TRAINING

for the Injection Molding Industry

We're in the Business of Molding Champions

Why RJG Training?

Learn from the Global Leaders in Systematic Molding

RJG is a recognized international leader in training for the injection molding industry, with a focus on processing from the plastic's point of view rather than the view of machine set points. This isn't traditional education, though. It's an effective, comprehensive approach to injection molding processing training for all skill levels that delivers measurable results from design to production.

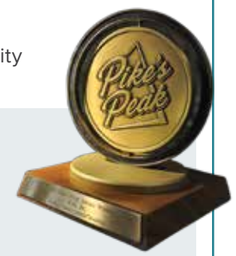
Our courses are offered in a variety of languages around the globe, including: English, Spanish, French, German, Italian, and Mandarin.

Results of RJG Training:

- Improved cycle time
- Improved machine utilization
- Reduced scrap
- Improved quality
- Reduced time to market (faster start-ups, reduced cycle times, decreased downtime)
- Ability to uncover and fix problems
- Decreased tool damage
- Satisfied and confident employees (decreased turnover)
- A standardized processing methodology

Course Formats Offered:

- Classroom style instruction
- Hands-on training in our labs
- Real-world training in your facility
- Online sessions



Highly Experienced Consultants

We don't just have "trainers"—our award winning, problem-solving, troubleshooting consultants show others how to do what they do so well. With over 250 years of combined experience in systematic molding, our consultants transfer their knowledge as well as share their industry and consulting experience with students.

Student Knowledge Retention

Research has shown that 80 percent of lecture-based learning is forgotten within 24 hours. Over the years, RJG has transformed our teaching techniques to overcome this obstacle and create the most effective training courses possible. We've worked with experts in the training field to create a participant-centered learning experience. This training format significantly improves students' understanding and retention of all course content.

World-Class Facilities

We have four fully equipped training facilities located in Traverse City, Michigan; Woodstock, Georgia; Gibsonville, North Carolina; and Peterborough, England. Our facilities house over a dozen types of machines, including hydraulic and electric, instrumented with RJG equipment. This variety allows students to gain relevant hands-on training that they can put to use the moment they return to their plant.

Our Value Promise to You

We're so confident in our training, we'll give your money back if you don't feel you've received value from the course you attend.

Consultation Services

If training isn't the right fit, our brilliant consultants are available to assist with varying molding challenges, from technical support to machine capability assessments, mold design reviews, process and tool launch assistance, and more. Visit www.rjginc.com for more details.

Our Outstanding Reputation

Don't take our word for it. Hear what our customers have to say: www.rjginc.com/company/testimonials

Which Training Course Is Best for You?

Assessment Testing: Find the Right Course for You

We offer four different types of assessments in order to provide you with highly individualized, strategic training recommendations:

1. Online Assessment Testing

One of the best ways to ensure an enjoyable, rewarding training experience is to choose the right level for your position and skill level. If you're not sure which course is best for you, please take our free online assessment test.

2. Company-Wide Assessment Testing

Based on company goals, assessment scores, job functions, and molding issues, a training coordinator will implement a customized training plan to help remedy the issues that your organization may be facing day to day. For more information, contact us to be introduced to the training coordinator in your area.

3. Systematic Molding Gap Assessments

As part of our consulting program, we offer a two-and-a-half-day Systematic Molding Gap Assessment of your company that audits your internal processes. Once the assessment has been completed, we make recommendations for improvement to your internal processes, assist your team with a plan for improvement, and mentor you through the implementation phases.

"RJG has been a strong industry partner for over 10 years. We would not be the company we are today without their support."

