AISC Shapes Database Versions 14.0 and 14.0H
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by

American Institute of Steel Construction

Produced in the United States of America

AISC Shapes Database Version 14.0

Version 14.0 (V14.0) contains current section dimensions and properties consistent with the AISC *Steel Construction Manual*, 14th Edition, 1st printing. The AISC Shapes Database Version 14.0 is available in Microsoft Excel format.

Major improvements in V14.0 include:

- Addition of new HP, C, MC and 2L shapes
- Addition of seven new single angle properties: I_w, S_{wA}, S_{wB}, S_{wC}, S_{zA}, S_{zB}, S_{zC}
- Addition of slenderness ratio, *b/t*, for single angles
- Addition of torsional properties for C and MC: W_{no}, S_w, Q_f, Q_w
- Addition of r_{ts} and h_o for W shapes
- Addition of perimeter parameters P_A and P_B for W shapes
- Every property is now also available in metric units

AISC Shapes Database Version 14.0H

Version 14.0H (V14.0H) contains historic dimensions and section properties for shapes produced from 1873 – 2005. It **does not** contain current shape properties for use in the design of structural steel for new construction. See AISC Shapes Database V14.0 for this information.

Properties in V14.0H are taken from:

Iron and Steel Beams 1873 to 1952, 1953
AISC Steel Construction Manual, 5th Edition, 1962
AISC Steel Construction Manual, 6th Edition, 1964
AISC Steel Construction Manual, 7th Edition, 1970
AISC Steel Construction Manual, 8th Edition, 1980
AISC Manual of Steel Construction, 9th Edition, Allowable Stress Design, 1989
AISC Manual of Steel Construction, 1st Edition Load and Resistance Factor Design, 1986
AISC Manual of Steel Construction, 2nd Edition Load and Resistance Factor Design, 1994
AISC Manual of Steel Construction, 3rd Edition, 2001
AISC Steel Construction Manual, 13th Edition, 2005

The AISC Shapes Database V14.0H is available in Microsoft Excel format.

Directions for Reading AISC Shapes Database Version 14.0 (14th Edition *Steel Construction Manual* Dimensions and Section Properties only)

Dimensions and properties for each shape are listed sequentially in a single row. The data in each column is as follows (the corresponding columns representing equivalent metric properties are listed in parentheses).

Column A	**Type** – the shape type, e.g., W, C, L, etc.
Column B (BS)	**EDI_Std_Nomenclature** – the shape designation according to the AISC *Naming Convention for Structural Steel Products for Use in Electronic Data Interchange (EDI)*, June 25, 2001. This information is intended solely for the use of software developers to facilitate the electronic labeling of shape-specific data and electronic transfer of that data.
Column C (BT)	**AISC_Manual_Label** – the shape designation as seen in the AISC *Steel Construction Manual*, 14th Edition. The exception to this is the designation for double angles. There is a separate listing (row) for each back-to-back spacing and configuration. Therefore, the shape designation reflects these two variables. The listings for double angles follow the convention specified in the AISC *Naming Convention for Structural Steel Products for Use in Electronic Data Interchange (EDI)*, June 25, 2001.
Column D	**T_F** – A true/false variable. A value of T (true) indicates that there is a special note for that shape (see below). A value of F (false) indicates that there is not a special note for that shape. Special notes: W-shapes: a value of T indicates that the shape has a flange thickness greater than 2 in. M-shapes: a value of T indicates that the shape has sloped flanges. WT-shapes: a value of T indicates that the shape has a flange thickness greater than 2 in. MT-shapes: a value of T indicates that the shape has sloped flanges.
Column E (BU)	***W*** – Nominal weight, lb/ft (kg/m)
Column F (BV)	***A*** – Cross-sectional area, in.^{2} (mm^2)
Column G (BW)	***d*** – Overall depth of member, or width of shorter leg for angles, or width of the outstanding legs of long legs back-to-back double angles, or the width of the back-to-back legs of short legs back-to-back double angles, in. (mm)
Column H (BX)	$\boldsymbol{d_{det}}$ – Detailing value of member depth, in. (mm)
Column I (BY)	***Ht*** – Overall depth of square or rectangular HSS, in. (mm)
Column J (BZ)	***OD*** – Outside diameter of round HSS or pipe, in. (mm)
Column K (CA)	$\boldsymbol{b_f}$ – Flange width, in. (mm)
Column L (CB)	$\boldsymbol{b_{fdet}}$ – Detailing value of flange width, in. (mm)
Column M (CC)	***b*** – Overall width of square or rectangular HSS (the same as *B* per the 2010 AISC *Specification*), or width of the longer leg for angles, or width of the back-to-back legs of long legs back-to-back double angles, or width of the outstanding legs of short legs back-to-back double angles, in. (mm)
Column N (CD)	***ID*** – Inside diameter of round HSS or pipe, in. (mm)
Column O (CE)	$\boldsymbol{t_w}$ – Web thickness, in. (mm)
Column P (CF)	$\boldsymbol{t_{wdet}}$ – Detailing value of web thickness, in. (mm)
Column Q (CG)	$\boldsymbol{t_{wdet}/2}$ – Detailing value of $t_w/2$, in. (mm)
Column R (CH)	$\boldsymbol{t_f}$ – Flange thickness, in. (mm)

