Global Standards for Plastics Certification

Exclusive North American Rights!

- On-site, industry-standard, interactive training
- Globally-recognized credential
- Exemplary employee performance skill development
- Measured company economic improvements
- Three levels of achievement

Global Standards for Plastics Certification (GSPC) is the premier interactive training program for the plastics industry. GSPC combines comprehensive face-to-face instruction, interactive training, process simulation, and focused on-the-job exercises for each employee level at your facility.

Processes include blow molding, extrusion, injection molding, or thermoforming.
Go Above and Beyond the Competition

An educated and experienced workforce is a company’s most valuable asset. GSPC is the only apprenticeship program that focuses on producing exemplary employees with a globally recognized credential.

Pennsylvania College of Technology’s Plastics Innovation & Resource Center (PIRC) has partnered with Polymer Training & Innovation Centre (PTIC), City of Wolverhampton College in the United Kingdom (official certifying body), and Paulson Training Programs, Inc. (approved interactive software) to provide the GSPC program.

What Is

Global Standards for Plastics Certification

GSPC is an internationally recognized, employee certification program, which provides employee credentials and demonstrated economic benefits to companies. This comprehensive system is currently used in dozens of countries across the world and is growing in acceptance and implementation in the United States.

In the USA:
• Over 90 companies GSPC trained
• Over 1,000 credentials awarded

Internationally:
• Over 500 companies GSPC trained
• Over 29,000 credentials awarded

Originally developed in the UK as an apprenticeship qualification, GSPC has evolved through the years to be the most rigorous and comprehensive certification system available to the plastics industry. Certification is based on a plastics machine operator/technician clearly demonstrating his or her ability – not just passing a multiple-choice test.

GSPC is a combination of plant/company-specific training documents, computer interactive modules, and process simulation software. Computer-based, interactive training launches GSPC and effective implementation significantly increases workforce competence at your facility.

Process simulation and supplemental, hands-on training are major contributors in developing a skilled workforce in a timely and cost-efficient manner. Process simulation software is the ideal link between the computer and the production floor. Participants develop troubleshooting skills by solving defect scenarios on a virtual molding machine without costing your company, saving excess scrap and machine downtime. The employee’s actions are closely monitored, allowing the facilitator to evaluate the processing skills and make specific recommendations for areas that need improvement.

After an employee spends time at the computer training station, he or she receives focused hands-on training. This is best done using supplemental task sheets, in conjunction with training materials such as blueprints, processing guides, and machine manuals.

A Standard Tailored to Your Facility

Although the industry standards of the apprenticeship program are fixed, a percentage of the training is based on an understanding of your company’s specific procedures and policies regarding production, work relationships, quality, and safety. Certified employees assure the employer that the workforce possesses a strong foundation of knowledge, but more importantly employees demonstrate applicable skills, which relate directly to the production environment.

Employers ask, “What if I train my people and they leave?”

We ask, “What if you don’t train them and they stay?”
Global Standards for Plastics Certification

Get your entire production workforce certified

GSPC certification is a progressive system that begins with Level 1 for all personnel, and selected individuals progress through Level II and Level III. The typical participants for the appropriate levels are as follows:

### Participant
Your most valuable asset becomes your participants. The company provides each participant with his or her own workbook to prepare for certification. Through the aid of training, facilitation, and existing plant-specific documentation, the employee gains the knowledge and competency to learn and clearly articulate the information in the workbook and ultimately meet the standard.

**In-Plant Assessor/Trainer**
As the employee progresses through the workbook, the in-plant assessor periodically tests and approves the employee’s progress until he/she believes the participant is ready to be certified.

**Verifier**
The verifier ensures the integrity of the standard by visiting the plant and individually evaluating the general knowledge of the material using the production floor as the backdrop. When the participants show complete compliance, competency, and articulation, they are approved, certified, and receive a globally recognized credential.

**Plastics Innovation & Resource Center**
The PIRC ensures the success of the program at your facility by supporting your company every step of the way. Through services such as a train-the-trainer workshop, monthly conference calls, on-site visits, and continued status checks, the PIRC gives you the tools and support to implement this apprenticeship program successfully in a timely manner.

### Key to GSPC Training
Unlike other training programs, GSPC is specially tailored to each facility. It teaches employees the technical aspects of molding, the overall understanding of the plant operations, and the business aspect of making components. This training captures the valuable knowledge held by senior employees – ensuring key operations do not leave the company when someone retires. Key information imperative to the success of the company is captured, documented, and instilled in existing and new employees.

### How Does the GSPC Process Actually Work
GSPC is a robust system that employs checks and balances to ensure your certified employees meet international guidelines. This apprenticeship program is successfully implemented and administered by the following:

**Level 1**
- Material handlers
- Quality auditors
- All production personnel
- All company employees

**Level 2**
- Process technicians
- Mold/Die setters
- Toolmakers
- Supervisors
- Operators

**Level 3**
- Senior process technicians
- Senior toolmakers
- Senior toolmakers
- Process engineers

“Employees are more willing to take on tasks that improve productivity.”
Manager, Integrity Plastics, Inc.
Top 10 Reasons to Become GSPC Certified

Associations and professions use certification to recognize qualified and competent individuals. The certification process is one of the single most important steps in career development. Here are the top 10 reasons a plastics professional should become GSPC certified.

