Die Design Seminar
April 2-3, 2009
At The Conair Group
200 West Kinsinger Drive
Cranberry Township, PA 16066
800-654-6661
By Chris Rauwendaal and Daniel Cykana
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About the Seminar

The seminar presents an intensive introduction to die design for plastic extrusion. The objectives of this seminar are:

- To teach the basic principles of die design
- To demonstrate the application of these principles to the design of the main types of extrusion dies:
    - Tubing and pipe dies, wire coating dies, sheet and flat film dies, profile dies, spiral mandrel dies, and coextrusion dies
- To discuss the design of calibrators

Two recognized experts will be the instructors for the seminar.

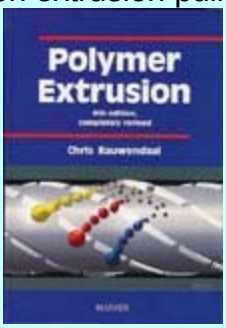
What the attendees will learn:

- The flow properties that determine how the material behaves in the die and when it leaves the die
- The various types of extrusion dies used for different products
- Materials and coating used for extrusion dies
- Simple calculations for die design
- How computer programs can be used to analyze and design extrusion dies
- The advantages and disadvantages of various die geometries, e.g. the conventional pipe die versus the spiral mandrel pipe die
- Various die flow problems and how to avoid them

Who should attend:

- Die designers
- Process engineers
- Manufacturing engineers
- Extrusion Supervisors
- Technical service personnel

Course Description	Continued . . .

Introduction
• Overview of types of extrusion dies
• Important melt flow properties
• General rules & guidelines
• Complicating factors in die design
  o Extrudate swell
  o Draw down
  o Relaxation
  o Shrinkage
 	
Design of flat & annular dies
• Computer aided die design
• Flat sheet and film dies
  o Fish tail dies
  o Coathanger dies
  o Horseshoe dies
  o Tubing and pipe dies
  o In-line dies
  o Crosshead dies
• Wire coating dies
• Blow film dies
  o Spiral mandrel dies
  o Smooth mandrel dies
  o Pancake dies
• Coextrusion dies
  o Feed block system
  o Multi-manifold system
  o Interfacial problems
  o Troubleshooting extruders
	Profile Die Design
	• Conceptual design
	• Design parameters
	• Flow through profile dies
	• How to handle swell
	• Parabolic flow
	• Esthetics of the extruded profile
	• Statistics to improve extrusion
	• Actual die design and effect of
	  o Plastic properties
	  o Land length
	  o Preland
	  o Draw down
	  o Die Material
	Calibrators
	• Different types of calibrators
	• Friction sizing
	• External sizing with compressed air
	• External sizing with vacuum
	• Internal sizing
	• Precision extrusion pullforming
	 
	
	Polymer Extrusion books are available with registration in an in any seminar for a discounted price of $75.00. Check the appropriate box on your registration form to order.