

# BASICS OF PLASTICS EXTRUSION

EDUCATION • COMMUNICATION • COLLABORATION • INNOVATION

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## COURSES

### EXTRUDER DESIGN

During this 3-part presentation, our team of experts will review the basic extruder functions and major extruder components. Diving in-depth into topics such as the drive motor, power transmission, material feeding, the feed section, barrel, cooling systems, transducers, breaker plate, screen changers, and melt pumps.

### BORESCOPING DEMONSTRATION

Hands-on technique to properly measure and align the barrels in your machine.

### SCREW DESIGN AND PRACTICAL APPLICATION

Expert and VP of Davis-Standard technology, John Christiano, will go through screw design and applications. Specifically, polymer processing engineering, extruder overview and screw terminology, solids conveying, melting, melt conveying and metering, mixing, process optimization and screw design and manufacturing.

### DIE DESIGN

During this presentation, you will learn the engineering basics of die design including viscosity (measuring resistance to fluid flow), flat dies, feedblocks, round dies, and design philosophy. Followed by a design case study and troubleshooting your die.

### CONTROLS

Operating controls is an important part of running your extruder efficiently. In this presentation, we will dive into the temperature and speed controls. Looking closely at process monitoring, additional common monitoring and alarm options, emergency stop and safety, and some of the Davis-Standard controls.

### MAINTENANCE AND SAFETY

It goes without saying, maintenance and safety are essential! During the first part of the presentation, you will learn how to align your extruder (borescoping); the basics in barrel, feedscrew, gear case, and clamp maintenance. And lastly, some do's and don'ts for cleaning and oil changes. In the second part of the presentation, we will go through safety hazards, signs, devices, and use of appropriate PPE.

### PLANT TOUR

Tour of the Connecticut manufacturing plant.

### R&D DEMONSTRATIONS

Video of our R&D center in two sections. The first part will show how we make Alternate Polymer® medical tubing and the second part will show John Christiano's feedscrew theory up close!

### DAVIS-STANDARD GLOBAL SERVICES

This presentation will delve into the service (technical help and repairs), spare parts, upgrades and other training offered by our experts. All important aspects to keeping your machine running in tip-top shape for decades to come!

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## BREAKOUT SESSIONS

We offer breakout sessions where you choose which product line presentation you would like to attend. Here are the topics of discussion offered below. These are subject to change based on majority interest at registration.

- Blown Film
  - Cast Film
  - Elastomer
  - Extrusion Coating
  - Pipe, Profile, & Tube
  - Sheet
  - Wire & Cable
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## BLOWN FILM

Topics will include components of a blown film cooling system, entries and manifolds, lips: single dual and triple, purpose of an air ring and various performance factors to creating the perfect bubble, gauge control, Aerodynamics and A/R design/operation.

## CAST FILM

The introduction will focus on appropriate equipment based on your film thickness, typical stretch film structures, coextrusion, melt pipes and feedblocks, vacuum box film quenching, hygiene film and laminating, CPP films, barrier films, key machine elements, advanced monitoring and more!

## ELASTOMER

During this presentation our team will delve into various rubber thicknesses, applications, extruders appropriate for specific applications, basic components, advantages and disadvantages of extruder types and how to choose the right one for your application, cross-heads and feedroll/screw feeding.

## EXTRUSION COATING

An expert from our team will go through a typical line layout, the extrusion coating process from the granulate to the take-off roll.

## PIPE, PROFILE, & TUBING

During this presentation you learn the many different applications and industries served, typical material for each pipe, profile and tubing application, extruder models most appropriate for each application, custom engineering, feedscrew capabilities, and key components in a line including a control system.

## SHEET

During this presentation we will review sheet line versus film line equipment determination, upstream sheet line components, downstream components, operator roll stand processing, and examples of sheet products.

## WIRE & CABLE

This presentation we'll go through an entire line setup and layout. Extensive depth into components, some controls, and CV systems.

For additional questions email:

[MARKETING@DAVIS-STANDARD.COM](mailto:MARKETING@DAVIS-STANDARD.COM)

