Rod and Bar Rolling

A Practical Training Seminar

22-25 February 2016 - San Antonio, Texas, USA - The Hilton Palacio Del Rio

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 quality, facility utilization and yields. The presenters will cover basic making of steel, readying a mill for its production cycles, reheat furnace, work rolls and rolling practices that affect mill quality through final customer requirements. A technical look at rolling forces will increase one's understanding of torque and how it relates to mill rolling equipment. In addition, the presentations will include a realistic approach to safety and the basic theory of rolling.

Registration Fees

Advance registration by 12 January 2016: Member US$745, Non-member US$960. Registration after 12 January 2016: Member US$845, Non-member US$1,060. Registration fee includes continental breakfasts, lunches, and continuous breaks Tuesday and Wednesday, reception Tuesday, continental breakfast Thursday, plant tour, and a course workbook or flash drive including presentations.

Sponsored By

AIST's Rod & Bar Rolling Technology Committee.

AIST
ASSOCIATION FOR IRON & STEEL TECHNOLOGY

Monday, 22 February 2016

4 p.m.
Registration

Tuesday, 23 February 2016

7 a.m.
Registration and Continental Breakfast

8 a.m.
Introduction

8:05 a.m.
Welcome to CMC Steel Texas
Ty Hall, CMC Steel Texas

8:30 a.m.
Changing the Mindset for a Safer Environment
Matt Blitch, Nucor Steel–Nebraska and Gary Henderson, Nucor Steel–Berkeley
Overcoming certain mindsets can be tough in the steel industry, but it is imperative to become injury-free. This presentation will discuss some common errors and loss of focus that occur in the mill. Also explained will be how human behaviors influence safety.

9:30 a.m.
Break

9:45 a.m.
Rolling Mill Metallurgy
Terry Rasmussen, Nucor Steel–Nebraska
This session will discuss the issues that arise in melting, casting and rolling of steel bars.

10:45 a.m.
Break

11 a.m.
Reheat Furnace: Operations and Safety
Dan Davies, Fives Group and Ty Hall, CMC Steel Texas
This session will discuss the operation of a furnace to properly and efficiently heat steel with an emphasis on safely operating and starting a furnace.

Noon
Lunch

1 p.m.
Pass Design and Rolling Theory
Joe Kennedy, Quad Engineering Inc.
Review of pass design terminology, volume flow in a continuous mill, how shaped bars are rolled, pass design for basic steel shapes, and how a mill should be set up and maintained to produce a quality section.

2:30 p.m.
Break

2:45 p.m.

RM Scale

Bob Greuter, Danieli Corp.

Scale forms in the reheat furnace and then again during rolling. Scale is a yield loss and must be controlled through maintaining proper surface.

3:45 p.m.

Break

4 p.m.

Mill Costs: Applying Predictive Methods

Dan Phillips, Equipment & Controls

Rolling mill conversion costs vary from energy used, to setup time, yields, asset availability, mill adjustments and various delays. Critical asset health can be monitored. Also, damaging process variability can be identified and minimized. Thus, conversion costs and maintenance costs are positively affected.

5 p.m.

Reception

Wednesday, 24 February 2016

7 a.m.

Continental Breakfast

8 a.m.

Work Rolls

William Posey, SinterMet LLC

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

9:30 a.m.

Break

9:45 a.m.

Rolling Forces: Spindles – Gearing – Torque Devices

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 the stresses 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 drive line wear. An overview of the effect of process control on the rolling mill will provide real-world insight on the "voodoo" of pass design.

10:45 a.m.

Break

11 a.m.

Rolling Forces: Spindles – Gearing – Torque Devices (cont'd)

Kevin Barbee, Danieli Corp.

Noon

Lunch

1 p.m.

Down-Cut Cold Product Shears

Bob Bennett, Danieli Corp.

Cold product shears are critical pieces of equipment in a bar mill. Located just downstream of the cooling bed, these shears take the cooling bed material, cut to multiples of the customer's length, and cut it to the proper ordered length. These cut lengths must arrive at the customer within length tolerance and exhibit acceptable sheared ends. Understanding these shears and how to maintain them is a very important operator and maintenance function.

2:30 p.m.

Break

2:45 p.m.

Motors, Drives and Speed Control

Steve Pegg, Russula Corp.

This presentation will describe the issues and challenges in selecting a proper drive system and mill automation for long product rolling mills. The emphasis will be on practical applications.

4 p.m.

Panel Discussion and Seminar Review

Thursday, 25 February 2016

7 a.m.

Continental Breakfast

8 a.m.

Plant Tour of CMC Steel Texas

Noon

Return From Plant Tour and Adjourn