SEMINARS FOR ENGINEERS

Principles of Web Handling

About the Seminar:

Principles of Web Handling will give you the fundamentals and process know-how needed to handle any web handling issue. From exploring the theoretical to understanding practical applications, you will be able to diagnose and treat existing problems and also accurately identify the specifications needed for new webs. You will learn about the critical areas of tension control, web tracking, roller choices and their effects, machine alignment and web defects such as roping, telescoping, and staring. This seminar will address these topics on various levels, from providing basics and rules to remember to examining some of the intricate physics of their behavior. Though theory is included, emphasis is placed on practical problem solving techniques for the plant engineer.

Who Should Attend:

Do you work with a web? Do you manage people who run web handling machines? Do you sell or develop web products? Have you ever had a question about why the web is behaving the way it is? Do you get a different behavior from one day to the next but have no idea why? Would you like to speed up your operation without increasing waste? Do you need to reduce your waste? If so, this seminar is for you. Product and process designers, process engineers, QA/QC,sales and service personnel, and maintenance and lead operators are strong candidates for this seminar. Material, equipment and component suppliers can also benefit. The principles taught in this seminar are applicable to any web-based product whether paper, film, metals, nonwovens, textiles, or any combination of coated or laminated webs.

Benefits of Attending

- Understand how web wrinkles, start-up waste, slipped rolls, and web breaks all add up to increased costs
- Learn to reduce waste in many areas and what are reasonable expectations for waste
- Learn to prevent defects like wrinkling, scratching, misalignment, curl, breaks and bagginess
- Learn how web and equipment quality create tension variations and understand tension zones
- Learn the importance of spreader and anti-wrinkle rollers, choose the best and why most are misused

Concepts Covered

- Defining a web and a look at what moves it
- Common web defects
- The all important control: pulling the web or tensioning
- The importance of rollers
- Measuring tension then controlling it (load cells & dancers)
- Holding the web to a straight path
- Traction requirements of idlers and driven rollers
- The “why’s” and “how’s” of tension control
- Can you control the tension variations in your process?
- Laminating basics
- Specifying rollers
- Critical machine alignment: the easy way and the hard way
- The worst defect in web handling: wrinkling
- Wrinkling causes and remedies
- How to diagnose wrinkles
- Spreading and anti-wrinkle rollers
- Measuring and modeling nipped rollers
- Air floatation and turn bars
- Web tracking rules
- Control systems & Winding profiles

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Course Syllabus

DAY 1

Mechanical Behavior of Webs

Necessity of Web Tensioning

Load Cell, Dancer Rollers, or Both

Open-Loop vs. Closed-Loop Control

The Logic of Tension Control for Any Web Process

Causes of Tension Variations

Tension Keys for Lamination

Registration Basics: Machine Direction Alignment

Traction Requirement of Idlers and Driven Rollers

Specifying Rollers

Roller Alignment Needs and Methods

DAY 2

Wrinkling Causes

Wrinkling Remedies

Spreading and Anti-Wrinkle Rollers

Measuring and Modeling Nipped Rollers

Air Floatation and Turn Bars

Web Tracking Rules

Passive vs. Automatic Guiding

Choosing the right Web Guide