



Continuous Casting

A Practical Training Seminar

17-20 October 2016 - Memphis, Tenn., USA - The DoubleTree Hotel by Hilton Memphis Downtown

About the Course

Developed and presented with the talented resources of the Continuous Casting Technology Committee, this informative program targets the heart of steelmaking: the frontline operator. The key focus of the program is to discuss the practical aspects of casting slabs, billets and blooms, while introducing the theoretical concepts. By achieving the proper teaching balance, attendee understanding of the process is ensured without the need for a technical background. This course is a must for the progressive, informed and educated steelmaker of the future!

Registration Fees

Advance registration by 5 September 2016: Member US\$745, Non-member US\$960. Registration after 5 September 2016: Member US\$845, Non-member US\$1,060. Registration includes continental breakfasts, lunches, and continuous breaks Tuesday and Wednesday; reception Wednesday; continental breakfast Thursday; plant tour; and a course workbook or flash drive including presentations.

Sponsored By

AIST's Continuous Casting Technology Committee.



Monday, 17 October 2016

4–6 p.m.
Registration

Tuesday, 18 October 2016

7 a.m.
Registration and Continental Breakfast

8 a.m.
Historical Perspective of Continuous Casting
Jack Young, Hatch Ltd.

9 a.m.
Continuous Casting Design and Technology (Slab and Long Products)
Joseph Laughlin, SMS USA LLC, and Walt Antos, Primetals Technologies USA LLC
Presentation covering an overview of continuous casting design and technology from two original equipment manufacturers' perspectives.

9:45 a.m.
Break

10 a.m.
An Operator's Guide to Continuous Casting Flux, What It Is, What It Does and How It Is Used
Marc McClymonds, Imerys Metalcasting Solutions
An overview of continuous casting mold fluxes including key properties and functions, proper selection criteria, and application practices. Product design and composition, raw material selection, and testing will also be discussed.

11 a.m.
Initial Solidification and Oscillation Mark Formation
Brian Thomas, Colorado School of Mines

Noon
Lunch

1 p.m.
Effects of Spray Nozzles in Secondary Cooling
Stephen Swoope, Delavan, and Eric Rosenow, NALCO Water, an Ecolab Company
A review of nozzle types and their impacts on casting. An introductory level overview of basic nozzles and their operation for secondary cooling systems in the caster. The impacts of fouled nozzles related to poor maintenance schedules.

1:45 p.m.
Sources of Reoxidation and Why to Avoid
Ronald O'Malley, Missouri University of Science and Technology
To produce high-quality cast products, steel must be protected from reoxidation. Reoxidation can occur in the ladle, at secondary ladle metallurgy operation, and also in the transfer operations from ladle to tundish and tundish to the mold. Various techniques are described that can be used to minimize reoxidation.

2:45 p.m.
Break

3 p.m.
Caster Breakouts
William Emling, SMS USA LLC
Review of various causes for breakouts and discussion of systems and solutions designed to prevent them. This talk will closely follow the chapter in the *Making, Shaping and Treating of Steel, 11th Edition, Casting Volume*.

3:45 p.m.

Caster Quality Defects and Their Potential Causes

Ronald O'Malley, Missouri University of Science and Technology

The surface and internal quality of continuously cast slabs and billets is intimately linked to the caster design and to the operating and maintenance practices employed in the continuous casting process. Common causes for five classes of continuous casting defects (longitudinal cracking, transverse cracking, slivers and lamination defects, internal cracking, and segregation defects) will be reviewed and linked to these design and practice influences.

5 p.m.

Adjourn

Wednesday, 19 October 2016

7 a.m.

Continental Breakfast

8 a.m.

Mold Copper Alloys, Design and Influence of Operation Factors on Performance

Ian Bakshi, KME America Inc.

Requirements of copper molds, mold types, mold materials, operating factors affecting mold life and typical mold problems.

9 a.m.

Mold and Copper Maintenance and Coating Technologies

Chad Donovan, SMS Technical Services LLC

Discussion of continuous casting mold types and general preventive maintenance practices. Specific information will be given on the importance of mold coatings and the various options available.

10 a.m.

Break

10:15 a.m.

Caster Roll Maintenance and Overlay Technologies

Jeffrey Brower, Primetals Technologies USA LLC

11:15 a.m.

Caster Bearings – Types of Bearings, Failure Modes and Preventive Maintenance

Paul Brda and Bimal Nathwani, NSK Corp.

Presentation on bearings for continuous casting machines and related topics.

Noon

Lunch

1 p.m.

Caster Hydraulics – Failure Modes and Preventive Maintenance

Mark Cook, Yates Industries Inc.

Cylinders used in casters, failure modes, preventive maintenance and effective cylinder reconditioning programs will be discussed.

1:45 p.m.

Billet and Bloom Caster Maintenance

William Schlichting, SKW North America

This presentation describes practical experience with casting of blooms and billets in regard to maintenance issues.

2:30 p.m.

Break

For more information, visit

AIST.org/technologytraining

2:45 p.m.

Panel Discussion

Panelists: Ian Deeks, Nucor Steel–South Carolina; Ronald O'Malley, Missouri University of Science and Technology; Richard Besich, ArcelorMittal Indiana Harbor

4 p.m.

Reception

Sponsored by



Thursday, 20 October 2016

7 a.m.

Continental Breakfast

8 a.m.

 **Plant Tour of Nucor Steel Memphis Inc.**

Noon

Return From Plant Tour and Adjourn

For more information, visit

AIST.org/technologytraining