Mike Zacharias
President, Extreme Tool & Engineering

Training Progression at a Glance

Engineering Path	Manufacturing Path	Specialty Courses
Rigorous Mold Tryout*	Master Molder® II*	e*DART* ® Template Match
Smartflow® Scientific Cooling	Smartflow® Scientific Cooling	Advanced e*DART* ® Training
Mold Design for Injection Molding	Master Molder® I	Train the Trainer Qualification*
Part Design for Injection Molding	Machine Maintenance	Systematic Molding for LSR
Successful Strategies for Tool Launches*	DECOUPLED MOLDING® Workshop*	Autodesk® Moldflow® Insight Advanced Cool & Warp
	Systematic Molding	Autodesk® Moldflow® Insight Advanced Flow
	Material Handling	Autodesk® Moldflow® Adviser
	Injection Molding Essentials	Autodesk® Moldflow® Insight Fundamentals
	Math for Molders	

Take our Online Assessment Test
for recommmendations on where to start

Advanced
Intermediate
Introductory

*Prerequisites required—see www.rjginc.com for details

Introductory Courses

Math for Molders – 9 hours

Enhance your math skills

This online course is intended for anyone who seeks to master the math skills needed to successfully complete injection molding processing courses. It is a self-paced class that focuses on the math skills required to process using scientific molding techniques. Students have 30 days to complete the 9 hours of training—they're able to stop and start back up again whenever it's convenient for them.

Course Highlights:

- Calculating area, tonnage, intensification ratio, and more
- Pressure equation triangle for force, pressure, and area
- Verifying the machine is capable

Ideal for:

Personnel with hands-on processing responsibilities who score less than 4 out of 6 on the RJG online assessment

Available In: English

Injection Molding Essentials – 2 Days

Understand the injection molding process

This course is designed for anyone new to injection molding or with no formal education in the science of polymer behavior. It provides a solid foundation for understanding the injection molding process and the critical practice of good production techniques. Participants learn the elements and variables involved in the injection molding process as well as key terminology that will help them communicate and solve molding problems.

Course Highlights:

- Nature and properties of plastics
- Basic injection molding
- How to avoid common molding problems

Ideal for:

- Beginners
- Mold setters
- Support (tooling, quality, planning, etc.)

Available In: English, Español, Français, Deutsch, Italiano, 中文

Material Handling – 1 Day

Reduce errors and inconsistencies in processing

This course walks students through the proper techniques for material handling and troubleshooting. It also explains the ins and outs of raw material management and what to watch out for when choosing materials, examining product labels, and determining dryer requirements. Emphasis is on the main material considerations and how drying affects the process.

Course Highlights:

- Understanding material labels
- Drying and grinding basics
- Material storage

Ideal for:

- Beginners
- Mold setters
- Support (tooling, quality, planning, etc.)
- Material handlers

Available In: English

"RJG training is a good choice. I would consider it a must."

David Wisniewski
Engineering Manager,
World Class Plastics

Systematic Molding – 3 Days

Gain the knowledge to improve your process

This course builds the foundation for all training sessions and allows team members from all departments to speak the same language. Through a combination of classroom instruction and activity-driven learning, students leave with a better understanding of how to develop a machine-independent process, how to make data-driven improvements to existing processes, and how to effectively troubleshoot using scientific and systematic approaches.

Course Highlights:

- The four plastic variables of injection molding
- Universal setup sheets based on plastic conditions
- Overview of the molding system

Ideal for:

- Process engineers
- Design engineers
- Project managers
- Management (including shift supervisors)
- Support (tooling, quality, planners, etc.)

Available In: English, Español, Français, Deutsch, Italiano, 中文

DECOUPLED MOLDING® Workshop* – 3 Days

Master your skills by putting them to practice

This workshop is designed to provide students with valuable hands-on machine time to reinforce the methodologies they learned in Systematic Molding. It offers the exact same exercises as Master Molder I, but with half the practice time and none of the testing. Companies that are not allowed by their customers to make changes to processes can substitute the Template Match Workshop for the Decoupled Molding Workshop.

Course Highlights:

- Machine qualification tests
- Mold performance requirements and weakness identification
- Building robust Decoupled processes and templates

Ideal for:

- Systematic Molding graduates with hands-on processing responsibilities
- Process engineers

Available In: English, Español, Deutsch, Italiano, 中文

"Decoupled II molding has become our global standard."

