Tools and guides to facilitate welding of duplex stainless steel

A workshop to summarize and discuss the findings in the Vinnova projects:

DUWELTOOL - Prediction of ferrite fraction and precipitation of sigma phase in duplex stainless steel welds

SuperAVON – Avoidance of nitride precipitation during duplex stainless steel welding

February 20th, 2020, Jernkontoret Stockholm, 10:00.

To register to the seminar, use the link

Arrival & coffee (09.30 – 10.00)

Introduction (10.00 – 10.10)
Staffan Hertzman

Background – Duplex stainless steels, industrial views and standards (10.10 – 11.15)
Duplex stainless steels
Paul Janiak, Outokumpu Stainless AB

Welding of duplex stainless steels
Ebrahim Harati, Elga

Standards related to welding of duplex stainless steels
Ravi Vishnu, Outokumpu Stainless

Duplex in the nuclear industry
Hannes Löfgren, Forsmarks Kraftgrupp.

Views of precipitation in the manufacturing of advanced components in duplex
Fredrik Falkenberg, Alfa Laval

Methodology – DUWELTOOL and SuperAVON projects (11.15 – 12.30)
DUWELTOOL: Ferrite measurements and general methodology
Vahid Hosseini, Högskolan Väst

Methodology within SuperAVON – Gleeble simulations, microstructure analysis, simulation
David Lindell, Swerim

In-situ studies of phase transformations during welding using synchrotron radiation
Shirin Nouhi, Swerim

Lunch (12.30 – 13.15)

Med stöd från: VINNOVA Energimyndigheten formas STRATEGISKA INNOVATIONS-PROGRAM

Results and discussion (13.15 – 14.45)
Simulation of microstructure evolution during welding
Sten Wessman, Högskolan Väst and Niclas Stenberg, Swerim

Simulation of nitride precipitation during welding
Niklas Pettersson, Royal Institute of Technology

A web-based tool for the prediction of ferrite content welds
Peter Norman, Svetskommissionen

Properties of nitride-containing microstructures and conclusions SuperAVON in general
David Lindell, Swerim

Coffee (14.45 – 15.00)

Future – where do we go from here? (15.00 – 15.30)

Concluding remarks (15.30 – 15.40)

This workshop is initiated as a part of the projects SuperAVON "Avoidance of detrimental nitrides in duplex stainless steels" and DUWELTOOL "Digitalt verktyg för prediktering av egenskaper i svetsar i duplexa material". The projects are financed by VINNOVA under contract 2016-02822 and 2016-02834 respectively within the Strategic Swedish Innovation Programme for Metallic Materials. The participating companies Outokumpu Stainless AB, AB Sandvik Materials Technology, voestalpine Böhler Welding AB, Alfa Laval Tumba AB, Thermo-Calc Software AB, Nordic Flanges AB, Elga, Svetskommissionen, Forsmarks Kraftgrupp, Participating are also KTH Royal Institute of Technology, Högskolan Väst and Swerim AB, and the project is run under the supervision from Jernkontoret and Technical area TO 43 Stainless steels.