Column S (CI) t_{fdet} – Detailing value of flange thickness, in. (mm)
Column T (CJ) t – Thickness of angle leg, in. (mm)
Column U (CK) t_{nom} – HSS and pipe nominal wall thickness, in. (mm)
Column V (CL) t_{des} – HSS and pipe design wall thickness, in. (mm)
Column W (CM) k_{des} – Design distance from outer face of flange to web toe of fillet, in. (mm)
Column X (CN) k_{det} – Detailing distance from outer face of flange to web toe of fillet, in. (mm)
Column Y (CO) k_1 - Detailing distance from center of web to flange toe of fillet, in. (mm)
Column Z (CP) x – Horizontal distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to member centroidal axis, in. (mm)
Column AA (CQ) y – Vertical distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to member centroidal axis, in. (mm)
Column AB (CR) e_o – Horizontal distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to member shear center, in. (mm)
Column AC (CS) x_p – Horizontal distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to member plastic neutral axis, in. (mm)
Column AD (CT) y_p – Vertical distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to member plastic neutral axis, in. (mm)
Column AE (CU) $b_f/2t_f$ – Slenderness ratio
Column AF (CV) b/t – Slenderness ratio for square or rectangular HSS, or single angles
Column AG (CW) h/t_w – Slenderness ratio
Column AH (CX) Ht/t – Slenderness ratio for square or rectangular HSS
Column AI (CY) D/t – Slenderness ratio for round HSS and pipe, or tee shapes
Column AJ (CZ) I_x – Moment of inertia about the *x*-axis, in.^{4} (mm^4 /10^6)
Column AK (DA) Z_x – Plastic section modulus about the *x*-axis, in.^{3} (mm^3 /10^3)
Column AL (DB) S_x – Elastic section modulus about the *x*-axis, in.^{3} (mm^3 /10^3)
Column AM (DC) r_x – Radius of gyration about the *x*-axis, in. (mm)
Column AN (DD) I_y – Moment of inertia about the *y*-axis, in.^{4} (mm^4 /10^6)
Column AO (DE) Z_y – Plastic section modulus about the *y*-axis, in.^{3} (mm^3 /10^3)
Column AP (DF) S_y – Elastic section modulus about the *y*-axis, in.^{3} (mm^3 /10^3)
Column AQ (DG) r_y – Radius of gyration about the *y*-axis (with no separation for double angles back-to-back), in. (mm)
Column AR (DH) I_z – Moment of inertia about the *z*-axis, in.^{4} (mm^3 /10^6)
Column AS (DI) r_z – Radius of gyration about the *z*-axis, in. (mm)
Column AT (DJ) S_z – Elastic section modulus about the *z*-axis, in.^{3} (mm^3 /10^3)
Column AU (DK) J – Torsional moment of inertia, in.^{4} (mm^4 /10^3)
Column AV (DL) C_w – Warping constant, in.^{6} (mm^6 /10^9)
Column AW (DM) C – HSS torsional constant, in.^{3} (mm^3 /10^3)
Column AX (DN) W_{no} – Normalized warping function, as used in Design Guide 9, in.^{2} (mm^2)
Column AY (DO) S_{w1} – Warping statical moment at point 1 on cross section, as used in Design Guide 9 and shown in Figures 1 and 2, in.^{4} (mm^4 /10^6)
Column AZ (DP) S_{w2} – Warping statical moment at point 2 on cross section, as used in Design Guide 9 and shown in Figure 2, in.^{4} (mm^4 /10^6)
Column BA (DQ) S_{w3} – Warping statical moment at point 3 on cross section, as used in Design Guide 9 and shown in Figure 2, in.^{4} (mm^4 /10^6)
Column BB (DR) Q_f – Statical moment for a point in the flange directly above the vertical edge of the web, as used in Design Guide 9, in.^{3} (mm^3 /10^3)
Column BC (DS) Q_w – Statical moment for a point at mid-depth of the cross section, as used in Design Guide 9, in.^{3} (mm^3 /10^3)
Column BD (DT) r_o – Polar radius of gyration about the shear center, in. (mm)
Column BE (DU) H – Flexural constant
Column BF (DV) **tan(α)** – Tangent of the angle between the *y*-*y* and *z*-*z* axes for single angles, where α is shown in Figure 3