-Doug Thorpe
Director, Nypro

Intermediate Courses

Machine Maintenance – 3 Days

Ensure your machine reaches expected performance

This course is designed for machine maintenance personnel responsible for upkeep, troubleshooting, and preventive maintenance of injection molding machines and ancillary equipment. The performance of the press is critical to a molder's ability to deliver consistent parts. Maintenance personnel must understand how to identify and fix press performance concerns in order to optimize press tuning.

Course Highlights:

- Screw and barrel wear evaluation
- Hydraulic systems: closed and open loop, variable displacement pumps, and proportional valves
- Electric machines: servo and frequency drives

Ideal for:

- Maintenance personnel
- Process technicians
- Setup technicians

Available In: English, Español

Successful Strategies for Tool Launches – 3 Days

Detect mold design issues before the steel is cut

This course is specifically intended for designers, mold builders, and tooling engineers who are looking to incorporate progressive strategies into the design and build of a mold to ensure robustness. The goal is to prevent bad part designs and molds from getting into production. Participants also develop the tools to measure the mold, machine, and process capability interactions and determine the best recipe for successful tool launches.

Course Highlights:

- How the mold design and build affects quality and total product costs
- How molds can be tried out systematically
- How plastic behaves as it travels through the stages of a process

Ideal for:

- Designers
- Mold builders
- Tooling engineers
- Advanced processors
- New product launch team

Available In: English, 中文

"RJG training helped us improve our delivery performance by 33%. Invest in your people, and you'll see the rewards."

-Jay Smith
President of BD, CI Medical

MASTER MOLDER®

Where It All Began

RJG launched the Master Molder® Program in 1998 after we saw a great need in the industry for an intensive injection molding training. Molders needed something new, something immersive, something practical. Nobody in the industry was teaching methods from the plastic's point of view in a real-world production floor environment, and that had to change.

The Industry Standard

There is a reason Master Molder® is listed as a requirement in job descriptions across the globe. Students who have completed Master Molder courses consistently deliver higher quality products and less scrap. This hands-on, in-depth training enables students to leave with solid skills that can be applied immediately in their facility.

Don't Take Our Word for It

"*RJG's Training provided a way for our fast-growing global company to build multi-functional teams within the individual plants who can properly build a valid DECOUPLED process that exposes issues instead of covering them, reduces the effects of normal variation, provides evidence of abnormal variation, provides a machine independent process results record, and allows for remote support.*"
– Doug Thorpe, Nypro

Advanced Courses

Master Molder® I – 2 Weeks

Become a problem solver and problem preventer

This course is designed for those who need to understand and demonstrate injection molding skills at the machine. Participants are able to demonstrate the development of a Decoupled II process and apply methods, strategies, and techniques of injection molding from the plastic's point of view. This hands-on, in-depth training enables students to leave with solid skills that can be applied immediately in their facility.

Course Highlights:

- Materials, molds, machines, hydraulics, and instrumentation
- Process development using DECOUPLED MOLDING® techniques
- Process documentation and data interpretation

Ideal for:

- Process technicians
- Engineers
- Managers

Available In: English, Español, 中文

Master Molder® II* – 2 Weeks

Advanced techniques for daily processing struggles

In this course, participants learn to apply cavity pressure control strategies to accomplish Decoupled III techniques using instrumentation and data acquisition. This course also covers how to use the *eDART*® system to create and save a template of a robust process that can be moved with the tool to any machine in the world. Participants will then be able to match that process at the new machine to create immediate good parts.

Course Highlights:

- Cavity pressure control using Decoupled III molding techniques
- Matching processes on different presses using cavity pressure data
- Evaluation of molding machine performance
- The optimization of a process through data collection

Ideal for:

- Graduates of Master Molder I

Available In: English, Español

Rigorous Mold Tryout* – 3 Days

Prevent bad molds from going into production

The goal of this course is to demonstrate how to prevent bad part designs and molds from going into production. Attendees learn about the levels of risk involved in launching any new tool and how to reduce those risks to create a mold that will produce quality parts soon after introducing it to the plant floor. Students leave with a complete understanding of qualifying a mold on a machine-independent basis.

