The following is a list of publications that our engineers have contributed to. You may click on the Society of Automotive Engineers (SAE) number to read an abstract and order the paper from SAE. Extensive summaries are available for articles that have a "(Full Summary)" link next to the citation.

Technological Papers

“Sheet Metal Shearing and Edge Characterization of Dual Phase Steels,” IDDRG 2009, June 2009, Golden, Colorado. X.M. Chen (U. S. Steel), C. Du (Chrysler), X. Wu (Wayne State University), X. Zhu (LSTC), and S.D. Liu (Generality).


“Three-Point Bending Crash Performance of Advanced High Strength Steels,” SAE technical paper # 2009-01-0797, SAE 2009 World Congress, April 2009, Detroit, MI. T.M. Link (U. S. Steel), C. Jensen (Univ.
Texas at El Paso).

“Development of Shear Fracture Criterion for Dual-Phase Steel Stamping,” SAE technical paper #2009-01-1172, SAE 2009 World Congress, April 2009, Detroit, MI. D. Zeng, Z.C. Xia (Ford), H-C Shih, and M.F. Shi (U. S. Steel).

“Bake Hardening Effect of Dual Phase Steels,” SAE technical paper #2009-01-0796, SAE 2009 World Congress, April 2009, Detroit, MI. S. Hill, S. Kuhlman (Univ. of Dayton Research Institute), K. Wang (GM), J. Belwafa (Ford), and X.M. Chen (U. S. Steel).

“Results of Auto/Steel Partnership (A/SP) Steel Tube Hydroforming Materials and Lubricants Experimental Projects,” SAE technical paper # 2009-01-1390, SAE 2009 World Congress, April 2009, Detroit, MI. R. Soldaat (ArcelorMittal), J. Alghanem (Chrysler), S. Kernosky (Ford), T. Stoughton (GM), L. Reyes (AK), and X.M. Chen (U. S. Steel).


“Influence of Weld Process Parameters on the Geometric Variability of the Gas-Metal Arc Welds,” SAE technical paper # 2009-01-1549, SAE 2009 World Congress, April 2009, Detroit, MI. R. Mohan (Severstal), J.F. Bonnen (Ford), E. Young (Roman Engineering), A. Khosrovaneh (GM), M. A. Amaya (Chrysler), T.M. Link and H-C Shih (U. S. Steel).

“Cross-Section Optimization for Axial and Bending Crushes Using Dual Phase Steels,” SAE technical paper # 2008-01-1125, SAE 2008 World Congress, April 2008, Detroit, MI. G. Chen, M.F. Shi (U. S. Steel), and T. Tyan (Ford).


“AHSS Forming Simulations for Shear Fracture and Edge Cracking,” 2008 AISI Great Design in Steel Seminar, April 2008, Livonia, MI. X.M. Chen (U. S. Steel) and D.J. Zhou (Chrysler).

“Cross Section Optimization for Axial and Bending Crushing Using AHSS,” 2008 AISI Great Design in Steel Seminar, April 2008, Livonia, MI. G. Chen (U. S. Steel).


“Mass Efficient Cross-Sections Using Dual Phase Steels For Axial and Bending Crushes,” SAE technical paper # 2007-01-0978, SAE
2007 World Congress, April 2007, Detroit, MI. G. Chen, M.F. Shi (U. S. Steel), T. Tyan (Ford).


“Correlation of FEA Prediction and Experiments on Dual-Phase Steel Automotive Rails,” 2007 Numiform, June 2007, Porto, Portugal. C. Du (Chrysler), X. M. Chen (U. S. Steel), T. Lim (Dofasco), T. Chang (Severstal), P. Xiao and S.-D. Liu (Generalety).

“Methodology for Control Springback and Die Temperature In Stamping AHSS,” Materials Science and Technology 2007 Conference, September 2007, Detroit, MI. H-C Shih (U. S. Steel).


“Hydroforming Simulation of High Strength Steel Tubes,” SAE
technical paper # 2006-01-0545 , SAE 2006 World Congress, April 2006, Detroit, MI. X.M. Chen and M. F. Shi (U. S. Steel), K. Watanabe, Y. Hayashida, Y. Omiya (Kobe).


“An Overview of the Resistance Spot Welding Behavior of Dual Phase Steels used in Automotive Applications,”


"Springback Prediction on Slit-Ring Test”, NUMISHEET Conference 2005, Detroit, MI. X.M. Chen, M. F. Shi, United States Steel Corporation; F. Ren and Z.C. Xia, Ford Motor Company


McGuire, Guofei Chen, and Ming Chen, U. S. Steel.


“Automotive Applications of Stretch Flange High Strength Steel”, SAE Technical Paper # 2003-01-0690, SAE 2003 World Congress, March 2003, Detroit, MI. X. M. Chen, P.M. McKune, D.G. Prince, United States Steel Corporation

“Effects of Material Bending and Hardening on Static Dent Resistance,”


“Tensile-Shear Spot Weld Fatigue Behavior of High Strength Steels,” 45th Iron and Steel Society MWSP Conference Proceedings, Vol. XLI,


“Formability Performance Comparison between Dual Phase and HSLA Steels,”


Drouin, U. S. Steel; T. N. Seel, R. D. Dell’Osso, P. Belanger, DaimlerChrysler.


“Cost and Weight Reduction and Stiffness Improvement in a Liftgate through the use of Non-linear Laser Welded Blanks,”


"A Study on Uniformity of Pre-applied Lubricants from Mill Application to Draw Die"


“Quasi-Static Dent Depth Simulation using Non-Linear FEA,” SAE