



SECONDARY STEELMAKING REFRACTORIES

A PRACTICAL TRAINING SEMINAR



ABOUT THE PROGRAM

Secondary steelmaking refractory maintenance is vital to both productivity and safety in a meltshop and caster. It is important for those involved to have a thorough understanding of the basic concepts of refractory system design. Consultants, suppliers and recognized industry experts have developed a curriculum to educate attendees on the following topics: refractory raw material selection; properties of refractories; application and limitations of refractories; theory and application of insulation; design and application of stir plugs, lances and slidegates; free opens, refractory handling, installation and preheating; ladle secondary steelmaking — LMF; vacuum degassing operations; and casting requirements and wear mechanisms.

Presentations will provide data from steelmaking operations, and attendees will benefit from the practical experience of the presenters, including the application of the latest tools and techniques being used. Open discussions will allow participants to gather additional information and network with attendees and instructors.

5-8 OCTOBER 2015
MEMPHIS, TENN., USA

THE DOUBLETREE BY HILTON MEMPHIS DOWNTOWN

SCHEDULE OF EVENTS

MONDAY, 5 OCTOBER 2015

4 p.m.
Registration

TUESDAY, 6 OCTOBER 2015

7 a.m.
Registration and Continental Breakfast

8 a.m.
WELCOME KEYNOTE SPEAKER
TONY FAULDS, NUCOR STEEL MEMPHIS INC.

8:30 a.m.
INTRODUCTIONS

8:40 a.m.
RAW MATERIALS AND BRICK
RUTH ENGEL, REFRACTORY CONSULTING SERVICES

MORE INFORMATION AT
AIST.ORG/TECHNOLOGYTRAINING

9:45 a.m.

Break

10 a.m.

BRICK MANUFACTURING

KOREY SKALA, RHI-AG

Overview of refractory brick manufacturing from raw material selection to finished product.

10:45 a.m.

Break

11 a.m.

INSULATION AND LADLE CONSTRUCTION DESIGN

ROB DOTY, IMACRO INC.

This presentation will cover the basics of heat transfer from molten steel through different refractories and insulations, and then out the ladle shell. It will also cover the many choices of refractory materials, qualities and shapes used in ladle refractory design from the sub-bottom up to the lip ring.

Noon

Lunch

1 p.m.

STIR PLUGS, LANCES, SLIDEGATES AND TUNDISH GATES

CARL CORBIN, VESUVIUS USA

2:30 p.m.

Break

2:45 p.m.

LADLE PREHEATING AND HANDLING

JAMES BARRETT, ALLIED MINERAL PRODUCTS INC.

3:30 p.m.

Break

3:45 p.m.

TAP-TO-CAST OPERATIONS

HARRIET DUTKA, MAGNESITA REFRACTORIES

A brief overview that is focused on answering the “whys” of certain practices and procedures in steelmaking. If you are a new to steelmaking or are in a non-technical role, this presentation will answer many of the questions you would like to ask.

5 p.m.

PANEL DISCUSSION AND RECEPTION

WEDNESDAY, 7 OCTOBER 2015

7 a.m.

Continental Breakfast

8 a.m.

SAFETY: PAST/PRESENT/FUTURE

JOHN PANCONI, BISCO REFRACTORIES INC.

Safety culture from the past, where we have progressed to date and where the future of safety will take us.

8:30 a.m.

REFRACTORY MATERIALS TESTING

DAWN MANDICH, U.S. STEEL RESEARCH AND TECHNOLOGY CENTER

An overview of the material properties relevant to steelmaking refractories and how targeted testing can guide product selection.

9:30 a.m.

Break

9:45 a.m.

SECONDARY STEELMAKING PROCESS – LMF

HELMUT OLTMANN, NUCOR STEEL-BERKELEY

10:45 a.m.

Break

11 a.m.

SECONDARY STEELMAKING – VACUUM TREATMENTS

KEVIN COTCHEN, SMS USA LLC

The presentation provides a complete overview of degassing, including its purpose, theory, process and equipment. The basic operation is discussed with respect to the equipment design of the two major degasser types — the recirculation process and the ladle degassing process — and how these affect the refractory materials used in the ladle and refining vessel. Finally, steam ejector and mechanical vacuum pumping system types will be compared with respect to their operation and associated costs.

Noon

Lunch

1 p.m.

IMPROVING THE FREE OPEN RATE

BRIAN JURCZYK, PRINCE CORP.

A detailed discussion on improving the free open rate. Key concepts include: optimizing ladle cleaning practices, ladle sanding technique, ladle sand chemistry, deformation temperature, hold times, argon stirring and designing your own experiments.

MORE INFORMATION AT
AIST.ORG/TECHNOLOGYTRAINING

1:45 p.m.

Break

2 p.m.

TUNDISH REFRACTORY

ALBERT DAINTON, VESUVIUS USA

2:45 p.m.

Break

3 p.m.

CASTING OPERATIONS

DARRELL STURGILL, IMERYS METALCASTING SOLUTIONS

3:45 p.m.

Break

4 p.m.

LADLE SHROUDS AND GASKETS

KYLE KINGSBURY, DUFERCO STEEL INC.

4:30 p.m.

FLOW CONTROL PRODUCTS

JOSH KAISER, RHI/VRA

THURSDAY, 8 OCTOBER 2015

7 a.m.

Continental Breakfast

8 a.m.

**PLANT TOUR OF NUCOR STEEL
MEMPHIS INC.**



Noon

Return from Plant Tour and Adjourn

REGISTRATION FEES

Advance registration by 24 August 2015: Member US\$745, Non-member US\$960. Registration fee after 24 August 2015: Member US\$845, Non-member US\$1,060. Registration fees include Tuesday and Wednesday continental breakfast, lunch and continuous breaks, Tuesday reception, Thursday continental breakfast, plant tour, and a course workbook or flash drive including presentations.

MORE INFORMATION AT
AIST.ORG/TECHNOLOGYTRAINING

REGISTER NOW