



Modern Electric Furnace Steelmaking

A Practical Training Seminar

6–10 February 2017
Fort Worth, Texas, USA
The Dallas/Fort Worth Marriott Solana





About the Program

This course covers safety, the basics of electrical and mechanical features of electric arc furnaces, refractories, and the role of raw materials. The program will explore the fundamentals of electric furnace steelmaking technology, the use of energy inputs, the steelmaking process, electrodes and environmental concerns for electric steelmaking. Attendees will also have the opportunity to learn how their operation compares to industry benchmarks, and to hear about the latest developing technologies. The midpoint of the conference includes a plant tour followed by an expert roundtable and reception with an open forum to discuss questions and challenges.

Who Should Attend

Electric steelmaking attendees who wish to gain a fundamental understanding of the electrical, thermomechanical and technical aspects of modern electric furnace steelmaking. EAF furnace operators, maintenance personnel, upstream/downstream personnel, metallurgists and suppliers would benefit from this comprehensive seminar. Specialty steelmaking attendees include meltshop employees, foundry workers, process engineers, new employees and suppliers.



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YOUNG PROFESSIONAL**

Visit AIST.org/byoyp for more information

Organized By

AIST's Electric Steelmaking Technology Committee.

Schedule of Events

Monday, 6 February 2017

4–6 p.m.
Registration

5–6 p.m.
Welcome Reception

Tuesday, 7 February 2017

7 a.m.
Registration and Continental Breakfast

8 a.m.
Keynote Speaker
Fabio Shimono, Gerdau Midlothian Mill

8:30 a.m.
Safety — Past/Present/Future
John Panconi, BISCO Refractories Inc.

9 a.m.
Break

9:15 a.m.
Chemistry of EAF Steelmaking
Larry Heaslip, Interflow Techserv Inc.
The chemical principles behind steelmaking in the EAF will be explained in a way that will be of interest and benefit to both those who have operating experience in steel production and those who are new to the topic.

10:30 a.m.
Break

10:45 a.m.
Chemistry of EAF Steelmaking (cont'd)
Larry Heaslip, Interflow Techserv Inc.

Noon
Lunch

1 p.m.
Chemistry of EAF Steelmaking (cont'd)
Larry Heaslip, Interflow Techserv Inc.

2:15 p.m.
Break

2:30 p.m.
Chemistry of EAF Steelmaking (cont'd)
Larry Heaslip, Interflow Techserv Inc.

3:30 p.m.
Break

3:45 p.m.
Chemical and Electrical Energy Inputs and EAF Performance
Sam Matson, CMC Americas

Wednesday, 8 February 2017

7 a.m.
Registration and Continental Breakfast

8 a.m.
Part I: EAF Designs and Operations
Jeremy Jones, CIX LLC
A review of EAF designs and various methods applied to EAFs to improve and optimize operations

9 a.m.
Break

9:10 a.m.
Part II: EAF Technologies — The Path to EAF Optimization
Jeremy Jones, CIX LLC

10:20 a.m.
Break

10:30 a.m.
EAF Operations
Zane Voss, Voss Metallurgical Solutions
The electric arc furnace provides a challenging environment to measure and control. Many times we are limited to what we can see or hear from a pulpit when the furnace is running. The discussion will include how to interpret the clues the furnace provides to drive process improvement and develop an efficient and productive EAF operation.

Noon
Boxed Lunch

12:30 p.m.

[Depart for Plant Tour of Gerdau Long Steel North America Midlothian Steel Mill](#) 

4:30 p.m.

[Reception and Roundtable Discussion](#)

Moderator: Sam Matson, CMC Americas
Panelists: Eugene Pretorius, Nucor Corp.; Stephan Ferenczy, Steel Dynamics Inc. – Structural & Rail Div.; Jeremy Jones, CIX LLC; Harriet Dutka, Magnesita Refractories

Thursday, 9 February 2017

7 a.m.

Registration and Continental Breakfast

8 a.m.

