

The AWS Alaska Section has been invited to join the Alaska DOT&PF for the final presentation of a DOT&PF Research Project related to rebar welding. The meeting will be hosted online on November 20, 2025 from 9:00-10:30. The Microsoft Teams link to join the meeting is below. Any questions can be sent to alaska@awssections.org or cristina.demattio@alaska.gov

Capacity and Acceptance Criteria of Welded Splices on Cold-Bent Reinforcing Steel

Project Summary:

Cold-bent reinforcing steel hoops and spirals are critical components in Alaska's concrete-filled pipe pile bridge systems, especially in seismic regions. Current welding codes (AWS D1.4:2018) prohibit welding within two bar diameters of a bend, yet this practice has been used for decades without reported failures.

This research, conducted by **The Ohio State University** in partnership with the Alaska Department of Transportation & Public Facilities, investigated whether welding on cold-bent ASTM A706 Grade 60 reinforcing steel adversely affects mechanical performance. The final presentation will provide an overview of the project, findings, and recommendations.

Researchers:

Dr. Carolin Fink, Assistant Professor of Welding Engineering at The Ohio State University, brings over fifteen years of experience studying how welding affects the strength and performance of metals used in demanding applications. Dr. Fink is internationally recognized for her research in welding metallurgy and has received top honors from both the American Welding Society and the International Institute of Welding. She leads several major projects funded by the National Science Foundation, the Office of Naval Research, and industry partners. Her work has helped to advance the science of welding and modern manufacturing.

Jacob Stickle, Graduate Researcher in Welding Engineering at The Ohio State University. Jacob's work focuses on welding and fabrication processes and how they affect the strength and reliability of steel used in transportation structures. He played a leading role in this project, conducting testing and analysis on welded reinforcing steel to help ensure Alaska's bridge systems remain safe and durable. His expertise in welding metallurgy and materials performance has been key to advancing this research.

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