
It also will replace the two AISC special-member design specifications, the 2000 Load and Resistance Factor Design Specification for Steel Hollow Structural Sections, and the 2000 Load and Resistance Factor Design Specification for Single-Angle Members. This means that all HSS and single-angle member and connection-design provisions will be incorporated into the 2005 specification. The organization of the combined specifications is very similar to the existing individual specifications to ease the transition to the new document.
Expanded Scope

The new unified format of the 2005 specification is the most visible change, incorporating both ASD and LRFD methods into one specification. The document begins with a substantial revision: an expanded scope in Chapter A will affect the applicability of the entire document by stating that the specification sets forth criteria for the “design of structural steel buildings and other structures.” Chapter B provides a roadmap to help the user locate specific provisions in the specification. Chapter C handles the stability provisions of the overall structure, and incorporates new analysis provisions, including a direct-analysis method using notional loads and \( K = 1 \).

Member Design

Chapters D through I cover member-design provisions, and Chapter J covers connection-design provisions. Chapter D, “Design of Members for Tension,” will include simplified shear-lag criteria for determining the area in a new tabulated format. The other remaining member-design chapters contain several revisions. Chapter F, “Design of Members for Flexure,” has expanded in length with the addition of hollow structural section and single-angle provisions. However, it is helpful to note that the user need not go past Section F2 if designing the typical, compact wide-flange shape.

Other notable revisions to member design are in Chapter I, where “Design of Composite Members” has been reorganized and updated extensively to reflect recent research, higher-strength materials, and consistency with ACI 318. The usual bolt, weld, and general connection-design provisions remain in Chapter J, and a new Chapter K addresses only HSS and box-member connection-design provisions. The concentrated-force provisions have been moved to Chapter J. Some revisions in Chapter J include new block shear rupture criteria, improved details for weld-access holes, and revised slip-strength calculations for slip-critical connections.

User Notes Added

Other important features of the new specification are found in the appendices and “User Notes.” The appendices are intended to contain less frequently used criteria, including “Design for Fatigue, Evaluation and Repair,” and a new appendix on “ Structural Design for Fire Conditions.” The latter provides a more performance-oriented approach to design for fire than the traditional prescriptive methods used in the building code. The “User Notes” are brief commentaries interspersed throughout the text that supplement the historical “Commentary” that follows the specification. They provide concise, practical guidance to assist the user when applying the provisions.

Availability

The final, ANSI-accredited AISC Specification for Structural Steel Buildings will be introduced in 2005 in conjunction with a completely updated Manual of Steel Construction. The Manual will provide the discussion, tables, and design aids that the user will need to make the most of the new specification.

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