



RightStart™

PLASTICS TRAINING THAT'S IN A CLASS BY ITSELF



EXTRUSION BLOW MOLDING EDITION



Routsis Training
Hands-on. Online. Ongoing.

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Routsis Training

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Routsis's RightStart™ Process

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Would you like on-site implementation of the easiest and fastest way to effectively train your entire workforce? Turn to Routsis for our RightStart™ system, and we'll get you started right away with a complete, custom program that delivers uniquely relevant training for your company and employees.



Our Process for Tailoring and Launching Your Training Program

Here's a quick look at how the RightStart™ Process works:

1. We actually visit your plant and create a custom training plan specifically designed for each employee at your workplace.
2. Based on your facility, we create job-specific tasks to develop and reinforce proper day-to-day work habits.
3. We show you how to implement, track, and customize your training – so you can launch your new training initiative.
4. Start training immediately with access to the world's largest library of engaging, practical plastics training courses available.
5. We provide ongoing support to ensure you get the most from your program.

Benefits of RightStart™

- The absolute fastest, most effective way to train your production workforce
- Your company's own secure online training portal
- Complete onsite setup and implementation – everything you need to get going and succeed
- A full 30-day money back guarantee
- Continuous collaboration with the knowledgeable, committed and service-driven Routsis team
- In-depth training specially developed by plastics industry experts – and customized for your shop floor

Best of all, it's easy to get started with the Routsis RightStart™ process: Just contact us today.

Routsis's RightStart™ Process

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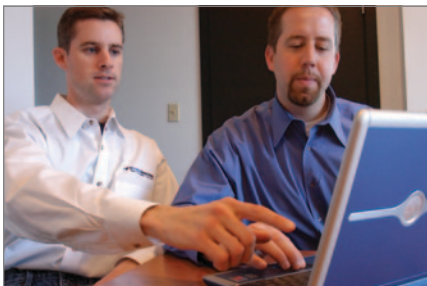
Routsis is the only plastics training provider that will conduct an onsite visit to assist you in establishing a specific training plan for your entire workforce. During the RightStart™ process, we'll help you list the respective job responsibilities of every position in your operation. We'll develop a unique plan with established goals and a timetable for completing the outlined training.

By developing and enhancing the skills of each employee and job position at your facility, you'll have a more versatile workforce and will never have to rely on one or two go-to production personnel.

While we're onsite, we help establish critical metrics that include; scrap rate, set-up times, troubleshooting times, accidents, mold and machine damage, and more. Continuous improvement is the objective of any training initiative and these key metrics are monitored throughout the training initiative and reported in dollars on a monthly basis so that your operation continuously strives to achieve its goals and, more importantly, will not lose sight of the goal of keeping on top of everything within the training plan – which serves as a the blueprint.

4 Questions Our Competitors Hope You Never Ask

- ▶ *Will your plastics professionals come to my plant and help devise a structured training plan?*
- ▶ *Do you supply the necessary tools to customize my interactive training?*
- ▶ *Do you provide plant specific on-the-job training tasks?*
- ▶ *Will you teach me how to use, track, monitor, and customize my training?*



You'll receive all of the necessary tools to make your training initiative succeed and the net result is a lean, versatile, well-skilled workforce that will keep you profitable and competitive for years to come. Typical payback on your training investment averages a mere 3.4 months.

When we establish your company's structured training plan, we integrate multiple forms of training designed to develop skills for your employees and include; computer-based interactive training (online), and plant-specific on the floor exercises created for each job position at your facility. The plan also includes training that we do not supply – such as machine-specific trade shows, outside seminars, and more.

Routsis's RightStart™ Process

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Routsis offers extensive implementation assistance and is second to none within the plastics industry. This includes facilitator instruction on how to use, customize, track and implement the online training.

We ensure that your training gets up and running quickly. We'll configure your training station(s) and offer support via manuals, instructional DVDs, monthly 'Train the Trainer' webinars, phone and email – all at no additional charge.

All of our interactive training courses are accompanied by on-the-floor exercises and are provided in an electronic format

so that you can fine tune them as needed. Our courses are also very easy to customize by adding videos, pictures, questions, or plant-specific work instructions and we'll show you step-by-step how to do it. You can create your own new courses on subject matter and procedures that require emphasis – as this has become a very hot topic expressed by managers of our industry.

Training is an ongoing process, and while we are on site, we detail the entire process; from training room setup and the scheduling and reporting progress spreadsheets to the key metrics that should be closely monitored throughout the training initiative at your facility.

