

Web Coating & Drying Seminar

Seminar Syllabus

Coating

- Rod Coating
- Knife Over Table Or Knife Over Roll
- Simple Roll Coating
- Three Roll Coating
- Reverse Roll Coating
- Gravure Coating
- Reverse Gravure
- Slot Coater
- Slide Die Coaters
- Process Considerations:
 - Set-up
 - Reproducibility
 - Stability
- Operator Considerations:
 - Ease of Use
 - Maintenance
 - Ability to See What is Happening
 - How Many Operators and Helpers?

Drying

- Basic Industrial Drying
- Basic Drying Agenda
- Defining the Process Requirements
- Basic Information for Drying Applications: Helpful Line Data
- Basic Information for Drying Applications: Substrate Data
- Basic Information for Drying Applications: Coating Data

Seminar Syllabus (cont.)

Conventional Technologies

- A Dryer is a “Heat Exchanger”
- Drying Heat Loads
- Defining Convection
- Convection Dryer Head Loads
- Impingement Dryers
- Convection Air Drying Mechanics
- Factors that Impact Heat Transfer by Impingement
- Impingement Dryer Advantages
- Impingement Negatives

Floataion Dryers

- Coanda Effect
- Floataion Mechanics
- Floataion Nozzle Array
- Floataion Dryer Advantages
- Floataion Negatives
- Through Air Drying Systems
- Through Air Dryers
- Through Air Advantages
- Through Air Negatives

Microwave Drying Overview

- Strengths and Weaknesses of Microwave Drying
- Where it is Used
- Costs

Radiant Heating

- Electromagnetic Energy Spectrum
- Defining Industrial Process Infrared
- Infrared Spectrum
- Stefan Boltzman Law to Determine Infrared Power
- Determining Wavelength
- Infrared Advantages
- Infrared Negatives

Seminar Syllabus (cont.)

Which Drying Method is the Best for the Application??

- Answer: No Single Method is Best
- Comparison of Drying Technologies

Computer Aided Drying

- Basic Issues of Computer Modeling for Drying
- The Physics of Drying
- Computer-Aided Dryer Design
- Flootation
- Heat Transfer
- Mass Transfer
- Product Information
- Limitations
- Equipment Options
- Computer-Modeled Results
- Example of Computer Based Dryer Design
- First Iteration
- Second Iteration
- Third Iteration
- Fourth Iteration

Another Unique Nozzle Geometry