.041	5.382	3.695	1.164	71.315	8.620	170.34	12344	68.478	8.172	244.66	12344	14.032	137.951	-1.932	5.835	0.890
1600T125-54	1.046	3.56	28.485	5.217	0.062	0.243	-	-	-	-	-	-	-	-	1.117	3.432	-0.272	5.230	0.997
1600T125-68 <sup>1</sup>	1.318	4.48	35.916	5.220	0.077	0.241	32.443	3.058	60.42	2030	31.004	2.651	79.37	2030	2.233	4.273	-0.268	5.233	0.997
1600T125-97	1.879	6.39	51.322	5.226	0.105	0.237	49.844	5.273	104.19	5908	47.830	4.825	144.47	5908	6.479	5.945	-0.262	5.238	0.997
1600T125-118	2.294	7.81	62.755	5.230	0.125	0.233	62.755	6.965	137.62	10783	60.930	6.420	192.21	10783	11.797	7.126	-0.257	5.241	0.998
1600T150-54 <sup>14</sup>	1.075	3.66	30.328	5.312	0.106	0.314	-	-	-	-	-	-	-	-	1.148	5.757	-0.374	5.335	0.995
1600T150-68 <sup>1</sup>	1.354	4.61	38.249	5.316	0.132	0.312	34.945	3.152	62.28	2030	32.537	2.717	81.34	2030	2.294	7.188	-0.371	5.338	0.995
1600T150-97	1.930	6.57	54.681	5.323	0.182	0.307	53.172	5.674	112.12	5908	51.382	5.047	151.11	5908	6.654	10.066	-0.363	5.344	0.995
1600T150-118	2.356	8.02	66.886	5.328	0.217	0.304	66.886	7.460	147.41	10783	65.023	6.911	206.91	10783	12.117	12.124	-0.358	5.348	0.996
1600T200-54 <sup>14</sup>	1.131	3.85	34.015	5.483	0.246	0.467	-	-	-	-	-	-	-	-	1.208	12.864	-0.612	5.537	0.988
1600T200-68 <sup>1</sup>	1.425	4.85	42.914	5.488	0.307	0.464	37.904	3.277	64.76	2030	35.009	2.805	83.99	2030	2.415	16.123	-0.607	5.541	0.988
1600T200-97	2.032	6.91	61.398	5.497	0.428	0.459	60.199	6.052	119.60	5908	57.292	5.298	158.62	5908	7.005	22.755	-0.598	5.549	0.988
1600T200-118	2.481	8.44	75.146	5.504	0.514	0.455	75.146	8.331	164.63	10783	73.613	7.433	222.53	10783	12.755	27.568	-0.592	5.554	0.989

For SI: 1 inch = 25.4mm, 1 pound = 4.4482 N.

<sup>1</sup>Gross properties and torsional properties are based on the full-unreduced cross section of the studs, away from web punch-outs.

TABLE 5—U CHANNELS STRUCTURAL PROPERTIES<sup>1,2</sup>

SECTION	DEPTH <sup>5</sup>	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. (in)	INSIDE CORNER RADII (in)	WEIGHT (lb/ft)	GROSS SECTION PROPERTIES <sup>3</sup>					EFFECTIVE SECTION PROPERTIES			ALLOWABLE MOMENT <sup>4</sup> M <sub>a</sub> (in-k)
							Area (in <sup>2</sup> )	I <sub>x</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>y</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>x</sub> (in <sup>3</sup> )	Area (in <sup>2</sup> )	
CRC-075-54	0.75	54	0.0566	0.0538	0.0849	0.30	0.087	0.007	0.288	0.002	0.155	0.007	0.019	0.087	0.45
CRC-150-54	1.5	54	0.0566	0.0538	0.0849	0.44	0.129	0.039	0.547	0.003	0.144	0.039	0.052	0.129	1.22
CRC-200-54	2.0	54	0.0566	0.0538	0.0849	0.54	0.157	0.079	0.709	0.003	0.136	0.079	0.079	0.157	1.87
CRC250-54	2.5	54	0.0566	0.0538	0.0849	0.63	0.186	0.139	0.866	0.003	0.128	0.139	0.111	0.186	2.64

For SI: 1 inch = 25.4 mm, 1 lb/ft = 1.488 kg/m, 1 in-lb = 11.30 N-m.