Course Highlights:

- Identify mold performance requirements and select the best machine for the mold
- Build robust, repeatable Decoupled II and III processes and templates
- Perform machine qualification tests

Ideal for:

- Engineers
- Personnel involved in transferring or setting up tools

Available In: English

Smartflow® Scientific Cooling Course – 2 Days

Manage mold cooling to produce consistent parts

This comprehensive class is for those who want to better understand and control the effects of mold cooling. Participants learn the tools needed to analyze heat energy and the mold cooling management required to produce consistent, profitable parts. This course will also introduce advanced methods, such as flow simulation, thermal imaging, and high temperature cooling systems.

Course Highlights:

- Learn energy principles in relation to specific polymers
- Understand how heat transfer and energy flow affect part quality and cycle time
- Create heat budget and balancing using energy flow calculations

Ideal for:

- Mold builders / designers
- Tooling engineers
- Mold technicians

Available In: English

Advanced Courses

Part Design for Injection Molding – 3 Days

Save costs by designing moldable parts upfront

This course provides a common language and the core knowledge required to successfully design and produce plastic injection molded components. Class topics address good manufacturing processes for plastic part design, fundamental material characteristics, key mold concepts, and more. Building a solid foundation of knowledge is required to design robust parts that reduce the risk of less than optimum mold designs, therefore minimizing exposure to injection molding non-conformities.

Course Highlights:

- Materials, tooling, and machine requirements
- Processing, non-conformities, and tolerances
- Part design: wall thickness, flow length, features, radius, draft, gloss

Ideal for:

- Product design engineers
- Mold designers
- Molders

Available In: English

Mold Design for Injection Molding – 3 Days

Save costs by avoiding mold rework

This course provides mold makers, design engineers, and molders with the common language and core knowledge required to successfully design robust injection molds that meet cycle time, cost, part quality, and lead time requirements. Class topics address good manufacturing practices (GMP) for part design, including fundamental material characteristics, necessary processing techniques, and molding non-conformities, with a focus on robust mold design.

Course Highlights:

- Part design: wall thickness, flow length, features, radius, draft, gloss
- Mold design: line of draw, steel, coatings, actions, gating, venting, support pillars, cooling, ejection, instrumentation

Ideal for:

- Mold designers
- Product design engineers
- Molders

Available In: English

Autodesk® Moldflow® Adviser – 3 Days

Hands-on exercises on the features of Autodesk Moldflow Adviser

In this official Autodesk training course, students will learn the features, functionalities, and workflows of Autodesk Moldflow Adviser. Students will review the injection molding process to better understand the relationship of part to process, thermoplastic materials and their families and abbreviations, and design principles and how to apply them, in addition to design philosophies and procedures. The class will provide hands-on instruction to improve the students' use of Standard, Premium, and Ultimate licenses.

Course Highlights:

- Learn how to use the interface and job manager and how to customize databases
- Quick Fill-Pack-Warp Analysis: the steps typically used for any analysis project
- Learn to import and check models from CAD systems

Ideal for:

- Beginner Autodesk Moldflow Adviser users

Available In: English, Español

Autodesk® Moldflow® Insight Fundamentals – 3 Days

Walk through the entire flow analysis process

In this official Autodesk training course, students will learn the fundamental features, functionalities, and workflows in Autodesk Moldflow Insight. Attendees will review the injection molding process, thermoplastic materials and their families and abbreviations, design principles and how to apply them, and design philosophies and procedures.

