

Major Changes in AISI D100-17

In addition to updating the *Design Manual* for conformance with the 2016 Edition of the *North American Specification*, the following changes and improvements or additions have been made:

- All examples utilizing the Direct Strength Method are now identified at the edge of the page.
- Several new design examples have been adapted from the *AISI Direct Strength Method (DSM) Design Guide* to further illustrate the Direct Strength Method provisions in the *Specification*:
 - (a) Determination of flexural and axial capacities of C-Sections with and without lips (Examples I-8B, I-9B, II-1B, II-4B, II-6B, and III-1B).
 - (b) Determination of the effective moment of inertia at service load level of a C-Section with lips (Example I-8B).
 - (c) Determination of flexural and axial capacities of Z-Sections with lips (Examples II-2B and III-7B).
 - (d) Determination of flexural and axial capacities of hat sections (Examples II-7B and III-9B).
 - (e) Determination of the flexural capacity for positive and negative bending of a wall panel section with intermediate stiffeners considering local and distortional buckling (Example II-16).
 - (f) Determination of the axial and flexural capacities of an unbraced equal leg angle considering global, local, and distortional buckling and minimum eccentricity (Example III-5B).
- The following design examples have been added to illustrate new design provisions in the *Specification*:
 - (a) Example I-15 illustrating inelastic reserve capacity calculations using both the Element-Based Method and the Direct Strength Method for a C-Section with lips.
 - (b) Examples II-1C and III-7C illustrating the provisions of *Specification* Section I6.1 for flexural and axial members whereby consideration of span continuity, bridging and bracing, and the stiffness provided by deck or sheathing are directly accounted for when performing elastic buckling analyses. The lateral and rotational stiffnesses are estimated using analytical approaches or research report data.
 - (c) Examples III-12 and III-13 illustrating and comparing the three methods outlined in *Specification* Section C1 of accounting for system stability and second-order effects.
 - (d) Example V-1 illustrating and comparing an iterative and closed-form ponding analysis for a simple-span purlin supported on rigid supports.
- A discussion on the topic of ponding considerations has been included in Part V, Section 5.
- An analysis subsection has been added in Part V, Section 6 describing the design and analysis methods available in *Specification* Section C1.
- Abstracts of selected CFSEI technical notes and a comprehensive listing of all relevant AISI standards, AISI design guides, and CFSEI technical notes have been included in Part V, Section 7.