



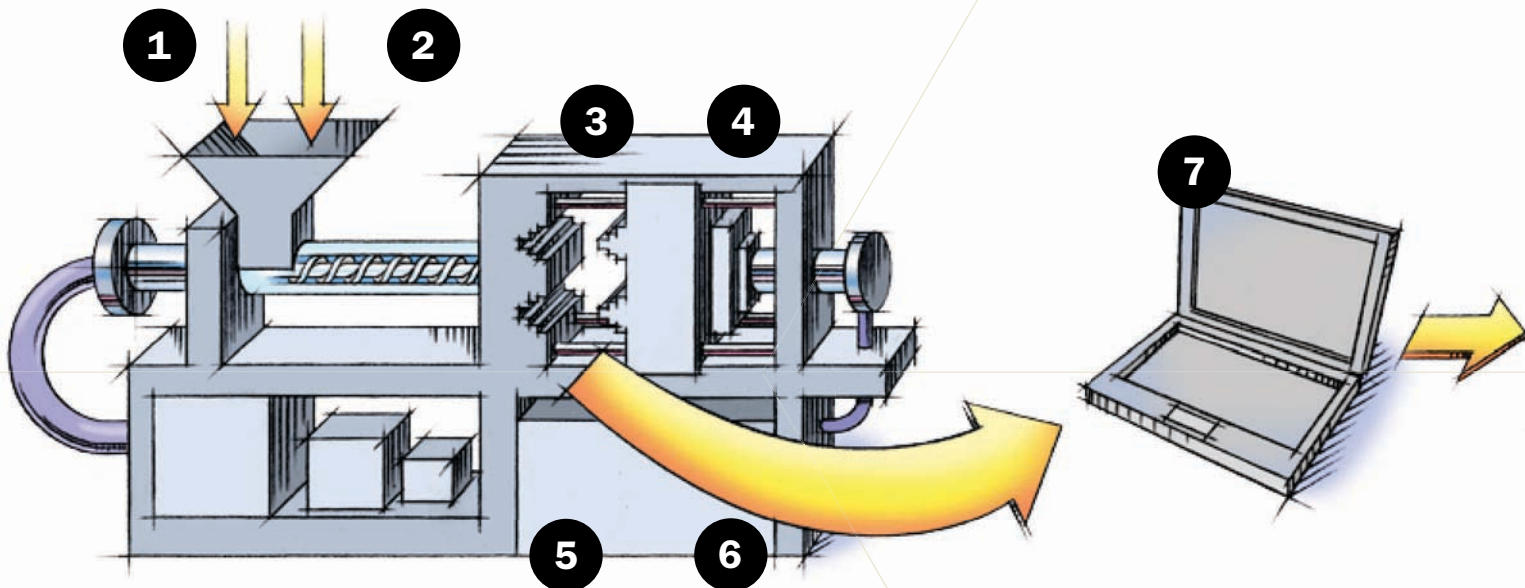
PolyOne[™]

**OnCap[™] Additives
for Injection Molding**

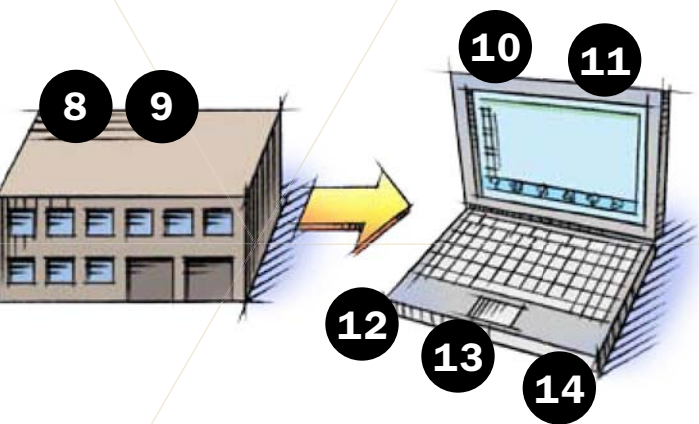
Enhancing the functional performance and processing efficiency of injection molded thermoplastic parts

Injection Molding

Injection molding is a highly dynamic process, with small changes in operating variables and specifications making the difference in overall program success. PolyOne understands these dynamics and comes prepared to solve a variety of processing problems with a complete toolbox of OnCap™ polymer additives. From raw material blending to molding operations, from packaging to distribution and out to the retail shelf, PolyOne representatives can help you reduce operating costs and improve the marketability of your finished product.



