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Issue 4: February | 2012

Edmonton Chapter News

Last Month

ASM January Dinner Meeting Recap
Patrick Lysz

The technical presentation from January 26th entitled "Steam Generator Inspection" by J.J. Letcavits of American Electrical Power was enjoyed by over 40 attendees. J.J. gave a short overview of recent developments with ASM International before he launched into the gritty details of Steam Generator inspection. A brief introduction to the construction and purpose of various components in the generator was provided and the different inspection methods used to assess generator health were explained. Common required repairs and methods of restoring corroded and non-functional components back to a working condition were also discussed. Various issues were presented and a question period was peppered with comparisons of inspection requirements in Canada and the United States as well as materials problems that are shared with industry here.

ASM Edmonton would like to thank J.J. for agreeing to present his topic and for travelling from Ohio to visit us.

ASM Edmonton Awards Chair Rob Roy presenting the speaker gift to J.J. Letcavits in thanks for his presentation

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February Events

Technical Dinner Meeting

Our fourth technical dinner meeting will be jointly run with the American Welding Society (AWS). We will be welcoming Joel Pepin from Alberta Innovates – Technology Futures. Joel will be speaking about *An Overview and Introduction to Submerged Arc Welding and Waveform Manipulation.*

Abstract:
The submerged arc welding (SAW) process can achieve high productivity and deep penetration, making it an important process for joining large diameter and/or thick-walled components such as pressure-vessels, linepipes, bridges, and ships. SAW typically uses direct current electrode positive (DCEP) polarity because of power source availability, good arc stability, and deep penetration. Greater deposition rates are possible with direct current electrode negative (DCEN) polarity, but can result in reduced penetration and arc stability.

Alternating current (which shifts polarity rapidly from DCEP to DCEN) has traditionally employed a sinusoidal waveform, resulting in less time at peak current (reducing wire deposition) and more time at periods of low voltage (reducing arc stability further). However, the use of a square waveform mitigates both issues in AC SAW. Additionally, modern SAW power sources allow the welding operator to manipulate waveform variables (such as balance, offset, and frequency), providing greater control over deposition rates and penetration depths.

An overview of the SAW process will be provided, as well as background information on different current polarities. Welding waveform manipulation will be introduced, and preliminary trends will be presented that relate waveform variables to both weld quality and productivity.

About the speaker:
Joel Pepin graduated from the University of Alberta with a B.Sc. in Materials Engineering in 2005. He worked at Master Flo Valve for over two years, where he was exposed to a wide range of materials applications, including forgings, castings, specialized heat treatment operations, polymers, and metal-matrix composites. Joel returned to the University of Alberta in 2007 to earn his M.Sc. in materials engineering; his thesis project was a collaborative effort with EVRAZ Inc. NA (formerly IPSCO Steel), where he was able to focus on the effects of submerged arc welding (SAW) on microalloyed steels. Joel joined Alberta Innovates – Technology Futures (AITF) in the fall of 2008, and is currently a researcher in the Welding Engineering group. Joel is a former chairman of the AWS – Alberta Section, and is the current chairman of the Edmonton Association of Technical Societies (EATS).

Dates and Times:

Date: Thursday March 1st, 2012
Registration: 6:00 PM
Dinner: 6:30 PM
Technical Program 7:30 PM
Location: University of Alberta Faculty Club
RSVP by February 28, 2012 to asm.edmonton@gmail.com

Upcoming Events

2011-2012 Events

Fri, February 24th – Educational Seminar
Topic: Welding Processes and Microstructure, Failure Analysis and Inspection Techniques of Welds
Location: 250 Karl Clark Road (AITF)

Thurs, March 1st - Joint Dinner Meeting with AWS
Speaker: Joel Pepin
Topic: Submerged Arc Welding
Location: U of A Faculty Club

Thurs, April 5th - Dinner Meeting
Speaker: TBA, Sintra Engineering
Topic: TBA
Location: U of A Faculty Club

Friday, May 4th - Industry Tour
Location: AlleyKat Brewery

Thurs, June 7th - Annual General Meeting
Location: U of A Faculty Club

Chapter Sustaining Members

Please take a moment to visit the websites of our chapter sustaining members

Altasteel Ltd.
Argus Machine Co. Ltd.

ASM Edmonton Course Update

Reg Eadie
The ASM Edmonton Failure Analysis Course began on January 12, 2012. The course has a total of 27 registrants, consisting of 21 industry members and 6 students. Of the 27 registrants, 18 will be new members. The ASM Edmonton Executive would like to welcome these 18 members and hope they will participate in upcoming ASM Edmonton chapter activities.

Additionally, the ASM Education Course Chair would like to gauge the interest in an educational course focused on stainless steels from our members. If you are interested in such a course or have any suggestions for course topics, please contact us through the hyperlink below.
Contact

ASM Edmonton Executive

2011-2012 ASM Edmonton Executive

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Costs:

Students: $10
Professional Members: $25
Non-Members $35

Payment can be made by cash or cheque. If you would like to pay by credit card, there will be a nominal fee of $1.50 to cover processing cost. For more details regarding this payment option please contact us at asm.edmonton@gmail.com.

Monthly Trivia

Three common grades of austenitic stainless steel are 302, 316 and 304. These alloys contain nickel and chromium for corrosion resistance. Which alloy has the highest corrosion resistance?

ASM Educational Seminar

ASM Educational Seminar
Katherine Jonsson and Nicole-Lee Robertson

The focus of this one day seminar is to introduce various welding processes and weld microstructures, failure analysis of welds and weld inspection techniques including demonstrations of common inspection equipment. ASM Edmonton is pleased to invite five different speakers, all prominent welding specialists in Edmonton, to deliver hour-long presentations on five different areas to provide a well-rounded and informative seminar on the broad and diverse topic of welding in Alberta. The one day seminar runs from 8:30 AM – 3:30 PM (registration beginning at 8 AM) and includes breakfast, lunch and snacks. If you are interested in more information or registering for the seminar please click here. Registration will be limited to 35 spots, so reserve your spot soon!

Trivia Answers

316 stainless steel has the highest corrosion resistance, followed by 304 and finally 302. The increased corrosion resistance of 316 is due to a 2-3 wt% addition of molybdenum which improves general resistance to attack and deterioration.

[courtesy of Katherine Jonsson]

Feedback

The ASM Edmonton Executive is continually working to improve this newsletter in order to better serve our members. If you have any suggestions or comments regarding the newsletter or if you would like anything included please contact us here.

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