"Routsis didn't just sell us a bunch of training courses. They worked with us to determine our needs and came to our plant and configured the training station the way we wanted. We also learned how to customize the courses - adding video, audio and pictures of our unique processes and equipment. After the visit, we were provided with specific training plans for each job position as well as Task Sheets to ensure everyone on the production floor receives the same training. I strongly urge anyone who is serious about training to consider what Routsis has to offer."

Jerry Stare
Plastics Engineer
Ames True Temper (Camp Hill, PA)

Routsis RightStart™
 Please contact us for more information

Extrusion Blow Molding Series

Our **Extrusion Blow Molding** training programs were developed in collaboration with The Society of Plastics Engineers (**SPE**) and were designed to provide participants with a thorough understanding of what's involved in Extrusion Blow Molding.

The topics covered in this training series include a wide range of extrusion blow molding information and common procedures. All three online courses use standard industry terms and practices with an emphasis on safety, and will enhance the knowledge base of all personnel involved in extrusion blow molding operations.

Program 1 | Primer

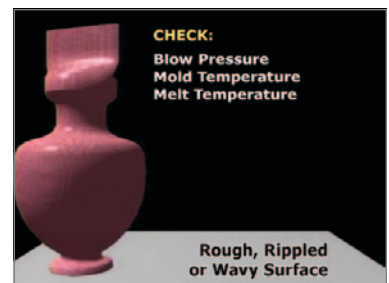
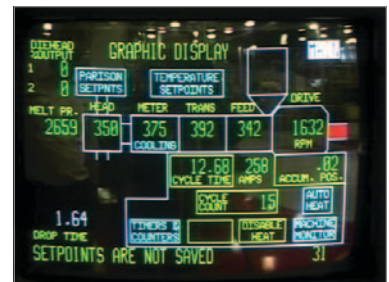
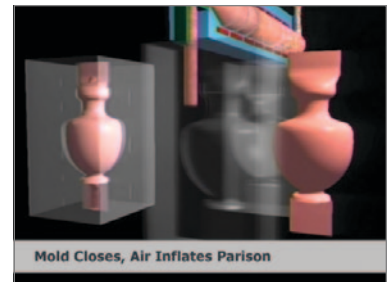
- Material Handling
- Extrusion Blow Molding
- Product Testing
- Basic Terminology
- Understanding Polymers

Program 2 | Machinery

- Material Preparation
- Part Forming
- Flash Removal, Product Testing & Regrind
- Startup, Color Change and Shut Down
- Emergency Situations

Program 3 | Problems & Solutions

- Troubleshooting
- Part Defects
- Preventive and Corrective Actions
- Scrap, Regrind & Rework
- Product Tracking



Extrusion Blow Molding Series
3 Interactive Training Programs (3-4 hours)

PRODUCT ID: wbt.bm.xbm

Math for Blow Molders

This two-part training program was created for all personnel within the blow molding industry who would like to expand or fine tune their math skills.

Program 1

- Whole Numbers, Negative Numbers and Decimals
- Using a Calculator
- Addition, Subtraction, Multiplication and Division
- Rounding Numbers and Significant Figures
- Formulas, Equations and Order of Operations

Program 2

- Metric and Imperial Units
- Length and Distance
- Area, Volume & Flow
- Weight, Mass and Force
- Conversions
- Understanding Percentages



Math for Blow Molders

2 Interactive Training Programs (2-3 hours)

PRODUCT ID: wbt.bm.mfm

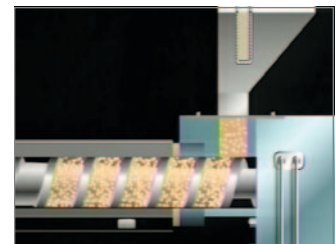
Single Screw Extrusion

(page 1 of 2)

Our **Single Screw Extrusion** series is designed to provide training for anyone working in a production environment. These programs use animation and actual production footage to demonstrate complex concepts. Important safety precautions are stressed throughout these training programs.

Tailored for single screw extruders, these training courses provide specific information for all extruders from blown film to profile extrusion. Whether you use single stage or vented extruders, the information will relate to the equipment, materials, and processes operating at your facility.

This training series will help teach any employee on the concepts relating to the machine, material, process, quality, startup, shutdown, problem solving, material handling as well as the correct terminology associated with single screw extrusion.