Overcome injection molding process challenges with OnCap™ additive concentrate solutions



- 1. Challenge** – Market need to reduce the weight of the molded part.
Solution – Add *Polyfoam™* blowing agent to achieve part dimensions and properties with air instead of plastic. The reduced part weight and cost provide opportunity to grow market share.
- 2. Challenge** – Using clarified PP in order to achieve part clarity.
Solution – Add *nucleating agent* to allow use of unclarified PP to meet clarity objectives. Use of lower-cost resin improves part economics, allowing for sales increase and/or margin gain.
- 3. Challenge** – Reduce the time to clean the barrel and runner system on a color changeover.
Solution – Use *Multi-Purge™* concentrate between color runs to thoroughly clean machine internals. This facilitates rapid color changeover with minimal scrap, reducing costs and increasing throughput.
- 4. Challenge** – Plastic is degrading in the barrel at higher temperatures.
Solution – Add *antioxidant* to avoid burning the polymer at higher temperatures, which improves cycle time and throughput rate while minimizing reject parts.
- 5. Challenge** – Parts stick to the mold and ejector pins.
Solution – Add *slip agent* to create a lubricating layer between the part and the tools, resulting in reduced cycle time and increased throughput.
- 6. Challenge** – Parts are shrinking in the mold or warping after they come out.
Solution – Add *PlastOne™* concentrates or *nucleating agents* to achieve full design dimensions and stability. The products will look and perform as expected, reducing reject parts and improving sales.
- 7. Challenge** – Parts require a permanent mark that cannot be smudged.
Solution – Use *FastMark™* laser marking to give permanent marks without use of consumables. The parts meet their performance requirements, allowing for increased sales while cost of marking is reduced.
- 8. Challenge** – Parts stick together due to electrostatic forces during transfer or secondary assembly.
Solution – Add *antistat* to reduce static charge in the parts. Improved production efficiencies will result in higher throughput and lower cost of product.
- 9. Challenge** – The physical properties of the part degrade after exposure outdoors, necessitating indoor storage.
Solution – Add *UV stabilizer* to reduce the impact of light and help parts retain their functional properties. The products will retain their consumer appeal for a longer time, increasing sales and reducing customer returns.
- 10. Challenge** – Sliding plastic parts stick together, or closures are difficult to open.
Solution – Add *slip agent* to create a lubricating layer between the parts in contact with each other. Consumer satisfaction rises as parts are easy to open, leading to increased sales revenue.
- 11. Challenge** – Stacked parts are difficult to separate.
Solution – Add *antiblock* denesting agent to reduce static electricity and allow parts to separate. Consumers are happy with the product, leading to reduced returns and increased sales.
- 12. Challenge** – Black specks appear periodically in finished parts, resulting in customer returns.
Solution – Add *antioxidant* to avoid degradation of base resin during startup. Sales increase and returns decline as part aesthetics are improved.
- 13. Challenge** – Micro-organisms grow on the surface of a part that has shared users.
Solution – Add *antimicrobial* to control algae, bacterial or fungal growth on parts, resulting in the ability to capture higher-margin as improved hygiene is advertised to consumers.
- 14. Challenge** – Accumulation of dust on parts in storage or on display.
Solution – Add *antistat* to reduce the static forces that help hold dust on the part. The product is perceived as fresh and more appealing, leading to increased sales.

PolyOne Color & Additives provides custom color technology and processing solutions that enhance brand recognition for leading industrial and consumer goods around the world. Our rapid prototyping and delivery of globally consistent products and services, coupled with innovative technical expertise, have positioned PolyOne as a leader in the concentrates business. PolyOne solutions include:

- OnCap™ Additive Concentrates**
 A full range of additive solutions to help improve processing efficiencies and/or enhance the functional performance of finished parts.
- OnColor™ Color Concentrates**
 A dazzling array of catalog and custom colors available in a wide variety of special effects, such as pearlescent, fluorescent, granite or metallic.
- OnColor Smartbatch™ Color & Additive Concentrates**
 A combination of color and additive concentrates available in a single masterbatch formulation to simplify operations and logistics.
- OnCall™ Specialized Services**
 Professional services include color design centers, virtual color matching, color use audits, physical and analytical testing, and rapid response delivery.

PolyOne meets the needs of customers serving a wide range of industries, including packaging, consumer, healthcare, transportation, industrial, building and construction, wire and cable, electrical and electronics, appliances and textiles. Plastics processing expertise includes blow molding, injection molding, compression molding, rotomolding, extrusion, thermoforming and film processing.

To find out how OnCap™ polymer additives can help address your injection molding challenges, contact your local PolyOne representative or sales office.



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