Column BG (DW) $\boldsymbol{Q_s}$ – Reduction factor for slender unstiffened compression elements

Column BH (DX) $\boldsymbol{I_w}$ – Moment of inertia about the *w*-axis, in.^{4} (mm^4 /10^6)

Column BI (DY) $\boldsymbol{S_{wA}}$ – Elastic section modulus about the *w*-axis at point A on cross section, as shown in Figure 3, in.^{3} (mm^3 /10^3)

Column BJ (DZ) $\boldsymbol{S_{wB}}$ – Elastic section modulus about the *w*-axis at point B on cross section, as shown in Figure 3, in.^{3} (mm^3 /10^3)

Column BK (EA) $\boldsymbol{S_{wC}}$ – Elastic section modulus about the *w*-axis at point C on cross section, as shown in Figure 3, in.^{3} (mm^3 /10^3)

Column BL (EB) $\boldsymbol{S_{zA}}$ – Elastic section modulus about the *z*-axis at point A on cross section, as shown in Figure 3, in.^{3} (mm^3 /10^3)

Column BM (EC) $\boldsymbol{S_{zB}}$ – Elastic section modulus about the *z*-axis at point B on cross section, as shown in Figure 3, in.^{3} (mm^3 /10^3)

Column BN (ED) $\boldsymbol{S_{zC}}$ – Elastic section modulus about the *z*-axis at point C on cross section, as shown in Figure 3, in.^{3} (mm^3 /10^3)

Column BO (EE) $\boldsymbol{r_{ts}}$ – Effective radius of gyration, in. (mm)

Column BP (EF) $\boldsymbol{h_o}$ – Distance between the flange centroids, in. (mm)

Column BQ (EG) $\boldsymbol{P_A}$ – Shape perimeter minus one flange surface, as used in Design Guide 19, in. (mm)

Column BR (EH) $\boldsymbol{P_B}$ – Shape perimeter, as used in Design Guide 19, in. (mm)

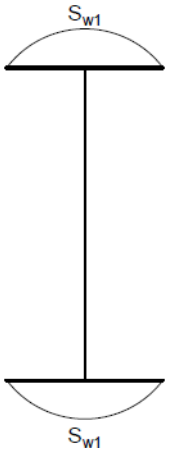

Fig. 1. Location of warping statical moment for W-, M-, S- and HP-shapes.

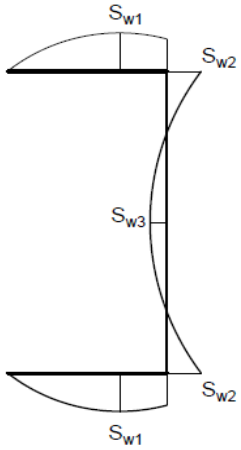

Fig. 2. Locations of warping statical moment for C- and MC-shapes.

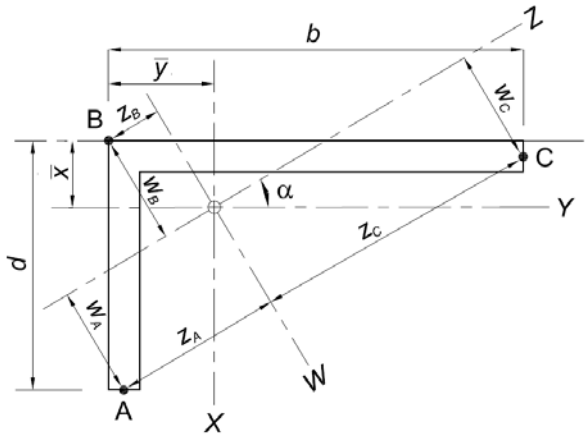

Fig. 3. Locations of points A, B and C for single angles.

Directions for Reading Database Version 14.0H (Historic Dimensions and Section Properties 1873-2005)

Dimensions and properties for each shape are listed sequentially in a single row.

