



Impact by Design: Advancing Steel Innovation

Real Stories. Real Impact. Real results.

Fast Facts | Automotive

Need: Ultra-high-strength cold-rolled 1470 MPa steel for advanced vehicle platforms (not yet available in the U.S.)

Challenge:

- LME (Liquid Metal Embrittlement) issues in spot welding
- Required fast development for new platforms

Our Response:

- Developed and launched the first U.S. cold-rolled 1470 grade
- Partnered with the customer to refine chemistry and eliminate LME issues

Impact:

- Improved weldability
- Reduced weight
- Enhanced performance
- Industry recognition for innovation

Challenge

A major global automaker set out to incorporate next-generation advanced high-strength steels into its new vehicle platforms — materials that could reduce weight without compromising safety or performance.

The automaker needed a cold-rolled 1470 MPa grade for stamping applications, a product not yet available from any U.S. supplier. The challenge intensified when early trials revealed weld integrity issues related to Liquid Metal Embrittlement (LME), which can occur when zinc coatings react with highly alloyed materials during spot welding.

Choice

The automaker turned to U. S. Steel to help engineer a new solution. Our development team collaborated closely with their engineers to rapidly prototype and qualify a domestic cold-rolled 1470 MPa steel, becoming the first to bring this capability to market in the U.S. When LME concerns emerged, our teams went back to the lab, modifying the material's chemistry to improve weldability and eliminate cracking.

Outcome

The re-engineered steel met every requirement for strength, formability, and weld performance. The automaker successfully implemented the new material into production, achieving lighter, stronger body structures and more efficient manufacturing processes.

The collaboration was recognized with an industry Technology and Development Award, highlighting how partnership and innovation deliver measurable Impact by Design.

Ready to see what's possible? Talk with your U. S. Steel representative to see how our SteelWorks360SM Team can help turn your challenge into results.