

Principles of Winding

About the Seminar:

The Principles of Winding one-day seminar covers all aspects of winding, including the physics of winding, roll quality, and winder design and operations. This seminar builds on The Principles of Web Handling two-day seminar, applying the best practices of web handling to the winding process, but also stands alone as a thorough overview of all things winding. Wound rolls are the bookends of web handling and critical to successful start and end to your process. Winding better rolls helps you whether you are a roll goods supplier, customer, or both. The seminar will focus on three key areas:

The Winding Process: Explaining the key variables of winding and how material properties greatly affect roll pressures and pressure variations.

Roll and Web Quality: Understanding pressure, misalignment, buckling, and deformation defects.

Winder Design and Control: Winding equipment has many features that greatly effect roll structure and process window to make quality rolls. We will review winder options and explain their use and benefits.

Who Should Attend:

This seminar is directed towards technical, production and operations employees of any level with a need to understand the fundamentals of winding and roll quality. These principles can be applied across all products, from bath tissue to steel foil.

Attendees will be provided with practical and proven solutions based on best practices and physics to eliminate winding issues and roll defects. If you are looking to optimize, upgrade or replace your winding equipment, this seminar will review the design options available in tension control, guiding, rollers, and winders, reviewing the mechanics and best practices of each.

Benefits of Attending

- ▶ Diagnose and eliminate roll and winding-related web defects
- ▶ Learn what web and core properties are important to winding
- ▶ Understand the key features and benefits of winder equipment options
- ▶ Learn why some products are inherently more difficult to wind than others
- ▶ Develop a plan to find best winding conditions for any product.

Concepts Covered

- ▶ Defining Winding Success
- ▶ Material Properties (Web and Core)
- ▶ Starting a Roll: Roll Transfers
- ▶ Managing Initial Contact (Nip or Gap)
- ▶ Driving a Roll (Center vs Surface)
- ▶ Winder Tensions and Torques
- ▶ Slip Shaft Winding
- ▶ Defects
- ▶ Wound-In Pressures and Stresses
- ▶ Roll Edge Alignment
- ▶ Transverse Variations (Gauge Bands, Bagginess)
- ▶ In-Roll Buckling
- ▶ What Determines Wind-Ability?
- ▶ How is Winding Optimized?



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Course Syllabus

Winding, Winders, and Wound Rolls

- ▶ Defining Winding Success
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