I<sub>x</sub> = Strong axis moment of inertia. r<sub>y</sub> = Weak axis radius of gyration.  
 r<sub>x</sub> = Strong axis radius of gyration. S<sub>x</sub> = Strong axis section modulus.  
 I<sub>y</sub> = Weak axis moment of inertia.

<sup>1</sup>F<sub>y</sub> = 33 ksi.

<sup>2</sup>Use the effective moment of inertia for deflection calculations.

<sup>3</sup>Gross properties are based on the full-unreduced cross section of the U channel.

<sup>4</sup>Full lateral support of compression flanges must be provided.

<sup>5</sup>Depth of member is measured from outside face to outside face of flanges. See Figure 1.

TABLE 6—HAT FURRING CHANNEL PROPERTIES<sup>1,3</sup>

SECTION	MILS	DESIGN THICK. (in)	MIN. BASE METAL THICK. (in)	INSIDE CORNER RADII (in)	WEIGHT (lb/ft)	DEPTH (in)	GROSS SECTION PROPERTIES					EFFECTIVE SECTION PROPERTIES		ALLOWABLE MOMENT <sup>2</sup> M <sub>a</sub> (ft-lb)
							Area (in <sup>2</sup> )	I <sub>x</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>y</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>x</sub> (in <sup>3</sup> )	
DWFC088-18	18	0.0188	0.0179	0.0843	0.239	0.875	0.0702	0.0089	0.356	0.0354	0.710	0.0086	0.0160	26.41
DWFC088-30	30	0.0312	0.0296	0.0784	0.391	0.875	0.1149	0.0143	0.353	0.0580	0.710	0.0143	0.0365	50.47
DWFC150-18	18	0.0188	0.0179	0.0843	0.320	1.500	0.0939	0.0311	0.575	0.0467	0.705	0.0299	0.0344	56.59
DWFC150-30	30	0.0312	0.0296	0.0784	0.525	1.500	0.1543	0.0503	0.571	0.0797	0.705	0.0503	0.0639	105.25

For SI: 1 inch = 25.4 mm, 1 lb/ft = 1.488 kg/m, 1 in-lb = 11.30 N-m.

I<sub>x</sub> = Strong axis moment of inertia.  
 r<sub>x</sub> = Strong axis radius of gyration.  
 I<sub>y</sub> = Weak axis moment of inertia.  
 r<sub>y</sub> = Weak axis radius of gyration.  
 S<sub>x</sub> = Strong axis section modulus.

<sup>1</sup>F<sub>y</sub> = 33 ksi.

<sup>2</sup>Allowable moment is applicable for both positive and negative moments. Full lateral support of compression flanges must be provided.

<sup>3</sup>Use the effective moment of inertia for deflection calculations.

TABLE 7—C-SECTIONS (STUDS) FOR USE WITH THE IRC<sup>1</sup>

IRC MEMBER DESIGNATION	EQUIVALENT TELLING INDUSTRIES MEMBER DESIGNATION			
	t = 33	t = 43	t = 54	t = 68
350S162-t	350S162-33	350S162-43	350S162-54	350S162-68
	350S200-33	350S200-43	350S200-54	350S200-68
550S162-t	550S162-33	550S162-43	550S162-54	550S162-68
	550S200-33	550S200-43	550S200-54	550S200-68
800S162-t	800S162-33	800S162-43	800S162-54	800S162-68
	800S200-33	800S200-43	800S200-54	800S200-68
1000S162-t	---	1000S162-43	1000S162-54	1000S162-68
	---	1000S200-43	1000S200-54	1000S200-68
1200S162-t	---	---	1200S162-54	1200S162-68
	---	---	1200S200-54	1200S200-68

1. Under the 2024, 2021, 2018 and 2015 IRC: Minimum Grade 33 ksi steel must be used wherever 33 mil and 43 mil thicknesses are specified; and Minimum Grade 50 ksi steel must be used wherever 54 mil and 68 mil thicknesses are specified.

