

Tuesday 1 November 2022

8:30	Visit the exhibition floor	
9:30	Welcome by Duplex World Chairman <i>Mr Bruce Cowe, Manager Offshore and New Energies Corrosion Team, TotalEnergies</i>	
9:45	Keynote: The success of duplex in chemical tanker ships <i>Johnny Eliasson, Shipyard, Projects, & Alterations Superintendent, Chevron Shipping Company LLC</i>	
10:15	Future opportunities for duplex stainless steel: infrastructure, mitigating the effects of climate change, and coastal/tsunami defences. <i>Tim Collins, Secretary-General, worldstainless</i>	
10:45	Coffee & networking on the exhibition floor DOME 1	DOME 2
11:30 – 13:00	<p>OPPORTUNITIES & CHALLENGES FOR DUPLEX IN RENEWABLE ENERGY This session will focus on the role of duplex stainless steel in renewable energy and the opportunities and challenges involved with it. Moderator: <i>Marie Louise Falkland, Outokumpu</i></p> <p>Duplex opportunity in heat exchangers for alkaline electrolysers - green H₂ production. <i>Jonas Höwing, Sandvik Material Technologies</i></p> <p>Duplex in marine structures for new energy - opportunities and challenges. <i>Lena Wegrelius & Mia Liimatainen, Outokumpu</i></p> <p>Material selection is critical to finding the best solutions from economical & environmental perspectives. <i>Markus Pirkkalainen & Lari Brask, Stalatable Oy</i></p>	<p>LESSONS LEARNED The session presents case studies highlighting successful solutions utilising duplex stainless steels. Moderator: <i>Raymond Cordewener, Consultant</i></p> <p>Positive lessons learned from experience with large wall thickness duplex components. <i>Hervé Marchebois, TotalEnergies</i></p> <p>Failure cases of super duplex stainless steel pump components. <i>Janardhan Saithala, Petroleum Development Oman</i></p>
13:00	Lunch break 13:00 – 14:00	
14:00-15:30	<p>WELDING & ADDITIVE MANUFACTURING Duplexes play an essential role in many industrial sectors, enabling the fabrication of a wide range of parts and components through conventional welding methods and additive manufacturing (AM). However, these processes can affect mechanical and corrosion performance if the materials and processes are not well understood. This session shares state-of-the-art knowledge of successes and challenges with such fabrication processes. Moderator: <i>Kasra Sotoudeh, TWI</i></p> <p>On the characterization of the heat-affected zone in duplex stainless steel welds. <i>Balázs Varbai, Budapest University of Technology and Economics</i></p> <p>Enhanced study of 25% Cr Super Duplex welds' properties applying different welding approaches. <i>Lars Schemmann, Salzgitter Mannesmann Forschung GmbH</i></p> <p>Effect of Nickel and Cobalt addition in duplex steel welded with pulsed Nd:YAG laser. <i>Irene Calliari, University of Padova.</i></p> <p>Complex geometry in duplex steel components. <i>Peter Kjeldsteen, Sintex</i></p>	<p>CASTING & FORGING This session will focus on mechanical and corrosion properties of duplex castings and forgings with influence on microstructure. Moderator: <i>Barinder Ghai, Sandvik Material Technologies</i></p> <p>Influence of hot work reduction ratio on microstructure and mechanical properties in SAF 2507® material. <i>Munir Al-Saadi, Sandvik Material Technologies</i></p> <p>Investigation of the mechanical and corrosion properties in cast hyper duplex stainless steel with heavy section size. <i>Lina Grajales, Highland Foundry</i></p>
15:30	Coffee break	
16:00 – 17:30	<p>ASSURING IN-SERVICE RELIABILITY: ENHANCED TESTS AND STANDARDS FOR QA/QC Standardisation has reached a good level of maturity which enables further consolidation and selection of efficient tests for manufacturing qualification and QA/QC. Moderator: <i>Joelle Greenwood, Mannesmann Stainless Tubes</i></p> <p>Direct comparison of ferric chloride test methods to detect sub-optimal duplex stainless steel microstructures. <i>Hervé Marchebois, TotalEnergies</i></p> <p>Corrosion testing of duplex stainless steels – a novel test method to assess and rank susceptibility to localised corrosion at ambient temperature. <i>Dirk Engelberg, University of Manchester</i></p> <p>History and recent development of standards – NORSOK M-630/M-650 and ISO 17781/17782/17703. <i>Hans Martin Jähren, Equinor</i></p>	<p>CORROSION This session looks at how to tackle corrosion issues in a range of applications by utilising duplex stainless steel. Moderator: <i>Thomas Ladwein, Consultant</i></p> <p>Duplex stainless steels and chloride SCC – how resistant are they? <i>Roger Francis, Nickel Institute Consultant</i></p> <p>Evaluation of U-bend and integral finned duplex and super duplex stainless steel heat exchanger tubes' resistance to pitting, chloride and sulfide stress corrosion cracking in refinery services. <i>Bernardo Siza Vieira, Sandvik Materials Technology</i></p> <p>Uremium29: the complete solution for urea plants. <i>B. Calleja, Tubacex Innovación AIE</i></p>
18:00	Buses leave for the networking dinner on board the SS Rotterdam	

