

RAW MATERIAL INFORMATION

All Telling Industries products are formed from steel with a minimum yield strength of 33 or 50 KSI(1000 lbs per square inch). All products contained in this brochure are engineered to meet the 2012 Edition of the AISI (American Iron and Steel Institute) North American Specification for the Design of Cold- Formed Steel Structural Members (AISI S100-2012). The same document was used to calculate the physical and structural properties of all products listed herein via allowable stress design criteria.

TECHNICAL ASSISTANCE

Technical assistance is available to Telling

Industries customers when requested. A Telling Industries representative or design professional can review project specific load conditions and determine deflection criteria and lateral bracing conditions not discussed herein. Further, our representatives can assist purchasers and designers in economical applications for maximum efficiency.

All information contained in this brochure is intended as a general guide for using Telling Industries' products. This information should be used as a general guide only and all designs should be completed by a qualified design professional experienced with cold-form steel design. Such an assessment is necessary to verify

the suitability of a particular product for use in any load bearing application. Telling Industries assume no liability for failure resulting from the use or misapplications of any information contained herein. Detail drawings contained herein are for information only. Telling Industries reserve the right to make modifications, changes, additions or deletions to the information on any of our products without prior notice or obligation. For the latest product information or to verify availability, contact a Telling Industries representative. This brochure contains the latest information available at the time of printing.

GENERAL NOTES FOR ALL TABLES

- Where 'NASPEC' is referenced, it is the "North American Specification for the Design of Cold-Formed Steel Structural Members", 2012 edition (AISI S100-2012).
- The strength increase from cold work of forming has been incorporated for flexural strength per AISI 5100.
- Various sections may be manufactured with yield points of 33 or 50 ksi. The yield point used for calculations is indicated in the tables.
- For sections available in both 33 and 50 ksi, the specifier must clearly indicate which yield point is required. For example: 362S162-54 (50).
- When provided, factory punchouts will be located along the centerline of the webs of the members and will have a minimum center to-center spacing of 24 inches. Punchouts for members > 2.5 inches deep are a maximum of 1.5 inches wide x 4 inches long. Members with depths 2.5" and smaller are maximum 3/4" wide x 4 inches long.

DEFINITIONS OF STRUCTURAL PROPERTY SYMBOLS

GROSS PROPERTIES

- Ixx:** Moment of inertia of the gross section about the X-X axis (strong axis).
- Rx:** Radius of gyration of the gross section about the X-X axis.
- Iyy:** Moment of inertia of the gross section about the Y-Y axis (weak axis).
- Ry:** Radius of gyration of the gross section about the Y-Y axis.
- Sxx:** Section modulus of the gross section about the X-X axis (strong axis)

EFFECTIVE PROPERTIES

- Ixx:** Effective Moment of inertia about the X-X axis (strong axis). See Notes 4 and 5 above.
- Sxx:** Effective Section modulus about the X-X axis (strong axis).
- Ma-L:** Allowable moment at yield, based on local buckling.
- Ma-D:** Allowable moment based on distortional buckling (AISI 5100 C3.1.4(b)).
- Kfc:** Critical value of rotational stiffness, kf, where allowable distortional buckling moment equals allowable local buckling moment.
- Vag:** Allowable strong axis shear away from punch-outs, per AISI 5100 C3.2.1.
- VaNet:** Allowable strong axis shear at a punch-out, per AISI 5100 C3.2.2.

TORSIONAL PROPERTIES

- J:** St. Venant Torsional Constant.
- Cw:** Torsional warping constant.
- Xo:** Distance from the shear center to the centroid along the principal X-axis.
- Ro:** Polar radius of gyration about the centroid principal axis.
- f:** $1 - (Xo/Ro)^2$
- Lu:** The longest weak axis (Ly) and torsional (Lt) unbraced length at which lateral-torsional buckling is restrained in accordance with AISI 5100 C3.1.2.1.
- m:** Distance from shear center to the mid-plane of the web.

SECTION PROPERTIES TABLE NOTES

- Web depth for track sections equals nominal depth plus 2 x design thickness plus bend radius.
- Hems on non-structural track sections are ignored.
- Effective properties include the strength increase from cold-work of forming per AISI 5100 section A7.2 where applicable. Where Allowable Moment, Ma is followed by "+", a stress increase from cold-work of forming has been applied.
- For deflection determination, use the effective moment of inertia. Effective moment of inertia is based on Procedure 1 of the AISI 5100.
- The effective moment of inertia for deflection is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable local buckling moment.
- Tabulated gross properties are based on the full, unreduced section away from punch-outs.
- Effective properties of all 'S' sections based on punched sections. Track sections are considered unpunched.
- For sections with properties listed for both 33 ksi and 50 ksi yield point, the required yield point should be specified in the design documents.
- Where effective properties are not listed for a section at 33 or 50 ksi yield, web depth-to-thickness or flange width-to-thickness limits from the AISI 5100 are exceeded. Only gross properties are available.
- Where section designations include a superscript '1', web height-to-thickness exceeds 200. Web stiffeners are required at all supports and concentrated loads.