Column A — **Edition** – Source document from which the section properties have been compiled, corresponding to the following:

13th - AISC Steel Construction Manual, 13th Edition, 2005
LRFD3 - AISC Manual of Steel Construction, 3rd Edition, Load and Resistance Factor Design, 2001
LRFD2 - AISC Manual of Steel Construction, 2nd Edition, Load and Resistance Factor Design, 1994
ASD9 - AISC Manual of Steel Construction, 9th Edition, Allowable Stress Design, 1989
LRFD1 - AISC Manual of Steel Construction, 1st Edition, Load and Resistance Factor Design, 1986
ASD8 - AISC Steel Construction Manual, 8th Edition, 1980
ASD7 - AISC Steel Construction Manual, 7th Edition, 1970
ASD6 - AISC Steel Construction Manual, 6th Edition, 1964
ASD5 - AISC Steel Construction Manual, 5th Edition, 1962
Historic - Iron and Steel Beams 1873 to 1952, 1953

Column B — **Footnote** – In ASD5, ASD6, ASD7, ASD8, ASD9, LRFD1, LRFD2 and LRFD3 Editions, this refers to special considerations for the listed section that must be used in design. For Historic Sections, this refers to the shape producer, as listed in the producer key of Design Guide 15 (available at www.aisc.org/epubs).

Column C — **Type –** Shape type, as summarized by the following:

Shape Type	Description
2L	Double Angle Section
B	Miscellaneous Beam Section
BCB	Both B and CB Sections
BJ	Miscellaneous Joist Section
BL	Miscellaneous Light Beam Section
BLB	Miscellaneous Light Beam Section
BP	Bearing Pile Section
BWF	Miscellaneous Wide-Flange Section
C	Channel Section
CB	Carnegie Beam Section
G	Girder Section
HP	H-Pile Section
HSS	Hollow Structural Section
I	I Section
J	Junior Section
Jr	Junior Beam Section
JRC	Junior Column Section
JrU	Junior Channel Section

L	Angle Section
LWF	Light WF and Miscellaneous Column Sections
M	Miscellaneous Section
MC	Miscellaneous Channel Section
MT	Structural Tee Section split from M-Shape
P	Standard Pipe Section
PIPE	Structural Pipe Section
S	American Standard Beam Shape
ST	Structural Tees Split from S-Shapes
ST B	Structural Tees Split from B-Shapes
ST I	Structural Tees Split from I-Shapes
ST Jr	Structural Tees Split from Jr-Shapes
ST M	Structural Tees Split from M-Shapes
ST R	Rectangular Structural Tubing Section
ST S	Square Structural Tubing Section
ST WF	Structural Tees Split from WF-Shapes
T FS	Tee Section (Flange by Stem)
U	American Standard Channel Sections
W	Wide-Flange Section
WF	Wide-Flange Section
WFB	Both WF and B Sections
WFCB	Both WF and CB Sections
WT	Structural Tees Split from W-Shape
XP	Extra Strong Pipe Section
XXP	Double-Extra Strong Pipe Section
Z	Z-Section

Columns D through J	**Designation** - Shape Label as listed in the AISC *Manual* or in *Iron and Steel Beams 1873-1952*.
Column K	$\boldsymbol{A}$ – Cross-sectional area, in.^{2}
Column L	$\boldsymbol{d}$ – Overall depth of member (longer leg for angles), in.
Column M	$\boldsymbol{t_w}$ – Web thickness, in.
Column N	$\boldsymbol{t_w/2}$ – Web half-thickness, in.
Column O	$\boldsymbol{b_f}$ – Flange width, in.
Column P	$\boldsymbol{t_f}$ – Flange thickness, in.
Column Q	$\boldsymbol{T}$ – Detailing depth between the web toes of the fillets, in.
Column R	$\boldsymbol{k}$ – Detailing distance from outer face of flange to web toe of fillet, in.
Column S	$\boldsymbol{k_1}$ – Detailing distance from center of web to flange toe of fillet, in.
Column T	$\boldsymbol{W}$ – Weight, lb/ft
Column U	$\boldsymbol{b_f/2t_f}$ – Slenderness ratio
Column V	$\boldsymbol{h/t_w}$ – Slenderness ratio
Column W	$\boldsymbol{F_y'''}$ – The theoretical maximum yield stress based on the web depth-thickness ratio (h / t_w) above which the web of a column is considered a slender element, ksi
Column X	$\boldsymbol{X_1}$ – Beam buckling factor, ksi
Column Y	$\boldsymbol{X_2}$ – Beam buckling factor, (1/ksi^2 × 10^6)
Column Z	$\boldsymbol{I_x}$ – Moment of inertia about the x-axis, in.^{4}
Column AA	$\boldsymbol{Z_x}$ – Plastic section modulus about the x-axis, in.^{3}
Column AB	$\boldsymbol{S_x}$ – Elastic section modulus about the x-axis, in.^{3}
Column AC	$\boldsymbol{r_x}$ – Radius of gyration about the x-axis, in.
Column AD	$\boldsymbol{y}$ – Vertical distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to centroidal axis, in.