[Importance of Scrap Residual Controls](#)

Dennis Rodal, ELG Haniel Metals Corp.
Scrap is the key raw material in EAF steelmaking, and controlling residuals is essential to making quality steel.

9 a.m.

Break

9:15 a.m.

[Ladle Metallurgy Furnace — LMF](#)

Helmut Oltmann, Nucor Steel–Berkeley

10:15 a.m.

Break

10:30 a.m.

[EAF Maintenance Requirements](#)

Stephan Ferenczy, Steel Dynamics Inc. – Structural & Rail Div.

Typical electrical, mechanical and water-cooled equipment maintenance requirements will be discussed. Root-cause failure analysis techniques and practical solutions will be presented.

Noon

Lunch

1 p.m.

[EAF Industry Perspective — Past and Future](#)

Raymond Monroe, Steel Founders' Society of America

Economic conditions in recent years have had a major impact on the capital investment requirements and demand for steel products. Understanding the impact of macroeconomic policies and their legacy effects on our industry allows us to know how we got here and where we might be going in market demand for our steel products and the development of our own EAF operations.

2:15 p.m.

Break

2:30 p.m.

[Environmental Operations for the EAF](#)

Sam Matson, CMC Americas

3:45 p.m.

Break

4 p.m.

[Tap-to-Cast Operations](#)

Harriet Dutka, Magnesita Refractories

Friday, 10 February 2017

7 a.m.

Continental Breakfast

8 a.m.

[The Basics of Arc Furnace Regulation System](#)

Reinzi Santiago, Tenova Core

The session will discuss the concept of the arc furnace regulation system with emphasis on its performance relationship with harmonics, flicker and energy consumption.

9:15 a.m.

Break

9:30 a.m.

[Gas/Carbon Injection Systems](#)

Michael Grant, Air Liquide Global Management Services GmbH

This lecture will contain a practical scope describing the use of oxygen and gaseous fuels in the electric arc furnace. The importance and use of carbon injection will also be presented. The presentation will include the latest technologies of EAF burners, oxygen and carbon injection systems, as well as the general theory and strategy of their use for conventional practice and for using alternate raw materials (DRI, hot metal, etc.). A strong emphasis on the safe use of oxygen will be made.

11 a.m.

[Graphite Electrode Manufacture and Use](#)

Theodore Kurela, GrafTech International Holdings Inc.

Graphite electrodes are a key component in the operation of an electric arc furnace. This presentation explains the electrode manufacturing process as well as methods to ensure their safe and efficient use once placed into service.

Noon

Conference Adjourn

Registration

AIST Members

US\$1,095 US\$1,195

by 26 December 2016 after 26 December 2016

Non-Members

US\$1,310 US\$1,410

by 26 December 2016 after 26 December 2016

Registration Includes

A welcome reception Monday, continental breakfasts Tuesday through Friday, lunches Tuesday through Thursday, continuous breaks, reception, plant tour with bus transportation, and a course workbook or flash drive including presentations.

Hotel Accommodations

A block of rooms has been reserved at The Dallas/Fort Worth Marriott Solana. Please call the hotel at +1.800.228.9290 by 16 January 2017 to secure the AIST discount rate of US\$159 per night for single/double occupancy.

Featured Plant Tour

Gerdau Long Steel North
America Midlothian Mill



Upcoming Events

- > Scrap Supplements and Alternative Ironmaking 7
19–21 February 2017
Wyndham Lake Buena Vista > Orlando, Fla., USA
- > Rod and Bar Rolling
20–23 February 2017
The Atlanta Marriott Marquis > Atlanta, Ga., USA
- > Cold Rolling Fundamentals — A Practical Training
Seminar in conjunction with System Automation
Fundamentals
5–9 March 2017
Hyatt Regency Indianapolis > Indianapolis, Ind., USA
- > Specialty Alloy and Foundry — A Practical Training
Seminar
13–16 March 2017
The Admiral Hotel Mobile, Curio Collection by Hilton > Mobile,
Ala, USA



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