1. **Certification grants you professional credentials.** Since GSPC recognizes your individual accomplishments, it serves as an impartial, third-party endorsement of your knowledge and experience on both a national and international basis.

2. **Certification shows your peers, supervisors, and the general public commitment to your career.**

3. **Certification enhances your professional image.** The GSPC program seeks to grow, promote, and develop certified professionals who stand out as examples of excellence in the plastics industry.

4. **Certification reflects achievement.** Individuals display excellence by meeting global standards and requirements established by the plastics industry.

5. **Certification builds self-esteem.** GSPC is a step toward defining yourself beyond a job description or academic degree while gaining a sense of personal satisfaction.

6. **Certification can improve career opportunities and advancement.** GSPC gives you the edge when being considered for a promotion or other plastics career opportunities. GSPC clearly identifies you as one who demonstrates competency based on accepted industry standards.

7. **Certification may provide for greater earning potential.**

8. **Certification improves skills and knowledge.** Achieving certification requires training, studying, and demonstrating competent skills. GSPC showcases your individual ability by confirming proficiency and knowledge.

9. **Certification prepares you for greater on-the-job responsibilities.** GSPC is a clear indicator of your investment in your own professional development. Certified professionals recognize innovative technology and possess the desire to anticipate and respond to change.

10. **Certification offers greater recognition from peers.** As a certified professional, you can expect increased recognition from your peers for taking that extra step in your career development.

“We have definitely seen an increased sense of professionalism among the employees who have participated in the program.”

Manager, Viking Plastics
What Improvements Can You Expect From Training

A greater understanding of the job at hand is achieved through a structured apprenticeship training program. By utilizing training, new employees make meaningful contributions much quicker, and current employees connect and understand much more about the daily details of their job.

The effort required to set up a structured training program yields a return on investment many times over by reducing cycle time, scrap rates, mold damage, regrind, machine downtime, rework, and employee injuries. Any manager can quickly assign a monetary value to all of these areas.

The fact is, employees that recognize and correct problems are far more valuable than someone with only a surface understanding of his or her job. Thorough knowledge of plastics production can be gained through years of experience, but this means it will take a significant amount of time for a new employee to become a valuable asset to an operation.

As an example of just how important training is in reducing and optimizing an injection molding process, the chart below illustrates savings on only one machine!

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<th>% Cycle Time Improvement</th>
<th>$50/hr</th>
<th>$60/hr</th>
<th>$80/hr</th>
<th>$100/hr</th>
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<td>10%</td>
<td>$31,000</td>
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<td>$50,000</td>
<td>$62,000</td>
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<td>$47,000</td>
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<td>$131,000</td>
<td>$174,000</td>
<td>$218,000</td>
</tr>
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</table>

This table represents the cost savings per machine when improving process efficiency through structured training.

The annual figures above are based on a 5 day/24 hour operation.

“I would recommend this to people who aren’t in plastics. That is how much I’ve learned.”

Employee, Plastikos, Inc.
GSPC in Pennsylvania

GSPC is implemented in over 24 companies in Pennsylvania. The PIRC piloted the GSPC program in various companies with differing processes at the launch of GSPC for the Commonwealth.

To support the idea of true improvement, the PIRC benchmarked companies before and after the training for results to prove the return on investment. Quantitative and qualitative metrics were reviewed, looking at specific efficiency measurement (metrics) and employee communication and morale.

The results were astounding, further supporting the importance of GSPC for the success of companies at all levels. (An electronic copy of the completed study is available upon request.)

Key Performance Indicator Results

**The original GSPC pilots yielded the following results:**

- One hundred percent (100%) of the indicated employee turnover metrics improved.
- One hundred percent (100%) of the indicated customer complaint metrics improved.
- Eighty percent (80%) of the indicated quality metrics improved.
- Seventy-five percent (75%) of the production output/efficiency metrics improved.
- Sixty-nine percent (69%) of the indicated scrap rate metrics improved.
- Fifty percent (50%) of the on-time deliver metrics improved.

**Individual Company Results**

- Estimated savings of over $70,000
- Reduced customer complaints by 5%
- Reduced monthly scrap rates by over $1,200 a month
- Raised production output from 56% to 81%
- Increased throughput efficiency by $1,000 per month
- Reduced scrap rate by 2% per month
- Reduced turnover by 3%

**Overall Company Results**

- Participating companies indicated 74% of the metrics improved.
- Test scores increased an average of 20 points on each module from pre-test to post-test.
- Every company reporting data to the study reported at least one business metric that improved as a result of the certification program.

