OAK RIDGE NATIONAL LABORATORY
Managed by UT-Battelle for the Department of Energy

High-Strength Weld Wire for Hydrogen Embrittlement Control

Disclosure Number

201403240

Technology Summary

A special high-strength welding filler wire is formulated to mitigate hydrogen induced cracking in welding of high-strength steels, which is a persistent issue in a broad range of industry sectors (oil/gas, chemical, shipbuilding, fossil and nuclear energy, and military). A solution to this problem will enable application of these steels widely. The present invention makes it possible for “in-welding-process” HIC control, thereby eliminating the need for pre or post weld heat treatments to reduce the fabrication cost, and enabling the use of high-strength steels based on the application needs without the concerns of HIC.

Inventor

FENG, ZHILI
Materials Science and Technology Div

Licensing Contact

DETRANA, ALEXANDER G

UT-Battelle, LLC

Oak Ridge National Laboratory

Rm 139, Bldg 4500N6196

1 Bethel Valley Road

Oak Ridge, TN 37831

Office Phone: (865) 576-9682

E-Mail: DETRANAAG@ORNL.GOV