

The AISC Specification includes an updated approach to reinforcement at beam-to-column connections, which can help you refine your connection design.

codewise

REINFORCING THE POINT

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TO ENSURE THE SAFETY and serviceability of a structure and to facilitate efficient bidding and awarding of projects, the structural engineer's intent must be clear and described in sufficient detail to be readily understood.

Relative to the goal of ensuring that project requirements are accurately conveyed, AISC's

Specification for Structural Steel Buildings (ANSI/AISC 303), available at www.aisc.org, has been remarkably consistent over its nearly 100-year history (it was first published in 1924). It has likewise taken a consistent approach to the bidding process via the following approach: If it is not shown, it will not be included in the bid.

The Preface of the 2016 Specification states that Section 3.1.2 (formerly Section 3.1.1) "has been improved to address better what is required for bidding when the owner's designated representative for design delegates the determination and design of member reinforcement at connections to the licensed engineer in responsible charge of the connection design." The language that has been added to Section 3.1.2 represents a refinement and an improvement, not a change in intent.

The language, "Permanent bracing, column stiffeners, column web doubler plates, bearing stiffeners in beams and girders, web reinforcement, openings for other trades and other special details, where required, shall be shown in sufficient detail in the structural design drawings so that the quantity, detailing and fabrication requirements for these items can be readily understood," first appeared in the 2000 and

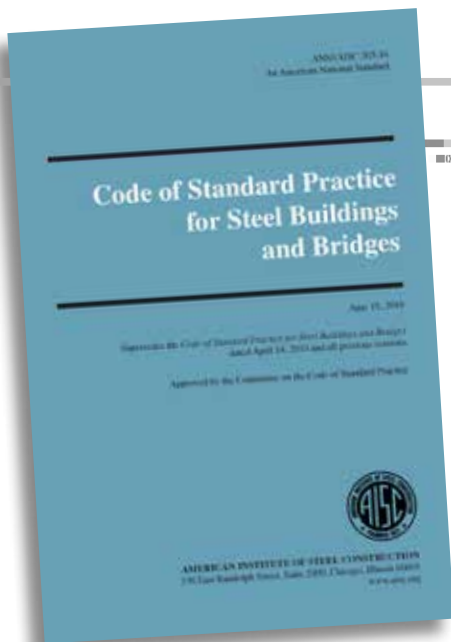
similar wording has appeared in the Specification since 1976. In fact, the same basic structure has appeared in the Specification nearly since its inception, with the 1928 version stating: "Wind bracing and special details when required shall be shown in sufficient detail regarding rivets and construction to permit an accurate estimate of cost."

For years, the Specification addressed plans and specifications for bidding as a separate item from plans and specifications issued for construction. But this changed in 1976, when the term "Specifications" was introduced and defined as: "the documents which define the responsibilities of the parties involved in bidding, purchasing, supplying and erecting structural steel. Such documents normally consist of a contract, plans and specifications." This definition remains essentially unchanged to this day and clarifies that the structural plans and specifications are intended to convey information throughout the bidding and construction process.

Delegated Connection Design

Section 3.1.2 of the 2010 Specification (now Section 3.1.1 of the 2016 Specification) listed three options regarding connection design:

- (1) The complete design shall be shown in the structural drawings or the drawings shall be designated to be selected or completed by an experienced fabricator.
- (2) In the structural drawings or specifications, the drawings shall be designated to be selected or completed by an experienced fabricator.
- (3) In the structural drawings or specifications, the drawings shall be designated to be designed by a licensed professional engineer working for the fabricator.



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The 2010 [Specification](#) was the first version that explicitly addressed the delegation of connection design work. But of course, as with anyone who has been involved with structural steel construction knows, delegated connection design was commonplace long before 2010. Therefore, “Option 3” was added to in 2010 to reflect the best practices that had developed within the industry with regards to delegated connection design work. In the 2016 [Specification](#), Section 3.1.1 requires the engineer to designate one of three options related to connection design, and

The Contract Documents: The contract documents provide conceptual configurations of reinforcement accompanied by notes such as "1/2" STIFF. MIN." and "3/8