“**I know we need training, but how do I justify the investment**”

There are many ways to justify the cost and quantify the associated payback areas. Since poorly skilled employees are the root cause of most production losses, the highest return on investment comes from these three categories: scrap, downtime, and equipment/mold damage.

We found that most companies lose over a quarter of a million dollars annually just in scrap and reworked parts, yet are too hesitant to invest a fraction of these dollars to remedy the problem. As a result, the trend continues. As the company expands and grows, the financial losses become staggering.

GSPC companies typically realize significant first-year reductions in both scrap and rework while also decreasing customer returns significantly – all as a direct result of improving the skills and confidence of their workforce.

**The Most Advanced Equipment Will Never Compensate for Poorly Skilled Workers**

Despite major advances in technology, machine manufacturers still need good, skilled employees. A strong fundamental knowledge of processing is necessary to properly set-up, troubleshoot, and maintain a repeatable process.

**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
- Less employee turnover

“**I have become more confident in what I know. I have been tested, and the knowledge has stayed with me.**”

*Employee, Rexam*
Cost of Downtime Is Significant

In our experience, managers underestimate the impact of downtime on their company, often ignoring hidden downtime in their calculations. Downtime is not only the time when the machine is idle not making parts. Mold change time, troubleshooting time, additional cycle time, and any time when the machine is producing defective parts also constitutes downtime. Faster mold changes, more stable processes, and shorter cycle times can easily reduce this by more than 65%. All of these qualities are instilled in employees through the GSPC program!

What Do Companies Say About GSPC

“Performance of participants has gone up. The performance of non-participants (has been) affected positively by these people as well.”
Manager, McClarin Plastics, Inc.

“We discovered a rather large number of gaps in our policies and procedures which may have gone unnoticed for a long time had GSPC not called them to our attention.”
Manager, Plastikos, Inc.

“GSPC helped the operators understand how a pellet of material is melted, conveyed, and injected into the mold. It explained the need for maintenance and preventive maintenance for the injection molding machine. It helped operators understand the importance of scrap while running. It gave a systematic approach to troubleshooting. It helped the employees feel more important to the overall process of molding and helped change attitudes for the better.”
Manager, Allegheny Plastics, Inc.

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How Much Is Damaged Tooling and Equipment Costing Your Company

Although any equipment can malfunction, damaged or worn tooling is generally the result of improper handling, processing, or maintenance. Employees lacking competence ignore signs of wear or violate good practices because they just do not know any better. In most cases, they do not understand the impact of their actions to the company and their customers. We have found that virtually all employees want to do their jobs well, but most have never received the skill and confidence building tools necessary to do so.

“As a result of the program, I have a more focused effort on making sure that parts and machines are cleaned to prevent contamination of parts.”
Employee, Allegheny Plastics, Inc.
How to Get Started

Contact the PIRC for a free, on-site consultation. Whether you are just training your machine operators, or conducting a plant-wide training initiative, the PIRC can provide as much assistance as necessary to get your training off the ground. We will assist you in implementing the GSPC program, which includes:

- Company on-site consultation
- Train-the-trainer, one-day seminar for in-plant assessor
- Status updates
- Partner and consortium-based training
- Empowering employee ownership
- Capturing the knowledge base of your company
- On-site verifications

Contact the PIRC today to get started.

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Plastics Innovation & Resource Center

The Plastics Innovation & Resource Center (PIRC) at Pennsylvania College of Technology is one of the top plastics technology centers in the nation for research, development, and education related to injection molding, extrusion, blow molding, rotational molding, and thermoforming.

Partnering with the PIRC gives plastics manufacturers the opportunity to increase productivity while decreasing capital expenditures, operating costs, and development costs.

Services offered to plastics manufacturers include:

- New product development
- Material selection
- Testing and analysis
- Custom compounding
- Process technology
- Education and training for workforce development

As a special mission affiliate of Penn State, committed to applied technology education, Penn College offers PIRC clients access to:

- Industrial-scale process equipment and extensive material testing laboratories (valued at $2 million)
- World-class training programs (including customized, on-site training programs, workshops, online courses, and national seminars)
- Expert consulting staff, including members of the Penn College faculty
- Student interns and graduates (A.A.S. and B.S. degrees) that bring education and experience to the workplace

Penn College is one of only five colleges in the nation offering degree programs accredited by the Engineering Technology Accreditation Commission (ETAC) of the Accreditation Board for Engineering and Technology (ABET).

A.A.S. – Plastics & Polymer Technology
B.S. – Plastics & Polymer Engineering Technology

Penn College graduates are in high demand for positions in manufacturing operations, process technology, supervision, research and development, product and machine design, and more. Companies employing Penn College alumni include Honda, Toyota, General Electric, DuPont, Tyco, General Motors, Graham Arkema, Truck-Lite, West Pharmaceutical Services, and General Cable.

Find out more about how you can develop a path for success in the plastics industry.

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