



**American
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Institute**

News Release

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AISI PUBLISHES NEW RESEARCH REPORT ON STRENGTH OF STEEL-TO-STEEL SCREW CONNECTIONS—UPDATE TO PROVISIONS

WASHINGTON, D.C. – The American Iron and Steel Institute (AISI) has published a new research report that reviews the existing provisions of AISI S100-16, *North American Specification for the Design of Cold-Formed Steel Structural Members, 2016 Edition*, for screw connections loaded in shear and tension (but not combined actions). A summary of the research project, findings and analysis are published in “RP19-1: Strength of Steel-to-Steel Screw Connections – Update to Provisions.” A free download is [available here](#) (82 pages).

The project was sponsored by the American Iron and Steel Institute and the Steel Deck Institute. The research was conducted by Thomas Stevens at the Engineering School of Sustainable Infrastructure and Environment at the University of Florida; Jennifer Bridge, Ph.D., University of Florida; and Thomas Sputo, Ph.D., P.E., S.E., SECB, technical director of the Steel Deck Institute. The study performed a comprehensive analysis of available steel-to-steel screw connection strength test data totaling 702 shear tests, 143 pull-over tests, and 335 pull-out tests. The tested strength of these connections was compared to the predicted strength from the existing strength equations in AISI S100-16. The validity of the existing equations was evaluated based on how well the predicted strengths matched the tested strengths.

“The analysis resulting from this study provides recommended adjustments to the equations, factors of safety and/or resistance for screw connections loaded in shear and tension (but not combined actions),” said Jay Larson, P.E., F.ASCE, managing director of AISI’s Construction Technical Program. “Through the reevaluation of existing test data based on different limit states, the researchers

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recommended the adjustments to the safety and resistance factors for pull-over limit state and also recommended the revision to the strength prediction equation and the safety and resistance factors for pull-out limit state. We appreciate the work undertaken by the University of Florida team and the funding support provided by the Steel Deck Institute.”

AISI serves as the voice of the North American steel industry in the public policy arena and advances the case for steel in the marketplace as the preferred material of choice. AISI also plays a lead role in the development and application of new steels and steelmaking technology. AISI is comprised of 19 member companies, including integrated and electric furnace steelmakers, and approximately 120 associate members who are suppliers to or customers of the steel industry. AISI's codes and standards work is conducted under the Construction Market Council of AISI. For more news about steel and its applications, view AISI's website at www.steel.org. Follow AISI on [Facebook](#) or Twitter ([@AISISSteel](#)).

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