Timetable subject to change: please check the event website for updates.

Wednesday 2 November 2022

08:30	Visit the exhibition floor DOME 1	DOME 2
9:30 – 11:00	<p>METALLURGY OF DUPLEX STAINLESS STEEL This session focuses on changes in the microstructure and properties of duplex stainless steels when exposed to higher temperatures, during short terms exposures, or fabrication. Moderator: <i>John Houben, ExxonMobil</i></p> <p>Discussion of some of the factors influencing sensitisation behaviour between 300°C to 500°C in duplex stainless steels. <i>Jan Jonsson, Outokumpu</i></p> <p>Using kinetics to avoid sigma phase formation in hyper duplex stainless steel. <i>Andres Acuna, Ohio State University</i></p> <p>The use of 2205 DSS during short-term exposure (100 - 1000 hours) to temperatures in the 350 - 400°C range. <i>Dr Arijit Poddar, Jindal Stainless R&D</i></p>	<p>LEAN DUPLEX – USE AND PROPERTIES In this session on LDSS different views on application and the influence of surface condition on corrosion resistance will be discussed. Moderator: <i>Jan Links, Dow Chemicals</i></p> <p>The benefits of the physical properties of lean duplex in improving building thermal insulation. <i>Florent Krajcarz, Aperam Stainless Europe</i></p> <p>Pitting corrosion initiation of UNS S32202 welds. <i>Pauline Huguenin & Veronica Scheiber, Aperam Stainless Europe</i></p> <p>Umbilical applications: material selection and adoption of duplex into the umbilical tube family. <i>Dr Xiaoxue An, Technip FMC Umbilicals</i></p>
11:00	Coffee break	
11:30 – 13:00	<p>NEW APPLICATIONS This session addresses challenges and new opportunities for the application of duplexes, focusing on providing a better understanding of service performance and associated limitations. Moderator: <i>Dirk Engelberg, University of Manchester</i></p> <p>Duplex application for underwater renewable energy project – a case study. <i>Josh Sheedy, Arcus Wire Group</i></p> <p>The advantages of using 2507 super duplex wire as slickline with test laboratory data; advantages and service experience. <i>Geoff Warburton, GW Consulting/Wilco Oilfield Services</i></p> <p>Innovations in the application of duplex screws, bolts and fittings. <i>Anders Soderman, Bumax</i></p>	<p>WELDING – AN INTERACTIVE WORKSHOP Hosted by <i>Raymond Cordewener, Consultant & Loic Armadu, Friedlander ORTEC Group.</i></p> <p>This session combines short videos, slides and Q&A in an interactive mix that encourages audience participation. Because welding is a new heat treatment to the base material/ welding layer below, it can have an influence on the microstructure, phases, ferrite content, mechanical values, hardness and corrosion of the steel. The hosts will also present information on preheating to avoid a high ferrite content in the first layer/path, and the correct conditions for additively manufacturing and welding duplex.</p>
13:00	Lunch 13:00 – 14:30	
14:30	<p>FERRITE MEASUREMENT An overview of methods for ferrite measurement methods will be given, with some relevant examples of applications. Moderator: <i>Dr Willem Maarten Haaften, Shell Global Solutions International</i></p> <p>Ferrite measurements using different methods. <i>Briony Holmes, TWI</i></p> <p>Variations of ferrite content and sampling setting. <i>Jan Jonsson, Outokumpu</i></p>	<p>DOCTOR DUPLEX - OPEN TO ALL</p> <p>All visitors, delegates and exhibitors are invited to pose questions to the duplex experts in this unique opportunity to solve your materials-related problems.</p>

