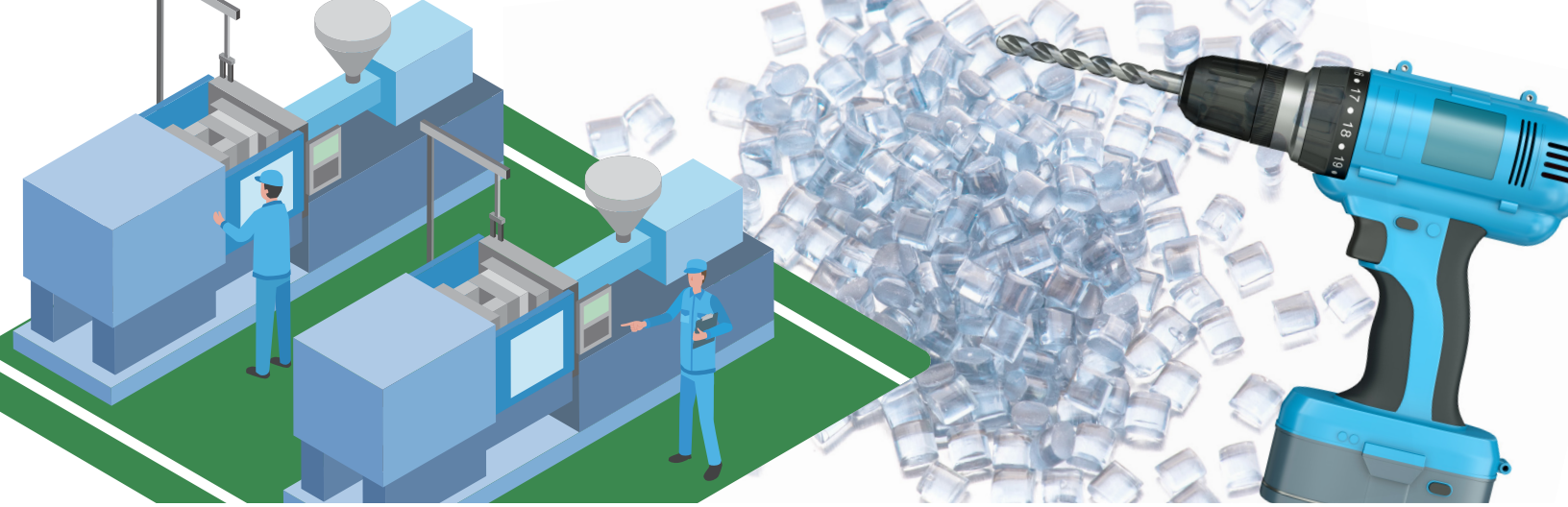

PRODUCT OVERVIEW

Additives for Injection Molding

Using additives to enhance processing efficiency and functional performance of injection molded thermoplastic parts

Injection molding is a highly dynamic process where small changes in operating variables and specifications can make the difference in overall program success. Avient understands these dynamics and offers a complete toolbox of polymer additives to solve a variety of processing challenges. From raw material blending to molding operations, and from packaging to distribution to the retail shelf, our experts can help you reduce operating costs and improve the marketability of your finished product.

Here are common challenges faced by injection molders and the additive solutions that can help minimize the issues.

PROCESSING CHALLENGES

CHALLENGE	AVIENT SOLUTION
Reduce time to clean the barrel and runner system on a color changeover	Cesa™ Clean Additives used between color runs thoroughly cleans machines and facilitates rapid color changeovers
Plastic is degrading in the barrel at higher temperatures	Cesa Nox Antioxidant Additives help avoid burning the polymer at higher temperatures, improving cycle time and throughput rate while minimizing reject parts
Parts stick to the mold and injector pins	Cesa Slip Additives create a lubricating layer between the part and the tools, resulting in reduced cycle time and increased output
Parts are shrinking in the mold or warping after they come out	Cesa Nucleant Additives or Hydrocerol™ Chemical Foaming Agents help to achieve full design dimensions and stability, and minimize reject parts
Parts cling to tooling when the mold opens, causing jams	Cesa Stat Antistatic Additives reduce static build up and allow parts to drop freely

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PART PERFORMANCE

CHALLENGE	AVIENT SOLUTION
Clarified polypropylene (PP) is needed to achieve part clarity	Cesa Nucleant Additives allow the use of lower-cost unclarified PP resin
Black specks appear periodically in finished parts	Cesa Nox Antioxidant Additives help avoid degradation of base resin
Physical properties of the part degrade with outdoor exposure, necessitating indoor storage	Cesa Light Additives reduce the impact of UV light, helping parts retain functional properties and consumer appeal
Sliding plastic parts stick together or closures are difficult to open	Cesa Slip Additives create a lubricating layer between contacting parts
Stacked parts are difficult to separate	Cesa Denesting Additives reduce static electricity and allow parts to separate
Microorganisms grow on the surface of a part	Cesa Withstand™ Antimicrobial Additives control algae, bacterial, or fungal growth
A flame retardant is needed to meet regulatory standards	Cesa Flame Retardant Additives offer protection and help achieve compliance

OPERATIONAL EFFICIENCY

CHALLENGE	AVIENT SOLUTION
Reduce the weight of the molded part	Hydrocerol Chemical Foaming Agents achieve part dimensions and properties with air instead of plastic, reducing part weight and costs
Parts stick together due to electrostatic forces during transfer or secondary assembly	Cesa Stat Antistatic Additives reduce static charge in parts and improve production efficiencies
Dust accumulates on parts in storage or on display	Cesa Stat Antistatic Additives reduce static forces that can allow dust to collect on the part
Parts require a permanent mark that cannot be smudged	Cesa Laser Additives enable permanent marks without the use of consumables

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