

Troubleshooting Extrusion Seminar (1-Day), Sept 13, 2018

About the Seminar:

This seminar is designed to enhance troubleshooting skills of extrusion personnel. Extrusion problems can be very costly and it is important to troubleshoot these problems quickly, efficiently, and systematically. The first part of the seminar covers the basic requirements for efficient troubleshooting followed by a description of useful troubleshooting tools. The next session teaches various techniques such as brainstorming sessions, flow charts, fishbone diagrams that encourage systematic troubleshooting.

The following session deals with polymer degradation. First the basic types of degradation are explained followed by specific measures one can take to reduce degradation in the extrusion process. The remainder of the seminar deals with a variety of extrusion problems. Extrusion instabilities are broken down in specific categories based on frequency. Die flow problems are discussed in depth with solutions to each type of die flow problem.

In the end several case studies of actual extrusion problems will be covered. Attendees are encouraged to bring actual problems to the seminar so that real problems can be addressed in the seminar. Attendees will be asked to submit actual extrusion problems to the instructor before the seminar so that these problems can be incorporated in the presentation and the handout material.

What attendees will learn:

- How to use a high-speed data acquisition system (HS-DAS) in troubleshooting
- How to determine the melt fracture behavior of your polymer
- How to eliminate melt fracture
- How to distinguish between gels and unmelt
- How to eliminate gels
- How to solve polymer degradation problems
- How to solve wear problems
- How to solve problems with voids in the extruded product

Who should attend:

Process engineers, extruder operators, maintenance engineers, production managers, QC personnel, extruder technicians, shop floor leads, tech service personnel, engineers working for extruder manufacturers, etc.

Outline:

- Requirements
 - Instrumentation
 - Collection of historical data
 - Condition of equipment
 - Information on feedstock
- Tools for troubleshooting
 - Temperature measurement devices
 - Data acquisition systems
 - Thermal analysis
- Systematic troubleshooting
 - Upset vs. development problem
 - Troubleshooting techniques
 - Machine related problems
- Polymer degradation
 - Types of degradation
 - Solving degradation problems
- Extrusion instabilities
 - Frequency of instability
 - Mechanism of instabilities
 - Functional problems
 - Melt fracture
 - Draw resonance
 - Solving instabilities
 - Other extrusion problems
 - Air entrapment
 - Gel problems
 - Die flow problems
 - Wear problems
- Case studies
 - Wear
 - Degradation
 - Die lines
 - Attendees are encouraged to bring actual extrusion problems to the seminar

LAB: Extrusion with melt fracture, variation in extrudate dimensions, unmelt, gels, die drool, and more.

See registration form below:

The course fees are:	Through Aug 10, 18	After Aug 10, 18
Understanding & Opt. Extrusion (Sept 10-12, 2018)	\$1250.00	\$1350.00
Troubleshooting Extrusion (Sept 13, 2018)	\$450.00	\$550.00
If taking both Seminars - Discount	-\$100.00	-\$100.00
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 Aug 10, 2018 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.

Scan registration and email to: Sietske@rauwendaal.com
 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	<p>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.</p>		



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