Program 1 | The Extruder

- Discusses the drive system of the extruder including the motor and gearbox
- Introduces the material feed systems used in Single Screw Extrusion
- Covers the entire screw and barrel assembly including screw design and venting
- The die and adaptor are presented along with the extruder's control system

Program 2 | Plastic Materials

- A review of the extruder and machine clamping station
- Explains the importance and function of the screw
- The temperature controls found on the machine
- How the blow molding machine functions during its sequences
- An introduction to specific blow molding terminology

Program 3 | The Extrusion Process

- Explains the mechanics of Single Screw material feeding and conveying
- Melting processes for standard and barrier screw designs are covered in detail
- Describes the commonly used types of dispersive and distributive mixing systems
- Covers the pumping, shaping, cooling, and cutting of the extrudate
- Cites important safety precautions for working around extrusion equipment

Single Screw Extrusion

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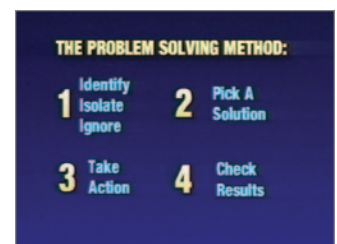
Program 4 | Preventive and Corrective Actions

- Covers common extrusion defects and their typical causes
- Explains the importance of accurate process monitoring
- Differentiates between open and closed loop process control systems
- Way to adjust the process and detect equipment problems



Program 5 | Startup, Changeover and Shutdown

- Provides common procedures to start-up and shut-down an extruder
- Details both upstream and downstream changeovers
- Die, material, and color change considerations are also covered
- The importance of safety and cleanliness are stressed throughout



Program 6 | Quality

- Defines quality and its importance to the success of single screw extrusion operations
- Explains the concepts of quality assurance vs. quality control
- Covers the form, fit, and functionality of the extruded product
- Critical vs. non-critical extrudate defects are compared and contrasted
- The importance of meeting the customer’s needs is stressed throughout the course

Program 7 | Material Handling

- Stresses the importance of proper material handling – from delivery to feedthroat
- Covers various vacuum conveyance and hopper loader systems
- The problems associated with not drying hygroscopic materials
- Details ways to blend materials while avoiding material contamination

Program 8 | Problem Solving and Troubleshooting

- Focuses on getting the right answer in the shortest time
- Easy to follow problem solving steps and rules are detailed
- The importance of documentation and procedure is stressed throughout the course

Single Screw Extrusion

8 Interactive Training Programs (6-10 hours)

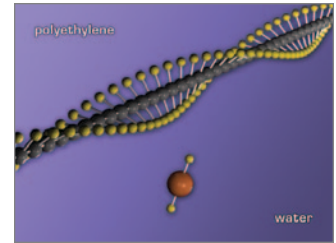
PRODUCT ID: wbt.ex.sse

Understanding Plastics

Your employees need to know how and why plastic materials are different

This program emphasizes material handling, processing, explains regrind and the effects of moisture on molded part properties. Different types of plastics and processing considerations are explained.

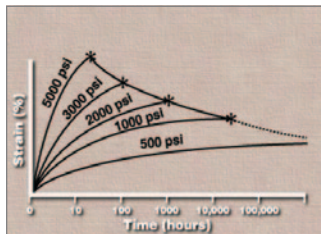
- The definition of plastics
- Polymer classification
- Material properties affected by processing
- Proper material handling techniques
- Processing characteristics of virgin and regrind



Understanding Plastics

1 Interactive Training Program (1-2 hours)

PRODUCT ID: wbt.im.ps.up
 wbt.im.ps.up.uk (EU & UK version)
 wbt.im.ps.up.sp (Spanish Version)
 wbt.im.ps.up.mc (Mandarin Version)



Mechanical Behavior of Polymers

Dr. Robert Malloy, a respected author and professor at the University of Massachusetts, Lowell, developed this comprehensive training program.

- The mechanical behavior of polymers
- Stress/strain curves and visco-elastic behavior of polymers
- Creep and stress relaxation

Mechanical Behavior of Polymers
 1 Interactive Training Programs (1-2 hours)

PRODUCT ID: wbt.ds.pd.2

Material Drying Technology

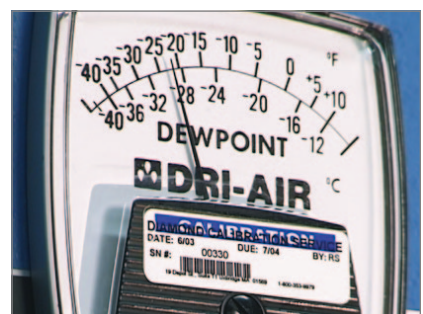
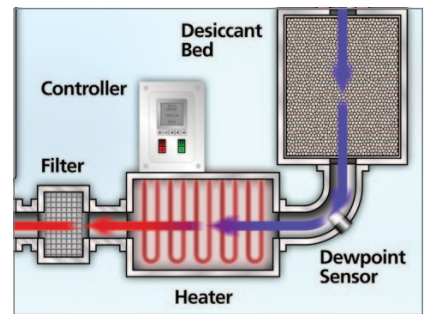
Our two Material Drying Technology courses will provide participants with a better understanding of how different polymers are best dried and prepared for reliable processing. These courses show participants how proper material handling and drying is critical to produce a consistent product and process.

