



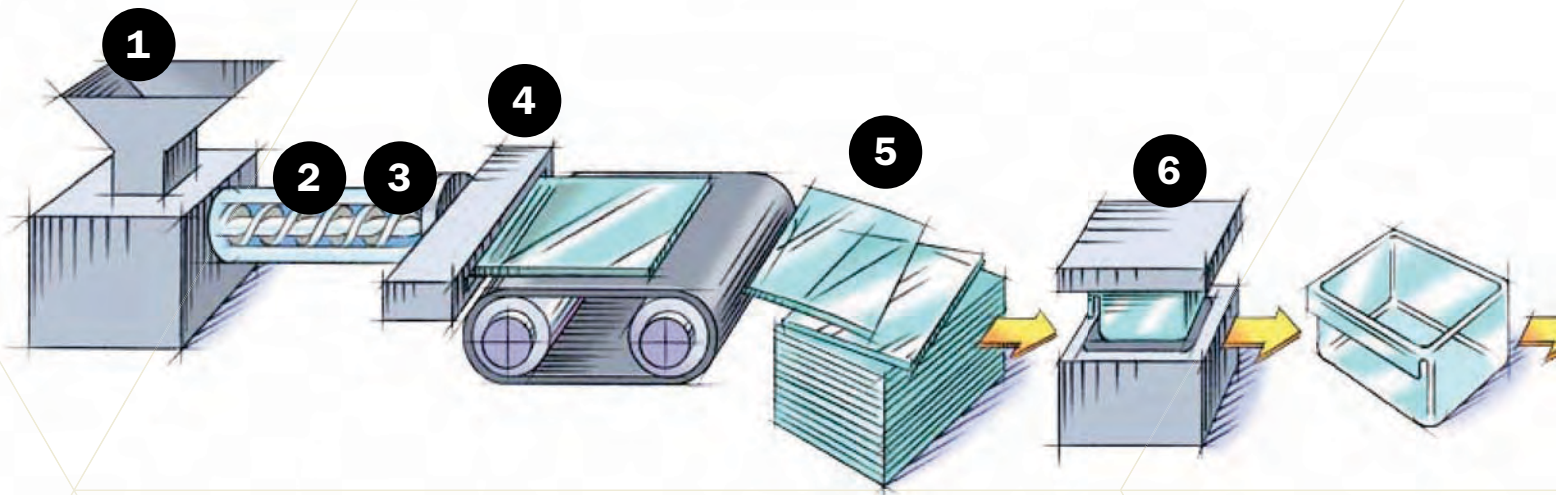
*PolyOne*<sup>™</sup>

**OnCap<sup>™</sup> Additives  
for Sheet Extrusion**

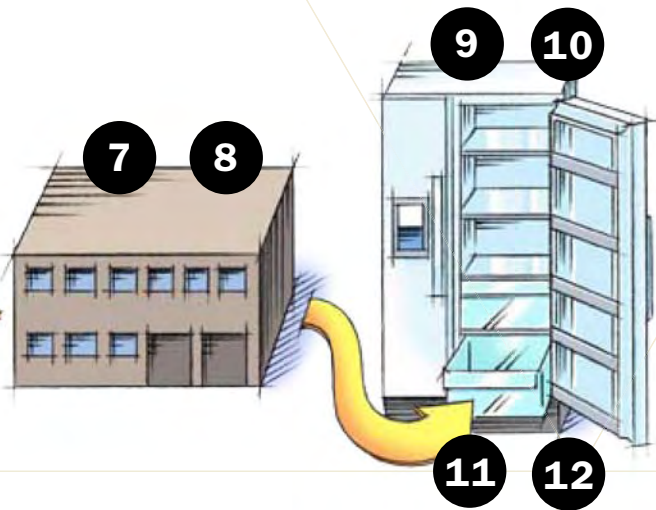
Enhancing the functional performance  
and process efficiency of extruded  
thermoplastic parts

