

Foam Extrusion Seminar, May 12-14, 2014

Basic Principles

- Mechanical properties of foams
 - Std time behavior: stiffness, strength
 - Long time behavior: creep, fatigue
 - Short time behavior: impact
- Foamable polymers
 - Morphological characteristics
 - Characteristics of important resins
- Additives
- Cell stabilizers
- Other agents
- Nucleating agents
- Foaming agents
- Chemical : exo- and endo-thermics
 - Physical: atmospheric, hydrocarbons, HCFCs
 - Solubility and diffusivity
- Rheology of gas-laden melts
 - Bubble mechanics
 - Why does a foam stop growing?
 - And why does it shrink?
 - Open-celled foams

Foaming Agents

- Natural Fiber Foam Composites
 - Polymer Structures
 - Process of Manufacturing
 - Pressurization
 - Cooling and Mixing
 - Role of Cellular Structures
 - Fine Cellular Structure
 - Chemistry of the Foaming Agent
 - Die Configuration and Extrusion
- Foaming Agent Process and Performance
 - Introduction
 - Foaming Agent Technologies
 - Endothermic & Exothermic
 - Foaming Agents
 - Gases & Nucleation
 - Elastomeric Foam Design
 - What 's happening in the Barrel?
 - Blowing Agent Compatibility
 - Blowing Agent Process
 - Properties of Foam Articles
 - Process Improvement using CO2
 - Open Cell Foam
 - Foaming agent studies
 - Foaming agents in IM & Extrusion
 - New Equipment Technologies

Location:

[Sheraton Sand Key Resort](#), Clearwater Beach, FL
727-595-1611

Hardware

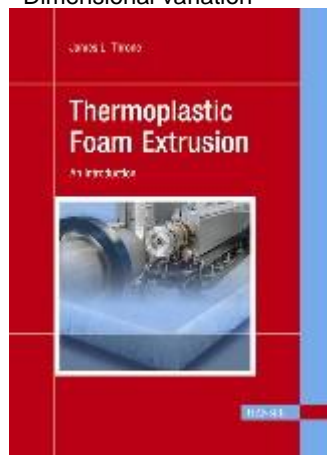
- Twin vs. single screw extruders
- Single- vs. two-stage process
- Screw design for foam extrusion
- Melt temperature distribution
- Die design for foam extrusion
- High vs. low density foam products
- Free foaming method
- Constrained foaming method
- Microcellular foam extrusion
- Coextrusion

Thermoformability of Low-Density Thin-Gauge Sheet

- Material-Specific Die Design for Thin- Gauge Sheet
- Temperature-Dependent Internal Cell Gas Pressure During Cooling
- The Role of Sheet Aging Prior to Thermoforming
- Factors Influencing Secondary Foam Expansion During Reheating
- Internal Cell Gas Pressure
- Temperature-Dependent Tensile Modulus
- Processing Factors Influencing Catastrophic Cell Collapse

Troubleshooting

- Requirements
- Tools for troubleshooting
- Systematic troubleshooting
- Extrusion instabilities
 - Frequency of instability
 - Functional instabilities
 - Solving extrusion instabilities
- Computer aided troubleshooting
- Case studies
 - Wear problems
 - Mixing problems
 - Irregular cell structure
 - Dimensional variation



[Thermoplastic Foam Extrusion](#) by James L. Throne is available from Hanser Publications with a discount code you receive when registration is confirmed.

The course fees are:	# of attendees	Through April 11	After April 11	Total
Troubleshooting Blown Film Extr:		\$850.00	\$950.00	
Foam Extr:		\$1250.00	\$1350.00	
If taking 2 courses per person:		-\$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 April 11, 2014. 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 rake 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

Name:			
Title:			
Company:			
Billing Address:			
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Country:		Zip:	
Phone:			
Fax:			
E-Mail:			
Additional Attendee Name:			
Additional Attendee Name:			
Charge:	Visa <input type="checkbox"/>	Mastercard <input type="checkbox"/>	American Express <input type="checkbox"/>
PO# or CC#			Exp.: <input type="text"/> CVC: <input type="text"/>



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