

A New Approach to Optimize the Performance of Linepipe Steels Using Novel High Temp Processing

written by Lauri Moon | March 6, 2019

Please join us for “A new approach to optimize the performance of linepipe steels using novel high temperature processing” by the team led by Dr. C. Isaac Garcia, Professor, Mechanical Engineering & Materials Science, University of Pittsburgh with U.S. Steel. This project is supported by a 2018 DCED Manufacturing PA Innovation Program Award.

The continuous demand by the oil and gas industries to use steels with superior and consistent mechanical properties in a wide range of wall-thicknesses and diameters provides both exceptional opportunities and challenges to steel companies located in Pennsylvania. The opportunities are originated from the prospect to form a unique working partnership between a world class local steel company such as United States Steel Corporation and the University of Pittsburgh in the development of high strength low alloyed (HSLA) steels for linepipe applications. Success in this project depends on fundamental knowledge of the intrinsic relationship between the alloy design, thermomechanical processing (TMP), and the desired microstructure to attain the required mechanical properties of the HSLA steel system proposed in this project. The success of the proposed work will be based on an approach called “Intense Recrystallization Control Rolling” (IRCR) to the high temperature processing of steels for linepipe applications. The new approach will enhance the performance, reduce microstructural variability, save energy due to less rejections and will develop a more robust processing-product route.

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