



# Hot Rolling Fundamentals

A Practical Training Seminar in conjunction with  
Plate Rolling Fundamentals Training

22-25 February 2016 - Birmingham, Ala., USA - The Hilton Birmingham Perimeter Park

## About the Course

This seminar provides a comprehensive overview of hot rolling, both of strip and plate. The course covers fundamentals, metallurgical and quality requirements, equipment, rolling theory, control, rolls, temperature control, measurement, safety and new technology. Attendees will leave this course with a better understanding of the basic metallurgy involved; the different types of products and their attributes; the types of mills used and equipment involved with the mills; the theory of rolling; the latest technologies involved in hot rolling; safety aspects; production measures and much more. There will be opportunities to discuss issues and solve problems during the question and answer sessions. A full-day parallel session will be devoted to discrete plate and Steckel rolling.

## Registration Fees

Advance registration by 11 January 2016: Member US\$995, Non-member US\$1,210. Registration after 11 January 2016: Member US\$1,095, Non-member US\$1,310. Registration includes Monday through Thursday continental breakfasts, lunches, and continuous breaks, Sunday and Monday receptions, plant tour, and a course workbook or flash drive including presentations.

## Sponsored By

AIST's Hot Sheet Rolling and Plate Rolling Technology Committees.

Event Sponsor



**Spraying Systems Co.**  
Experts in Spray Technology

## Sunday, 21 February 2016

4–6 p.m.  
Registration

5–6 p.m.  
Welcome Reception

## Monday, 22 February 2016

7 a.m.  
Registration and Continental Breakfast

8 a.m.  
**Introductions and Opening Remarks**

8:30 a.m.  
**Safety**  
George Stephenson and Tim Reeves, Nucor Steel-Decatur LLC

9:45 a.m.  
Break

10 a.m.  
**Overview/History of Hot Rolling**

11 a.m.  
**Review of Metallurgical Basics**  
John Speer, Colorado School of Mines

Noon  
Lunch

1 p.m.  
**Application of Fundamentals to Hot Rolled Processing/Products**  
John Speer, Colorado School of Mines

2:15 p.m.  
Break

2:30 p.m.  
**The Reheat Furnace**  
Paul Debski, ANDRITZ Inc.  
Walking beam, pusher and tunnel furnaces for reheating make a rolling mill a “hot mill.” Reheat furnace economics, heat transfer, combustion, energy savings and minimization of scale are the main subtopics for this presentation.

3:30 p.m.  
**Rough Mill Area Equipment**  
Erik Thokar, Primetals Technologies U.S.A. Holdings Inc.

4:30 p.m.  
**Question and Answer Discussion**

5 p.m.  
Reception

## Tuesday, 23 February 2016

7 a.m.

Continental Breakfast

8 a.m.

**Introductions**

8:15 a.m.

**Finishing Mill Equipment**

Frank Beddings, Primetals Technologies U.S.A. Holdings Inc.  
An overview of finishing mill equipment from the entry of the finishing stands through the downcoiler.

9:45 a.m.

Break

10 a.m.

**Finishing Mill Equipment (cont'd)**

Frank Beddings, Primetals Technologies U.S.A. Holdings Inc.

11 a.m.


**Flatness With Profile Control**

Eugene Nikitenko, U. S. Steel Research and Technology Center

Noon

Lunch

1 p.m.

 **Plant Tour of Nucor Steel-Decatur LLC or  
Nucor Steel Tuscaloosa Inc.**

6 p.m.

Return From Plant Tour and Adjourn

## Wednesday, 24 February 2016

7 a.m.

Continental Breakfast

**Hot Sheet Rolling Track**

8 a.m.

**Introductions**

8:15 a.m.

**Rolling Theory**

Debashish Chakraborty, TMEIC

9:45 a.m.

Break

10 a.m.

**Mini-Mills**

Ian Ward, Primetals Technologies USA LLC

In this presentation, the characteristics of mini-mills are discussed in terms of many aspects, including quality and throughput.

11 a.m.

**Finishing Mill Operations and Temperature Control**

Ian Ward, Primetals Technologies USA LLC

In this presentation, several fundamental requirements for stable mill operations are covered.