Column AE	y_p –Vertical distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to plastic neutral axis, in.
Column AF	I_y – Moment of inertia about the *y*-axis, in.^{4}
Column AG	Z_y – Plastic section modulus about the *y*-axis, in.^{3}
Column AH	S_y – Elastic section modulus about the *y*-axis, in.^{3}
Column AI	r_y – Radius of gyration about the *y*-axis, in.
Column AJ	x – Horizontal distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to centroidal axis, in.
Column AK	x_p – Horizontal distance from designated member edge, as defined in the AISC *Steel Construction Manual*, to plastic neutral axis, in.
Column AL	r_z – Radius of gyration about the *z*-axis, in.
Column AM	**max*f*** – Maximum flange fastener, in.
Column AN	***Grip*** – Grip, in.
Column AO	e_o – Horizontal distance from designated edge of member to shear center location, in.
Column AP	Q_{s36} – Reduction factor for slender unstiffened compression elements in members other than double angles for 36 ksi material
Column AQ	Q_{s50} – Reduction factor for slender unstiffened compression elements in members other than double angles for 50 ksi material
Column AR	Q_{s36c}* – Reduction factor for slender unstiffened compression elements for 36 ksi material with angles in contact *Where no value of Q_s is shown for applicable sections, the angles comply with the noncompact section criteria of the AISC *Specification* and may be considered fully effective.
Column AS	Q_{s50c}* – Reduction factor for slender unstiffened compression elements for 50 ksi material with angles in contact *Where no value of Q_s is shown for applicable sections, the angles comply with the noncompact section criteria of the AISC *Specification* and may be considered fully effective.
Column AT	Q_{s36s}* – Reduction factor for slender unstiffened compression elements for 36 ksi material with angles separated *Where no value of Q_s is shown for applicable sections, the angles comply with the noncompact section criteria of the AISC *Specification* and may be considered fully effective.
Column AU	Q_{s50s}* – Reduction factor for slender unstiffened compression elements for 50 ksi material with angles separated *Where no value of Q_s is shown for applicable sections, the angles comply with the noncompact section criteria of the AISC *Specification* and may be considered fully effective.
Column AV	A_{stem} – Stem cross-sectional area for a tee, in.^{2}
Column AW	**tan(α)** – Tangent of the angle between the *y*-*y* and *z*-*z* axes for single angles
Column AX	t_{wstem} – Stem thickness for a tee or Z-section, in.
Column AY	$t_{wstem}/2$ – Stem half-thickness for a tee, in.
Column AZ	***OD*** – Outside diameter, in.
Column BA	***ID*** – Inside diameter, in.
Column BB	t_{wall} – Wall thickness, in.
Column BC	J – Torsional moment of inertia, in.^{4}
Column BD	t – Thickness, in.
Column BE	I_y' – Moment of inertia about the *y*-*y* axis for bearing piles, in.^{4}
Column BF	S_y' – Elastic section modulus about the *y*-*y* axis for bearing piles, in.^{3}
Column BG	r_y' – Radius of gyration about the *y*-*y* axis for bearing piles, in.
Column BH	**sched** –ASA Schedule Number

Column BI — A_{net36} − Theoretical net area for ASTM A36 material based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.^{2}

Column BJ — d_{1A36} − Theoretical depth of tee for ASTM A36 material based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.

Column BK — I_{xA36} − Theoretical moment of inertia about the *x-x* axis for ASTM A36 material based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.^{4}

Column BL — S_{xA36} − Elastic section modulus about the *x-x* axis based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.^{3}

Column BM — r_{xA36} − Theoretical radius of gyration about the *x-x* axis for ASTM A36 material based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.

Column BN — y_{1A36} − Theoretical distance from the neutral axis to the centroid of a section about the *x-x* axis for ASTM A36 material based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.

Column BO — r_{yA36} –Theoretical radius of gyration about the *y-y* axis for ASTM A36 material based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.

