

**THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS** (RCSC) addresses three types of bolted joints: snug-tightened, pretensioned and slip-critical.

These joints are defined in the RCSC *Specification for Structural Joints Using High-Strength Bolts*, which is a free download at



turn-of-nut, calibrated wrench, twist-off type tension-control bolt, and direct-tension-indicator washer pretensioning.

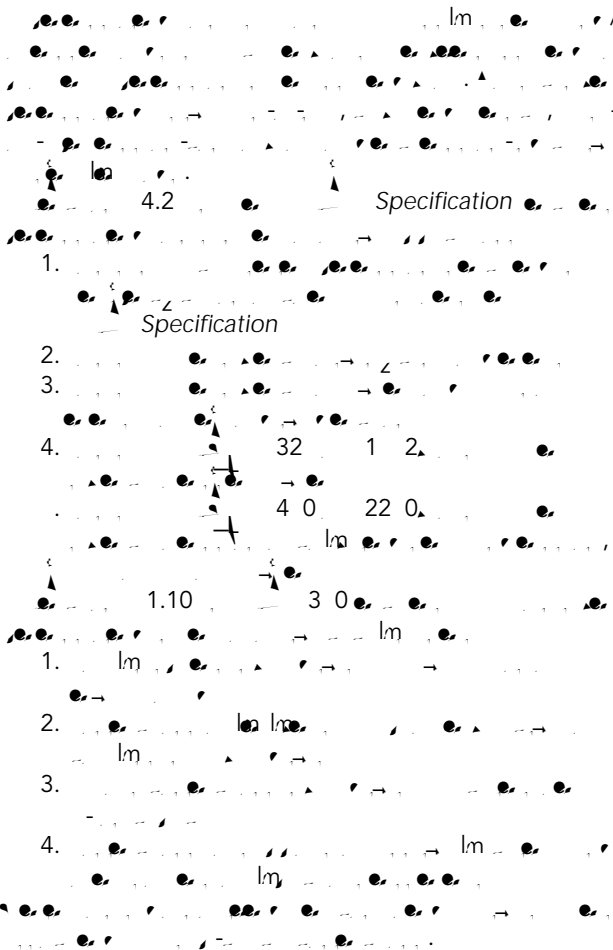
**All joint types use the same bolts, but names have changed.** Snug-tightened, pretensioned and slip-critical joints all use the same bolts; (same for N, X, and SC, too!). We are used to calling them ASTM A325 and A490. You also likely know that the twist-off-type tension-control bolt assembly equivalents are called ASTM F1852 and F2280. You also need to know that there is a new umbrella specification for all of these called ASTM F3125 and it replaces all of the previously separate standards.

This new umbrella standard is constructed in an intuitive and familiar manner. It ties the new to the old in a very direct and unmistakable way because the previously separate products are identified as grades A325, A490, F1852 and F2280. This is an easy adaptation that will not trip you up as the transition occurs in the marketplace. This was covered in the November 2015 article “Six into One” (available at [www.modernsteel.com](http://www.modernsteel.com)).

Additionally, ASTM F3125 appears in AISC 360-16, the next revision of the AISC *Specification*. Happy snugging! ■

### When do I need more than a Snug-Tightened Joint?

#### Pretensioned



#### Slip-Critical