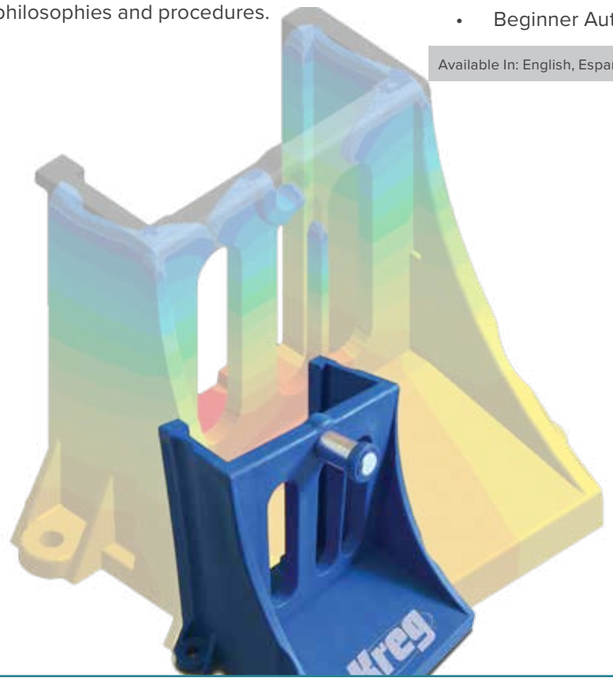
Course Highlights:

- Learn to navigate and use the interface
- Quick Cool-Fill-Pack-Warp Analysis: the steps typically used for any analysis project
- Design philosophies and procedures
- The mesh characteristics necessary for a high quality digital prototype

Ideal for:

- Beginner Autodesk Moldflow Insight users

Available In: English, Español



Specialty Courses

Autodesk® Moldflow® Insight Advanced Flow – 3 Days

The features and functions of Autodesk Moldflow Insight Advanced Flow

In this official Autodesk training course, students will learn the different features of Autodesk Moldflow Insight Standard, which were not covered in the Autodesk Moldflow Insight Fundamentals course. Students learn about the more complex analysis types available in Autodesk Moldflow Insight.

Course Highlights:

- Learn to create personal databases of all types and how to use them
- Learn to analyze family tools, including finding processing conditions, combining studies, and balancing runners
- Learn the types of multiple gate problems that occur and how to analyze them

Ideal for:

- Any Autodesk Moldflow Insight user

Available In: English, Español

Autodesk® Moldflow® Insight Advanced Cool & Warp – 3 Days

Gain the knowledge to improve quality of LSR parts

This official Autodesk training course covers the features, functionalities, and workflows in the Autodesk Moldflow Insight Premium package. It covers features of the premium license that are not covered in the Fundamentals or Advanced Flow courses.

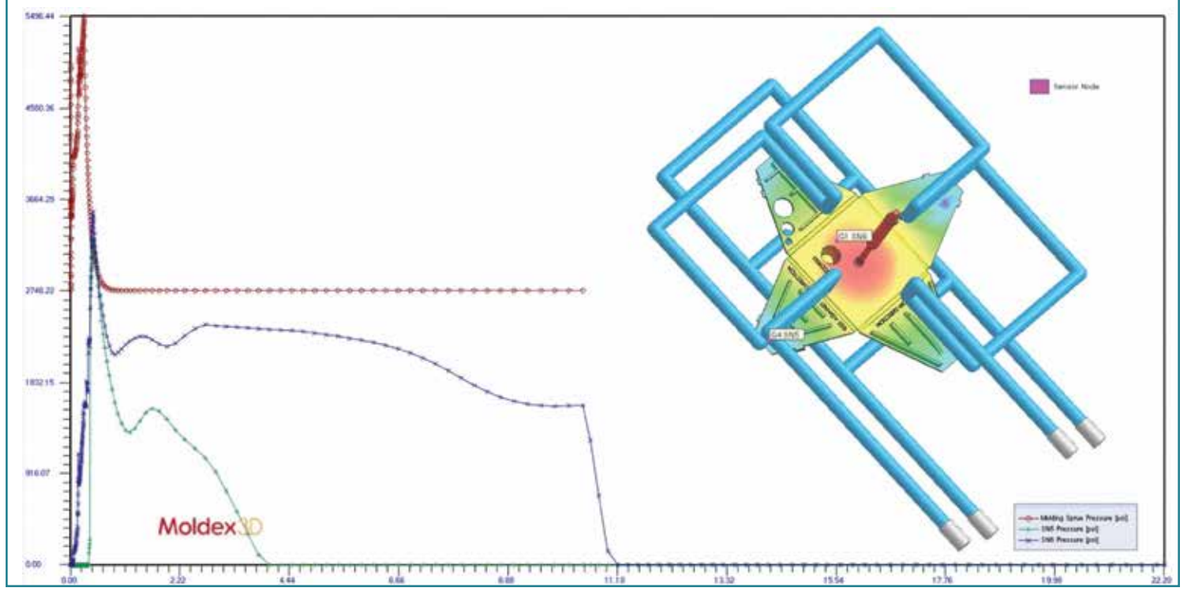
Course Highlights:

- Learn to prepare for, run, and interpret the results of a core shift analysis
- Learn about fill and pack analysis for fiber filled materials and why and when to do an analysis
- Understand the importance of cooling and the basic concepts of cooling injection molds

Ideal for:

- Any advanced Autodesk Moldflow Insight user

Available In: English, Español



eDART® Template Match – 3 Days

Successfully transfer a process across machines

In this course, students learn how to document an existing process and transfer it to another machine utilizing calculations, conversions, and *eDART* templates. Students also examine robust documentation and matching processes based on the plastic variables, learn how to examine a setup sheet, and identify mold performance requirements. They also review machine variables and determine if two machines are compatible.

Course Highlights:

- Using the plastic variables to troubleshoot a process
- Maintaining process match
- Transferring an existing process to another machine

Ideal for:

- *eDART* system users
- Process technicians
- Support (tooling, quality, planning, etc.)

Available In: English, Français

Advanced *eDART*® Training – 3 Days

Create a better process, identify molding problems

This course is intended for anyone who needs to know how to effectively run an *eDART* process controller or identify molding problems. Attendees learn how to connect and verify that sensors are properly installed, start and stop jobs, verify alarms and templates, and set up the *eDART* sytem for abnormal part containment. This course introduces Decoupled III Machine Control, but does not cover building a process.

Course Highlights:

- How to interpret *eDART* data and graphs
- Part containment using cavity pressure technology
- How to identify machine and process changes using the *eDART* system

Ideal for:

- *eDART* system users
- Process technicians
- Support (tooling, quality, planning, etc.)

Available In: English, Español, Français, 中文

Specialty Courses

Train the Trainer Qualification* – 2 Weeks

Create a community of problem solvers

This course is designed for those who fully intend to instruct others in their organization on the methodologies and techniques learned in their Master Molder® training. Qualified trainers are eligible to teach Math for Molders, Injection Molding Essentials, Systematic Molding, and the DECOUPLED MOLDING® Workshop.

Course Highlights:

- Daily evaluation by the instructor and class on teaching skills
- Develop training materials to support learning objectives
- Hands-on lab sessions that encourage student participation

Ideal for:

- Graduates of Master Molder I who scored 90% or higher in the last five years and want to instruct others in their organization

Available In: English

Systematic Molding for LSR – 3 Days

Gain the knowledge to improve quality of LSR parts

This course provides the fundamentals for building a robust and repeatable process. Students leave with a better understanding of how to develop an LSR process, how to make data-driven improvements to existing processes, and how to effectively troubleshoot using scientific and systematic approaches. This will allow students to make informed decisions for lasting solutions.

Course Highlights:

- Material delivery systems
- Understanding the plastic variables
- Avoiding quality defects

Ideal for:

- Process technicians
- Support (tooling, quality, planning, etc.)
- Anyone who wants to develop a systematic approach to molding LSR

Available In: English

"I have worked with few companies that have such a robust training capability and outstanding technical support as RJG."

-John Porter
VP of Operations,
iMARK Molding

Locations

USA

RJG USA (Headquarters)
Traverse City, MI
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