Column BP — $A_{netASTM}$ − Theoretical net area for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.^{2}

Column BQ — d_{1ASTM} − Theoretical depth of tee for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.

Column BR — I_{xASTM} − Theoretical moment of inertia about the *x-x* axis for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.^{4}

Column BS — S_{xASTM} − Theoretical section modulus about the *x-x* axis for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.^{3}

Column BT — r_{xASTM} − Theoretical radius of gyration about the *x-x* axis for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Manual*, in.

Column BU — y_{1ASTM} − Theoretical distance from the neutral axis to the centroid of a section about the *x-x* axis for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Steel Construction Manual*, in.

Column BV — r_{yASTM} − Theoretical radius of gyration about the *y-y* axis for ASTM A242, A440 and A441 materials based on Section 1.9.1 of the AISC *Specification* in the 6th Edition AISC *Steel Construction Manual*, in.

Column BW — d/t – Slenderness ratio

Column BX — r_{y0} – Polar radius of gyration, in.

Column BY — r_{y1_4} – Radius of gyration about the *y-y* axis for angles separated by 4 in., in.

Column BZ — r_{y3_8} – Radius of gyration about the *y-y* axis for angles separated by a in., in.

Column CA — r_{y1_2} – Radius of gyration about the *y-y* axis for angles separated by 2 in., in.

Column CB — r_{y5_8} – Radius of gyration about the *y-y* axis for angles separated by a in., in.

Column CC — r_{y3_4} – Radius of gyration about the *y-y* axis for angles separated by w in., in.

Column CD — d/A_f – Depth divided by flange area, in.$^{-1}$

Column CE — r_T – Radius of gyration of a section comprising the compression flange plus one-third of the compression web area, taken about an axis in the plane of the web, in.

Column CF — F_y'' – Theoretical maximum yield stress based on the width-thickness ratio of the web, beyond which a particular shape is not “compact”, ksi

Column CG — C_w – Warping constant for a section, in.^{6}

Column CH — F_y' –Theoretical maximum yield stress based on the width-thickness ratio of one-half the unstiffened compression flange, beyond which a particular shape is not "compact," ksi

Column CI — C_{c50}' – Column slenderness ratio dividing elastic and inelastic buckling, modified to account for effective width of wide compression elements for 50 ksi material

Column CJ — C_{c36}' – Column slenderness ratio dividing elastic and inelastic buckling, modified to account for effective width of wide compression elements for 36 ksi material

Column CK — a – Torsion property, in.; $a = \sqrt{\frac{EC_w}{GJ}}$

Column CL — W_{no} – Normalized warping constant, in.^{2}

Column CM — S_w – Warping statical moment, in.^{4}

Column CN — Q_f – Statical moment at point in flange, in.^{3}

Column CO — Q_w – Statical moment at mid-depth of the section, in.^{3}

Column CP — B – Overall width of member (shorter leg for angles), in.

Column CQ — Ht/t – Slenderness ratio for HSS

Column CR — Ht – Depth of HSS, in.

Column CS — t_{nom} – HSS nominal wall thickness, in.

Column CT — t_{des} – HSS design wall thickness, in.

Column CU — b/t – Slenderness ratio for HSS

Column CV — C – HSS torsional constant, in.^{3}

Column CW — r_o – Polar radius of gyration about the shear center, in.

Column CX — H – Flexural constant

Column CY — d_{det} – Detailing value of member depth, in.

Column CZ — b_{fdet} – Detailing value of flange width, in.

Column DA — t_{wdet} – Detailing value of web thickness, in.

Column DB — t_{fdet} – Detailing value of flange thickness, in.

Column DC — k_{des} – Design distance from outer face of flange to web toe of fillet, in.

Column DD — k_{det} – Detailing distance from outer face of flange to web toe of fillet, in.

Column DE — B/t – Slenderness ratio for HSS

Column DF — S_z – Elastic section modulus about the *z*-axis for single angles, in.^{3}

Column DG — Q_s – Reduction factor for slender unstiffened compression elements

Steel Producer Information

Information on steel producers was provided in the many early editions of *Steel Construction Manual*. In addition to the main worksheet of historic shapes in Shapes Database V14.0H, there are additional pages that show specifically the shapes that were produced by each major mill. The 8th edition of the ASD *Steel Construction Manual* was the last publication to provide this information.

EDI Naming Convention

"EDI Naming Convention.pdf" is a naming convention that standardizes the electronic descriptions used to identify structural steel shapes and other steel products.