Noon

Lunch

1 p.m.

**Hot Rolling Defects**

Mark Blankenau

For more information, visit

[AIST.org/technologytraining](http://AIST.org/technologytraining)

2 p.m.

Break

2:15 p.m.

### **Hot Rolling Defects (cont'd)**

Mark Blankenau

3:15 p.m.

### **Continued Developments in Hot Rolling Mills**

Michael Peretic, SMS USA LLC

This presentation will provide an overview of continued developments in hot rolling technologies. Specific topics will include roll gap lubrication concepts, anti-peeling concepts and enhanced runout table cooling technologies to produce multi-phase steels. The Castrip® production process will also be discussed, along with concepts for endless strip production.

4:30 p.m.

### **Question and Answer Session**

## **Plate Rolling Track**

8 a.m.

### **Plate Rolling Introduction**

Eric Thokar, Primetals Technologies U.S.A. Holdings Inc.

8:15 a.m.

### **Steckel Rolling – Process**

Emin Erman, ArcelorMittal Conshohocken

This session will provide a comprehensive overview of Steckel rolling. The history, purpose and concept, advantages, typical layouts, operational differences, and product mix will be discussed.

The session will cover all of the processing aspects of a slab starting from the slab yard all the way to the finished plate.

9:15 a.m.

### **Steckel Rolling – Equipment**

Blane Vines, Nucor Steel Tuscaloosa Inc.

This presentation will address the unique pieces of equipment used in the Steckel rolling process. Some equipment is used for Steckel rolling exclusively, while others are also used in other flat rolling processes.

9:45 a.m.

Break

10 a.m.

### **Discrete Plate Rolling – Process**

11 a.m.

### **Discrete Plate Rolling – Equipment**

Eric Thokar, Primetals Technologies U.S.A. Holdings Inc.

Noon

Lunch

1 p.m.

### **Plate Finishing Equipment**

Eric Thokar, Primetals Technologies U.S.A. Holdings Inc.

2 p.m.

Break

2:15 p.m.

### **Practical Aspects of Plate Leveling**

Rich Smith, ArcelorMittal

3:30 p.m.

### **Plate Heat Treating**

Thomas Bovalina, Tenova Core

4:30 p.m.

### **Question and Answer Session**

For more information, visit

**[AIST.org/technologytraining](http://AIST.org/technologytraining)**

Thursday, 25 February 2016

7 a.m.

Continental Breakfast

8 a.m.

**Introductions**

8:15 a.m.

**Gauge and Width Control**

Wlodek Filipczyk, TMEIC

9:15 a.m.

**Descaling, Roll Cooling and Spray Issues in Hot Rolling**

Lesli Peterson, Spraying Systems Co.

A review of spray applications and nozzles used in the hot rolling process.

10:15 a.m.

Break

10:30 a.m.

**Runout Table Cooling Technology**

Michael Peretic, SMS USA LLC

This presentation will discuss objectives for runout table cooling technology and will also give some background on how today's laminar flow cooling systems were developed. Relevant cooling concepts, table configurations and zone designs will also be presented, along with recent developments in cooling strategies and edge masking technology. Finally, a discussion of expected future developments will be provided.

11:30 a.m.

Lunch

12:30 a.m.

**Hot Strip Mill Downcoilers – Practical Considerations for Operation and Maintenance**

Jose de Jesus, Xtek Inc.

A presentation covering some key points for the operation of hot strip downcoilers and the important maintenance items for reliable operation.

1:30 p.m.

**Roll Design**

Kevin Marsden, WHEMCO and Peter Carless, Whemco International Ltd.

2:30 p.m.

Break

2:45 p.m.

**Roll Shop Practices and Equipment**

Ron Webber, Akers National Roll Co.

Rolls are an integral part of the operation of a hot strip mill. The practices and equipment required to provide the mill with proper rolls will be discussed.

3:30 p.m.

**Managing Roll Surface Quality**

Ron Webber, Akers National Roll Co.

Roll surface is a critical parameter in producing high-quality product. This session will discuss the variables that affect the roll surface quality and methods to ensure the quality is maintained.

4:30 p.m.

**Question and Answer Session**

5 p.m.

Conference Adjourn

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