TABLE 8—MANUFACTURING LOCATIONS

Telling Industries Osceola, Arkansas 72370 870-563-2597	Telling Industries Windsor, Connecticut 06095 860-731-7975	Telling Industries Cambridge, Ohio 43725 740-435-8900
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SECTION PROFILES

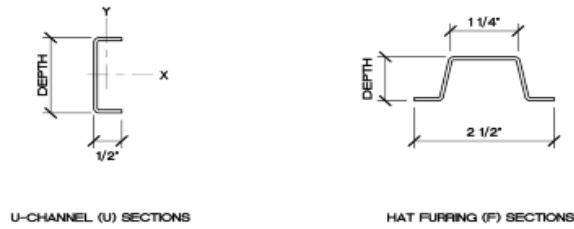
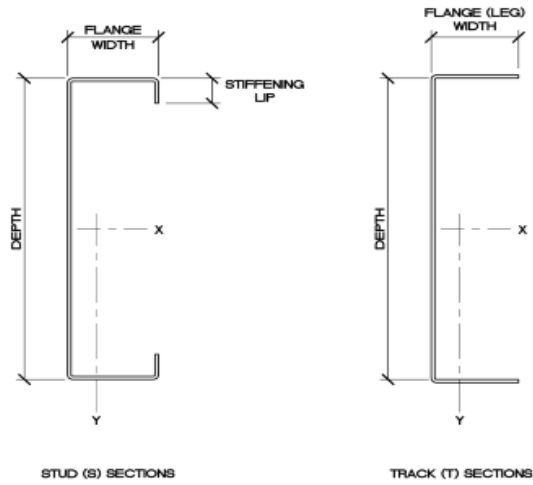


FIGURE 1—SECTION PROFILES

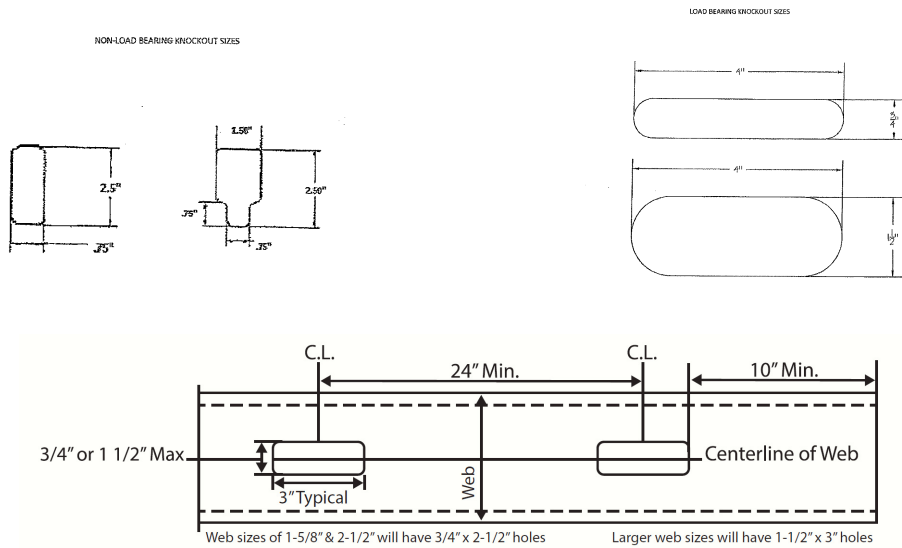


FIGURE 2—PUNCH-OUTS

**DIVISION: 05 00 00—METALS**

Section: 05 40 00—Cold-Formed Metal Framing

Section: 05 41 00—Structural Metal Stud Framing

**DIVISION: 09 00 00—FINISHES**

Section: 09 22 16.13—Non-Structural Metal Stud Framing

**REPORT HOLDER:**

TELLING INDUSTRIES

**EVALUATION SUBJECT:**

METAL FRAMING

## 1.0 REPORT PURPOSE AND SCOPE

**Purpose:**

The purpose of this evaluation report supplement is to indicate that the metal framing members, described in ICC-ES evaluation report ESR-2281, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2023 Florida Building Code—Building
- 2023 Florida Building Code—Residential

## 2.0 CONCLUSIONS

The metal framing members, described in Sections 2.0 through 7.0 of the ICC-ES evaluation report ESR-2281, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-2281 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the metal framing members has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* with the following exception:

- Protection of metal must be in accordance with the *Florida Building Code—Building* Section 2222.6.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued December 2022 and revised May 2024.