

Tubing & Profile Extrusion Seminar

At Harrel, Inc. E. Norwalk, CT
Course Leader: Chris J. Rauwendaal
April 13-15, 2010

Introduction

- Basic extruder components
- Screw, barrel, and feed system
- Breaker plate, screens, gear pumps
- Instrumentation and control

Important polymer properties

- Melt flow properties
- Thermal properties
- How to set process conditions

Requirements for efficient extrusion

- Machinery, operation, and changeover
- Maintenance, training, and resin quality
- SPC, DOE, and DAS

Functional aspects

- Solids conveying
- Plasticating
- Melt conveying
- Mixing
- Energy efficiency

Screw Design

- Standard extruder screw
- Barrier type extruder screws
- Multi-stage screws for venting
- Mixing screws

Die Design

- General rules and guidelines
- Methods of flow balancing
- Types of extrusion dies
- Analysis of dies
- Coextrusion dies

Startup and Service of extruders

- Initial check-out
- Quick electrical checks
- Service tips

Laboratory Day 1

You will string up and operate a tubing line. The operation will be manual, so that you can see how adjustments on the line affects the final properties of the tubing.

Laboratory Day 2

In this lab session you will be using free air extrusion to make bump tubing on a state-of-the-art line. Both outer diameter and wall thickness of both large and small tubing sections will be un-

der automatic control. You will also be using the latest in Statistical Quality Control (SQC) techniques to monitor the quality level of the tubing. In the end there will be a demonstration of the new ALTERNATE POLYMER extrusion system, whereby the polymer varies seamlessly from 100% polymer A to 100% polymer B along the length of the tube.

Afternoon Day 3

The seminar officially ends at 1 p.m. However, participants are invited to remain as long as desired to get additional hands-on experience and to discuss special problems and applications.

Registration of this seminar is limited to Plastics Processors!

Fax registration to Rauwendaal Extrusion Engineering Inc. Fax: **530-269-1084** or mail it to Rauwendaal Extrusion Engineering Inc., 10556 Combie Road PMB 6677, Auburn CA 95602-8908

For any questions please contact us: Tel.: **530-269-1082** or email: sietske@rauwendaal.com. A 5% discount will be given to the 3rd and up attendees from the same company at the same seminar.

Contact us for an extensive list of nearby hotels.

Book: "Polymer Extrusion" \$75.00

Tube & Profile Extrusion to March 12 \$895.00 Mar 12-26 \$995.00		
After March 26 \$1095.00		
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Hours for Tubing & Profile Extrusion:

Check in/Registration: 8.00-8.30am first day, seminar hours: 8:00-4:30pm, 1:00pm last day.

Cancellations:

A refund, less a \$100.00 cancellation fee, will be made if the registration is cancelled in writing one month prior to the seminar. Rauwendaal Extrusion Engineering, Inc. reserves the right to cancel one or more seminars. Should this occur the attendees will be notified. We also reserve the right to substitute instructors. 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.

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