



**American
Iron and Steel
Institute**

News Release

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AISI PUBLISHES NEW REPORT ON RESISTANCE OF ARC SPOT WELDS LOADED IN SHEAR AND TENSION FOR BUILDING DESIGN AND CONSTRUCTION

WASHINGTON, D.C. – The American Iron and Steel Institute (AISI), in partnership with the Steel Deck Institute, has completed a project to evaluate provisions for determining the strength of arc spot welds included in AISI S100-12, *North American Specification for the Design of Cold-Formed Steel Structural Members, 2012 Edition*. These provisions have not been revised since 1999. Since then, four new research studies have created and tested arc spot welded connections, considerably expanding the database of available tests. Details of the testing and results are included in a report titled: “RP16-1: Resistance of Arc Spot Welds – Update to Provisions.” A free download is [available here](#) (100 pages).

The project team, which included members from the University of Florida and the Vulcraft Division of Nucor, undertook a reconsideration of both the strength equations and the resistance and safety factors using the enlarged database. They performed a comprehensive analysis of the entire arc spot weld database for the study.

“The researchers found that considering the expanded database would allow more favorable resistance and safety factors,” said Jay Larson, P.E., managing director of AISI’s Construction Technical Program. “They also identified equations and limitations that may need to be altered in order to more accurately predict arc spot weld connection strength. These results are significant enough that we anticipate they will impact the provisions in future editions of AISI S100, as well as guide future research and development efforts undertaken by the steel industry.”

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Larson commented that the project was one of four winning research proposals submitted to AISI's Standards Council for its 2015 Small Project Fellowship Program. Projects are selected based on their potential for long-term impact on the industry; steel industry engagement and co-funding; and results for the partners involved, which include AISI's Standards Council, the student conducting the research, and the academic institution affiliated with the student.

AISI's codes and standards work is conducted under the Construction Market Council of the Steel Market Development Institute (SMDI), a business unit of AISI, which oversees the industry's investment in advancing the competitive use of steel by meeting the demands of the marketplace. For more information on SMDI's Construction Market program, visit www.buildusingsteel.org. Follow SMDI Construction on Twitter [@BuildUsingSteel](https://twitter.com/BuildUsingSteel).

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 125 associate members who are suppliers to or customers of the steel industry. For more news about steel and its applications, view AISI's website at www.steel.org. Follow AISI on [Facebook](https://www.facebook.com/AISISTeel) or [Twitter](https://twitter.com/AISISTeel) (@AISISTeel).

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