Material Drying Technology, Course 1

- Polymer Basics
- Hygroscopic vs. Non-Hygroscopic Polymers
- Hydrolysis
- Purposes of Drying
- Dewpoint
- Dewpoint Measurement
- Dewpoint Sensors
- Drying Procedures

Material Drying Technology, Course 2

- Hot Air Dryers
- Compressed Air Dryers
- Desiccant Dryers
- Vacuum Dryers
- Calculating Material Consumption
- Calculating Residence Time
- Calculating Dryer Capacity



Material Drying Technology
 2 Interactive Training Programs (1-3 hours)

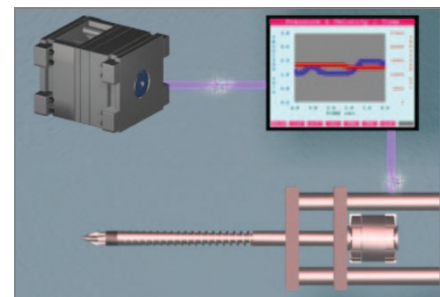
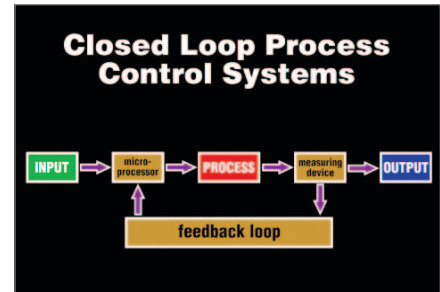
PRODUCT ID: wbt.im.ps.dt

Process Control Systems

It is crucial for processing personnel to understand both open-loop and closed-loop process control

This training program details process control systems and is designed to help molders make more educated choices. **Process Control Systems** is a must for any facility which employs (or plans to employ) closed loop process control.

- Open loop vs. closed loop process control
- How process control reduces variation
- Closed loop controllers
- Proper use of process control



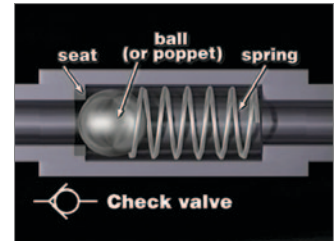
Process Control Systems
1 Interactive Training Program (2-3 hours)

PRODUCT ID: wbt.im.as.pc

Understanding Hydraulics

This course demonstrates the importance of hydraulics. Machine operators will learn ways to reduce wear on hydraulic components, while more advanced employees concentrate on hydraulic print reading and theory.

- Basic hydraulic theory
- The role of hydraulics in plastics machinery
- The function and purpose of hydraulic components
- Recognition of hydraulic symbols
- Directional valves and flow controls
- Hydraulic pumps and motors
- Proportional valves and servo valves
- Hydraulic fluid management



Understanding Hydraulics
 2 Interactive Training Programs (3-4 hours)

PRODUCT ID: wbt.im.ms.hs

Blueprint Reading

Your employees should know how to accurately locate and interpret dimensions on engineering drawings

The six programs in our blueprint reading training course develop workers' abilities to accurately locate and interpret dimensions on engineering drawings. These training programs are based on ANSI standards and incorporate input from a broad industrial cross-section.

Program 1 | Introduction to Engineering Drawings

- The six principal views of a third-angle projection
- Identify the ISO symbols for third-angle and first-angle projections
- Auxiliary views, partial views, and enlarged views
- Determine which line takes precedence over another

Program 2 | Multiview Drawings

- Outside, inside, vernier and electronic micrometers
- Types of dial indicators
- Dial indicating gauges; snap gauges, calipers, depth gauges

Program 3 | Sectional Views

- Determine which portion of the part is shown in section
- Explain the purpose of section lines and identify the ways they're used
- Identify and interpret the common drafting conventions applied to sectional views