## Sheet Extrusion

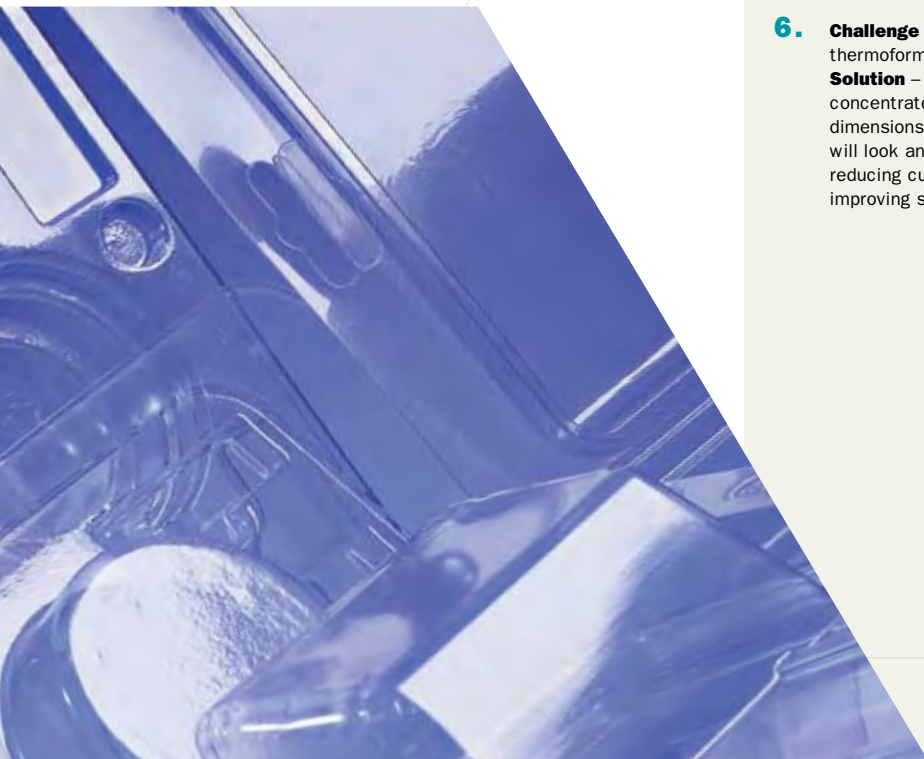
Sheet extrusion is a highly dynamic process, with small changes in operating variables and specifications making the difference in overall program success. PolyOne understands these dynamics and comes prepared to solve a variety of processing problems with a complete toolbox of OnCap™ polymer additives. From raw material blending to extrusion 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 extrusion processing challenges with OnCap™ additive concentrate solutions



- 1. Challenge** – Reduce polymer content without the use of filters.  
**Solution** – Add *Polyfoam™* blowing agent to back out prime polymer from part. This leads to reduced part weight and cost without affecting physical properties.
- 2. Challenge** – Excessive scrap generated during startup and shutdown.  
**Solution** – Use *Multi-Purge™* concentrate between color runs to thoroughly clean machine internals. This facilitates rapid color changeover with minimal scrap and reduces operating costs.
- 3. Challenge** – Unable to run at higher temperatures without producing yellowed parts.  
**Solution** – Add *antioxidant* to avoid burning the polymer. The ability to run at a higher temperature improves cycle times and throughput rate.
- 4. Challenge** – Sheet sticks to die, causing marred sheets.  
**Solution** – Add *process aid* to reduce polymer accumulation on die. Smoother sheets are produced, allowing for higher throughput rates.
- 5. Challenge** – Sheets accumulate static charge, are difficult to separate, and shock workers.  
**Solution** – Add *antistat* to reduce static charge and allow for easy sheet separation. Production efficiency and safety are enhanced, improving throughput and lowering operating costs.
- 6. Challenge** – Thin-walled, thermoformed parts are warping.  
**Solution** – Add *PlastOne™* concentrates to achieve full design dimensions and stability. Products will look and perform as expected, reducing customer returns and improving sales.
- 7. Challenge** – Ink jet printing is difficult to read with reduced traceability in case of product recall.  
**Solution** – Use *Fast Mark™* laser marking to give permanent marks without use of consumables. Consumers can easily read marks, which enhances compliance with labeling while cost of product is reduced.
- 8. Challenge** – Product goes obsolete in storage due to content fading in containers.  
**Solution** – Add *UV filter* to reduce the impact of light on package contents, ultimately decreasing inventory carrying costs and improving production efficiencies (larger batch sizes).
- 9. Challenge** – Parts degrade due to bacterial growth.  
**Solution** – Add *antimicrobial* to eliminate or reduce algae, bacterial or fungal growth on parts. Increased product life leads to reduced customer returns.
- 10. Challenge** – Consumers complain because 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.
- 11. 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.
- 12. Challenge** – Moisture accumulates on the inside surface of clear part.  
**Solution** – Add *antifog* to prevent the formation of water and maintain transparency. Consumer appeal is assured, leading to increased sales and higher margins.



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 sheet extrusion challenges, contact your local PolyOne representative or sales office.



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