

QRC1

Pass Design & Rolling Theory

Quad has been presenting and continuously improving specialized Operator Roller training for over 15 years. Courses have been developed to explain why things happen, from an Operator's point of view. The math and science involved in rolling is explained in real terms that can be understood and used by Operators to help them achieve - maintain section and improve productivity.

A combination of technical presentations, work sessions and open discussion is used to effectively communicate the course material. A comprehensive textbook is included, for use as a reference document back at the plant.



Training Affects Your Bottom Line

Effective Operator Training is no accident. It must be planned and executed like any other issue at your plant. People produce steel, so the most cost effective way to improve your operation is to produce more using your existing equipment. Operator training is an important component to helping your Operators get the most out of each shift. Operator training translates directly

into improved production, higher yield and increased profit.

What Participants have said about Quad's Training Program:

- *Good discussions around real world problems (Mill Manager, Gerdau Ameristeel)*
- *I have a better understanding of the process of pass design and also picked up some tips to improve our rolling process (Roller, Gerdau Ameristeel)*
- *I felt we got a lot of information in just a few days (Roller, Nucor Steel)*
- *Being new to mill, information was very useful. Material matched current practices & applied to most everything at our plant (Prod Engineer, Mittal Steel)*
- *Atmosphere was conducive to keeping my attention (QC Manager, Gerdau Ameristeel)*

Course Objectives:

To help the participants develop a more in depth understanding of the principals of rolling steel, to address pass design methods from an operator's point of view and develop an understanding of how to get the most out of your pass design.

QRC1

Pass Design & Rolling Theory

Over 75% of North American Mini Mills have used Quad for Training

Benefits:

Improved productivity & cost effective production decisions resulting from a better understanding of the overall process. Experience is passed on to your operators from interaction with personnel from other plants. The comprehensive course textbook can be used as a reference guide back at your mill.

Course Outline:

Principles of Pass Design:

Terminology is reviewed. The pass design process is described and examples given to illustrate how a pass design is created from first principles.

Rounds Pass Design:

Rounds pass design sequences and applications include oval-round, oval-square, and diamond-square. The finished round and leader oval passes are designed from first principles. Work sessions are used to reinforce understanding of important concepts.

Flats Pass Design:

Flats pass design sequences and applications include flat & edge and how much work should be done in the edging passes. The edging pass is designed from first principles. A rolling schedule for the flat and edge method is developed. Work sessions are used to reinforce understanding.

Speed Control:

The basic principles of mill speed control are reviewed from the pass design point of view. Terminology and definitions are developed for the key speed control parameters. The speed control equation is developed and an actual speed sheet is developed. Using speed control feedback information to verify and improve the setup sheet is discussed.

Guiding:

Basic function and types of guides are defined including static-friction, roller and twisters. Pros and cons of each guide type plus selection criteria are discussed.

Roll Cooling:

Basic principles of heat transfer and the roll cooling temperature cycle. Design considerations that make for an effective roll cooling system.

Who Should Attend:

Mill Managers, Shift Supervisors, Rollers, Assistant Rollers, Pulpit Operators, Engineers, Quality Control.



75 Scarsdale Road, Toronto, ON, Canada M3B 2R2
Tel: 416-391-3755 Fax: 416-391-3645
www.QuadEng.com