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# ROD & BAR ROLLING

A PRACTICAL TRAINING SEMINAR  
**24-27 FEBRUARY 2014**  
SHERATON FORT WORTH HOTEL  
FORT WORTH, TEXAS, USA

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## ABOUT THE COURSE

This seminar will focus on “breaking down” key mill elements and how controlling these elements will positively affect hot rolled as-rolled (HRAR) quality, facility utilization and yields. The presenters will cover the reheat furnace, work rolls and rolling practices, increase understanding of torque and how it relates to mill rolling equipment. Best practices associated with mill scale and HRAR grain structure will also be discussed.

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## WHO SHOULD ATTEND

Rolling personnel, i.e., mill managers, rollers, roll shop, setup, floor operators, maintenance and other support personnel who wish to gain a better understanding of the rod and bar rolling process and final end products.

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## SCHEDULE OF EVENTS

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### MONDAY, 24 FEBRUARY 2014

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4 p.m.  
Registration

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### TUESDAY, 25 FEBRUARY 2014

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7 a.m.  
Registration and Continental Breakfast

8 a.m.  
**Introduction**

8:05 a.m.  
**Welcome: Gerdau Midlothian Mill**

8:30 a.m.  
**Changing the Mindset for a Safer Environment**

Matt Blitch and Jerry Hermann, Nucor Steel-Nebraska

Overcoming mental challenges can be tough in the steel industry, but it is an important step in becoming injury-free. Common errors and loss of focus that can occur in the mill will be discussed, as well as how human behaviors influence safety.

9:30 a.m.

Break

9:45 a.m.

### **Steelmaking and Caster Operations**

Dr. Ronald O'Malley, Nucor Steel-Decatur LLC

The successful rolling of rod and bar products starts with the selection of appropriate steelmaking and casting practices to meet the demands of the bar and rod product customer. This section of the course provides an introduction to the electric furnace steelmaking, ladle treatment and continuous casting processes that are used to produce rod and bar products and how the practices employed in these processes can influence the surface and internal quality and mechanical properties of bar and rod products.

11:15 a.m.

### **Rolling Mill Setup**

Kevin Barbee, Danieli Corp.

This segment provides an introduction to the processes and procedures for setting up a rolling mill to run a product. Topics covered include: mill stand "gapping," insertion of mill stands, recipe setup and checklist items prior to calling a bar, as well as a brief discussion on the input parameters for pulpit operation and how those parameters are used by the rolling mill automation.

Noon

Lunch

1 p.m.

### **Rod and Bar Basic Defect Metallurgy**

Jacob Selzer, CMC Steel Arizona

A basic view of how to diagnose bar defects correctly back to billet or rolling issues and then further to pinpoint the rolling issue.

2 p.m.

Break

2:15 p.m.

### **Rolling Theory**

Joe Kennedy, Quad Engineering Inc.

The topics to be covered include: pass design terminology, how shaped bars are rolled, pass design basics, and how to set up and maintain bar size.

3:45 p.m.

Break

4-5:30 p.m.

### **Reception and Roundtable Discussion**

5:30 p.m.

Adjourn

## **WEDNESDAY, 26 FEBRUARY 2014**

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7 a.m.

Continental Breakfast

8 a.m.

### **Technical Introductions**

Bob Greuter

A short introduction to rolling is given, along with a review of the ingot or continuous-cast steel that feeds rod and bar mills. Defects that can adversely affect downstream processes will be reviewed.

9 a.m.

Break

9:15 a.m.

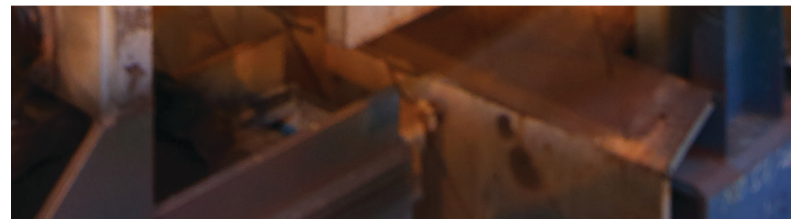
### **Reheat Furnace: Operations and Maintenance**

Dan Davies, Andritz Bricmont Inc., and Ty Hall, CMC Steel Texas

This session will discuss the principles of heating steel, the process of combustion and the operation of level 2 control.

10:30 a.m.

Break







2:30 p.m.

Break

2:45 p.m.

### Drivers and Automation for Long Rolling Mills

Steve Pegg, Russula Corp.

An overview of the selection and criteria of drives and automation for the control of long product rolling mills. AC and DC drives plus PLC control will be covered, including speed control, loop and tension control and shear control.

4 p.m.

### Seminar Review

## THURSDAY, 27 FEBRUARY 2014

7 a.m.

Continental Breakfast

8 a.m.

### Plant Tour of Gerdau Midlothian Mill



Noon

Return from Plant Tour and Adjourn

10:45 a.m.

### Work Roll

William Posey, SinterMet LLC

Discussion of all rolls that come in contact with the rod/bar during hot rolling. Roughers and intermediate rolls will also be discussed, with special focus on finishing rolls and rod blocks.

11:45 a.m.

Lunch

1 p.m.

### Torque and the Rolling Stand

Kevin Barbee, Danieli Corp.

This segment provides a comprehensive description of the mechanical components of a rolling mill stand, how they function and how they handle stress of rolling. An in-depth investigation of both the drive line and the mill stand will include how the components work together, common failure modes, preventive and predictive maintenance strategies, early indicators of functional failures, and product quality problems that can stem from driveline wear. An overview of the effect of process control on the rolling mill will provide real-world insight on the "voodoo" of pass design.

## REGISTRATION FEES

Advance registration by 13 January 2014: Member US\$745, Non-member US\$960. Registration after 13 January 2014: Member US\$845, Non-member US\$1,060. Registration fees include continental breakfasts, lunches, and continuous breaks Tuesday and Wednesday, reception Tuesday, continental breakfast Thursday, plant tour and a course workbook.

## >> REGISTER NOW

## COMPANY DISCOUNT

Three or more individuals from the same facility attending any one seminar can receive a 10% discount per person. All registrations must be received together along with payment to qualify for the discount. Not applicable with any other discount.