

Blown Film Extrusion (Dr. Kirk Cantor) May 18-19, 2016

About the Seminar

This two-day program provides a broad overview of blown film extrusion, including materials, hardware, and processing methods. The computer-based “Blown Film Extrusion Simulator” will be demonstrated during the program. Attendees are encouraged to bring laptops, as they will be provided exercises with which to use the software. Upon completion of this seminar, attendees will be able to:

- describe how all parts of an extrusion line interact with plastic material to affect final product performance and quality
- identify various polymer materials used to produce blown film and discuss important film properties
- discuss in detail the hardware specific to blown film processing, including screws and dies
- describe how bubble geometry creates the molecular structure that influences film properties
- troubleshoot both extruder and film problems
- operate the “Blown Film Extrusion Simulator”

What the attendees will learn:

- hardware systems on an extruder and the functions that the extruder performs on the plastic material
- various polymers used to produce blown film, including the rheological and solid state properties of these polymeric materials
- upstream and downstream hardware specific to blown film extrusion
- bubble geometry and the process parameters used to create specific bubble shapes
- control systems, both manual and automated, for maintaining product targets
- process/structure/property relationships in blown film: how bubble geometry affects molecular structure and film properties
- basic blown film coextrusion principles
- how to solve both extruder and film problems
- how to operate the “Blown Film Extrusion Simulator”

Who should attend:

- Operators
- Set-up technicians
- Process engineers
- Quality control personnel
- Floor supervisors
- Plant managers
- Film purchasers

Course Description	Continued...
<ul style="list-style-type: none"> • Introduction to Blown Film Extrusion • Extrusion Fundamentals Overview <ul style="list-style-type: none"> ○ Hardware Systems ○ Functional Zones • Introduction to Polymers <ul style="list-style-type: none"> ○ Polymer basics ○ Polymeric materials ○ Rheology – understanding flow • Film properties • Blown Film Hardware <ul style="list-style-type: none"> ○ Upstream (Solids Feeding) ○ Grooved Feed Throat ○ Screws for blown film ○ Blown Film Dies <ul style="list-style-type: none"> ▪ Side Fed Die ▪ Bottom Fed Die ▪ Spiral Mandrel Die ▪ Co-extrusion Dies ▪ Oscillating Dies ○ Bubble Geometry ○ Bubble Cooling ○ Bubble Stabilization ○ Collapsing Frames ○ Haul-off ○ Winders ○ Film Treatment ○ Line Control • Blown Film Processing <ul style="list-style-type: none"> ○ Process Variables vs. Bubble Geometry ○ Simulator Exercise I ○ Process/Structure/Property Relationship ○ Simulator Exercise II <p>Books authored by Kirk Cantor:</p> <ul style="list-style-type: none"> • Blown Film Extrusion, includes “Blown Film Extrusion Simulator” 	<ul style="list-style-type: none"> • Co-extrusion <ul style="list-style-type: none"> ○ Dies ○ Interfacial Instability ○ Applications • Troubleshooting <ul style="list-style-type: none"> ○ Extruder Problems <ul style="list-style-type: none"> ▪ Surging ▪ High Melt Temperature ▪ Excessive Cooling ▪ Low Output ○ Film Problems <ul style="list-style-type: none"> ▪ Melt Fracture ▪ Thickness Variation ▪ Bubble Instabilities ▪ Wrinkles ▪ Die Lines ▪ Gels ▪ Low Mechanical Properties ▪ Poor Optical Properties ▪ Quality/Variation 

The course fees are:	Through April 22, 16	After April 22, 16
Blown Film Extrusion:	\$850.00	\$950.00
Extruder Maintenance:	\$450.00	\$550.00
If taking 2 courses:	-\$50.00	-\$50.00
3 rd attendee discount (5%):		
Total:		

A 5% discount will be given for the 3rd and up attendees from the same company. The course fees include lunch for each day and the handout material.

Cancellations: A refund, less \$150.00 cancellation fee, will be made if the registration is cancelled in writing by or on April 22, 2016 REE Inc. reserves the right to cancel one or more seminars or substitute instructors. Should this occur the attendees will be notified. We do not take any responsibility for penalty fees or any other cost that may be incurred due to cancellation. We recommend that you book travel with refundable fares. Registrants who fail to attend are liable for the fees of the course registered for.

Fax registration to: 530-269-1084 or register on-line at www.rauwendaal.com

PO #			
Name Attendee:			
Title:			
Company:			
Billing Address:			
City:		State:	
Country:		Zip:	
Phone:			
Fax:			
E-Mail:			
Additional attendee name:			
Additional attendee name:			
Credit Card	If you use this form you can use the "custom payment box" on the front of our website to use a credit card. Be sure to check "not a PayPal member" put in your total and write me a note that you faxed your registration form. If you have a problem call the phone number on the back of your card.		



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