



## POLYMERS

*Advanced solutions for the aerospace industry*

### Overview

For almost 50 years, Entegris has been building its expertise in customizable injection molding. However, we don't stop at just the molding, we take it a step further. Even before the molding process begins, Entegris analyzes the pertinent material properties to ensure that over time we produce a consistent quality product based on customer specifications and requirements. In addition we have extensive capabilities in chemical, mechanical and physical property analysis.

### Molding Experience

Entegris focuses on understanding your requirements and processes to develop materials science-enabled solutions which ensure the integrity of your products. Our technical and process experience includes a broad portfolio of more than 17,000 materials, process control solutions and material handling products leveraged between the aerospace, semiconductor, solar, energy, LED, life sciences, consumer electronics, display and petrochemical markets.

From contract molding to materials testing and requirements design, Entegris can customize an injection-molding plan for your needs.

### Product Focus

- Interior cabin components
- Containers and covers
- Structural housings
- Fan/inlet section
- Engine (cold section) components



*From aircraft interior cabins and structures to aircraft engine components*



## Equipment

Entegris has injection molding presses that range in size from below 100 tons to greater than 2000 tons. We have a proprietary Machine Performance Validation process that guarantees machine performance that often exceeds customer specifications. In addition, many of our presses are coupled with automation robots to ensure consistency and reduce costs.

Entegris supports the capability to effectively mold high temperature, filler-loaded polymer compounds rarely processed elsewhere, down to commodity resins found almost anywhere. In addition to our world-class equipment, the robustness of our Scientific Injection Molding (SIM) capabilities allow us to handle most custom compounds and commercially available resins.

Finally, Entegris has a highly qualified staff of RJG certified master molders and press maintenance technicians on-site. Employees practice SIM process development and process improvement strategies to effectively manage complex Decoupled II equipment and process capabilities.

## Manufacturing Capabilities

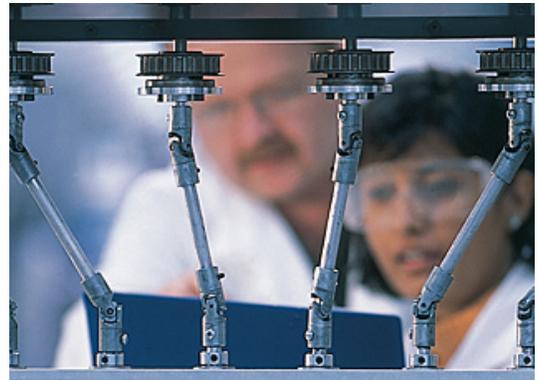
Ensuring product performance standards are met; Entegris has a proven operational system that utilizes scientific injection molding techniques within an ISO 9001 system to ensure the appropriate level of contamination control, materials integrity and total product quality is delivered consistently, and on time. Our manufacturing capabilities include:

- Injection molding
- Machining
- Welding
- Overmolding
- Prototyping
- Tool design/making
- Ultrasonic cleaning
- Laser scribing
- Annealing



## Tooling

Entegris has the capability to assist you in designing tools and facilities in the US and Asia where those tools may be built to exacting specifications. These capabilities allow us to consistently achieve tight tolerances in a robust molding process. Our comprehensive tool qualification, mold builds and mold maintenance allow us to serve your multiple tooling manufacturing needs.



## Science/Laboratory Capabilities

Unmatched knowledge you can count on. To support your product development and production, Entegris offers more than 200 methods and applications, 300 analytical instruments and 17 collaborating laboratories focusing on materials science to provide you with products of the highest purity, quality and strength.



## Materials Science

Entegris relies on Materials Science to provide leading product solutions for its customers in multiple industries. We have the knowledge, experience and capabilities to meet your need for services including materials specification and compound development.



## Engineering Capabilities

Entegris works directly with you to develop processes and products that enable innovation and efficiencies. Proven technical expertise and innovation are key attributes of Entegris' engineering. Combining advanced engineering and design expertise with tools such as Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Moldflow® analysis and modeling, enables Entegris to optimize product design for your system.



## Additive Manufacturing for Prototyping

Entegris now can offer greater access for quick turnaround, in-house rapid prototype component printing and rapid manufacturing component printing services. This resource is available to design engineers who have a need for a printed part for form, fit, function analysis for verification; providing the recipient of these parts greater confidence when seeking capital funding for product development.

Fused Deposition Modeling (FDM) technology builds parts layer-by-layer by heating thermoplastic material to a semi-liquid state and extruding it according to computer-controlled path. Programmers can adjust print density by part features as a means to optimize printed part strength, aesthetics, porosity and time (optimize speed) to print the parts.

Thermoplastic parts can endure exposure to heat, chemicals, humid or dry environments and mechanical stress. Soluble support materials make it possible to produce complex geometries and cavities that would be difficult to build with traditional manufacturing methods.

## For More Information

To learn more about how Entegris' high-purity polymers help customers enhance yields, improve productivity and meet future technological needs, call Entegris at +1 719 246 3000.

## Terms and Conditions of Sale

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