

Extrusion Fundamentals

Hours of Instructions:

2-Day

Course Description

The course is an introduction to the process of plastics extrusion and is designed for operators, technicians, process engineers, quality auditors, supervisors, and maintenance personnel. The course covers all aspects of extrusion line design and operation and is intended to give the student the information necessary to effectively operate and improve the performance of the extrusion process.

During the first day, we explain step-by-step what occurs in the extrusion process from the feed hopper to the die, in both single screw and twin-screw extrusion lines. Safety issues are emphasized.

Day 2 addresses the entire extrusion plant operation, from receipt of raw materials to packaging of the final product. Equipment used in each unit operation is discussed to identify areas that can create problems for the extrusion line. Emphasis is placed on common issues within each unit operation that are important in process troubleshooting and problem solving. A problem-solving model is discussed as well as the use of troubleshooting guides.

Day 1 Course Objectives:

- Overview and History of Plastics
- General Plastic Processing Methods
- Design and Function of the Extruder
- Plastics Behavior in the Extruder and Die
- Key Components of the Extrusion Process
- How the Extrusion Process Works
- Safety

Day 2 Course Objectives

- Material Handling
- Drying
- Feeding
- Extruder Operation
- Processing Conditions
- Forming and Cooling
- Process Monitoring and Quality Assurance
- Problem Solving and Troubleshooting

Instructor(s):

Plastics Selection, Design, and Processing course facilitators are from the Polymers Center of Excellence. Each course facilitator is an experienced Plastics Processing facilitator and auditor. PCE facilitators have assisted many companies with the training and implementation of their plastics selection, product design and processing systems. They have developed and conducted material selection, product design and processing system assessments and improvement techniques including the demonstrated specific understanding and implementation techniques related to scientifically based design and processing methodology.

Location

Polymers Center
8900 Research Drive
Charlotte, NC 28262
(704) 602-4100

Dress Code

Business casual
Polo or button down shirt
Long pants
Closed toe shoes, no heels

Lab Etiquette

No drinks, food or gum
No tobacco or vaping devices
Safety glasses must be worn