Program 4 | Dimensions and Tolerances, Part 1

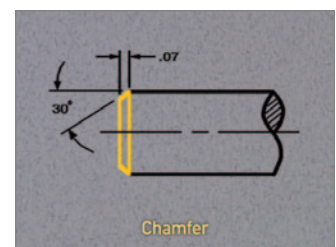
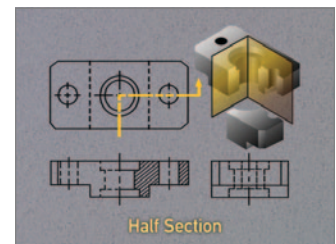
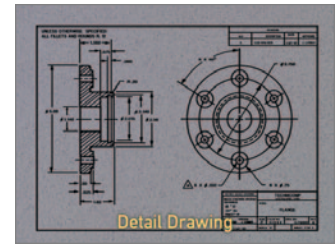
- Identify the size and/or location for a given part feature
- Correctly calculate the tolerance specified for a given part feature

Program 5 | Dimensions and Tolerances, Part 2

- Locate and interpret dimensions specified by chain, baseline and direct dimensioning methods
- Identify a datum feature and explain its purpose
- Explain how MMC and LMC apply to internal and external features
- Calculate allowance
- Identify a surface finish specification

Program 6 | Part Feature Specifications

- Identifies twelve of the most common part features on a drawing
- How to correctly interpret part specifications



Blueprint Reading
6 Interactive Training Program (6-10 hours)

PRODUCT ID: wbt.ts.bpr

CRITICAL SUCCESS FACTORS FOR TRAINING

With over 25 years of training experience in the plastics industry, A. Routsis Associates knows the six critical factors that can make or break your company's in-house training program. Let's examine these success factors and see how other industry training methods stack up against interactive training.

| Textbooks | Videos | Consultants | On-The-Job | RightStart™ |
|-----------|--------|-------------|-----------------------|-----------------------|
| Grey | Orange | Grey | Orange | Orange with checkmark |
| Orange | Orange | Orange | Orange with checkmark | Orange with checkmark |
| Grey | Grey | Orange | Orange with checkmark | Orange with checkmark |
| Grey | Grey | Grey | Orange with checkmark | Orange with checkmark |
| Grey | Grey | Grey | Orange with checkmark | Orange with checkmark |
| Grey | Grey | Grey | Grey | Orange with checkmark |

Relevant

The information being presented must be relevant to the workplace. A comprehensive in-house training plan incorporates all of the training necessary to instill a good base of fundamental knowledge.

Captivating

Training must be captivating in order to keep the participants' attention. Everyone knows that in order to learn, you must pay attention – yet companies often rely on boring lectures and literature to train.

Interactive

Employees retain significantly more information in an interactive environment. Research has shown a 38% increase in retention when using interactive training compared to other methods.

Customizable

Curriculum must be tailored to meet the specific needs of your plant. Training media, such as interactive training, can be easily customized to your business at no additional cost.

Skill Development

Trainees often learn a wealth of theoretical information yet do not understand how to apply it to the workplace. The participant needs to develop skills so the knowledge can actually be used.

Progress Monitoring

Tracking the results proves the effectiveness of the training. Facilitators need to use a training method that makes it easy to track and monitor each employee's progress.

RETURN ON INVESTMENT (ROI)

At Routsis Training, we are constantly asked *"I know we need training, but how do I justify it?"* Since poorly skilled employees are the root cause of most production losses, the highest return on investment comes from improving on three categories: scrap, downtime, and equipment damage.

In a recent industry survey, we found that most companies lose over a quarter of a million dollars annually in scrap and reworked parts, yet are not willing to invest even a fraction of this to remedy the problem. As the company expands and grows, the financial losses increase exponentially. Our customers typically realize reductions of over **60% in scrap and rework** while also eliminating customer returns – all as a direct result of improving the skills and confidence of their workforce.

Competent Workers Provide Immediate Payback Through:

- ▶ Lower scrap rates
- ▶ Reduced mold damage
- ▶ Decreased machine downtime
- ▶ Improved troubleshooting time
- ▶ Faster machine startup
- ▶ Fewer defects
- ▶ Consistent part quality
- ▶ Highly repeatable processes
- ▶ Shorter cycle times
- ▶ Less accidents
- ▶ Process optimization
- ▶ Increased customer satisfaction
- ▶ Quicker changeovers
- ▶ Extended tool and machine life
- ▶ More energy-efficient processes

"We have seen a 65% reduction in scrap and a 30% cycle time improvement – resulting in a 66% increase in production capacity."

**Justin Reid
Harrington Corp.**

"In our first month of training, our scrap dropped 35%, our employees felt more empowered, and they were eagerly anticipating the next step."

**Mark Rhoads
B & M Plastics**