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FAQ: Does My Tooling Require Any Special Modifications to Run Injectoblend™ Recycled Plastic?

The short answer is no. There are no special tooling modifications required to mold Injectoblend™ recycled materials.

A common misperception is that the shrink characteristics for virgin materials are different than their recycled equivalent. The obvious concern with a different shrink factor is the need to weld and/or re-cut the steel on the cavities and cores. For the great majority of structural plastic parts this is simply not the case. The amount of shrink for any plastic is determined primarily by the crystalline or amorphous nature of the polymer. This characteristic is inherent to the material type and does not change whether it is virgin or recycled. Modifiers, fillers, and reinforcements can significantly alter shrink characteristics of a polymer, but once again they behave the same in virgin materials as they do in recycled materials. The only exception that we have seen is a very slight difference in the flow direction using high glass content materials. The reason for this difference is the attrition of the glass fiber in a recycled material compared to the virgin glass fiber counterpart. The result is the recycled part will measure slightly smaller in the flow direction, but in most cases we are talking about a negligible amount (0.0005″-0.001″ in/in).

There are some cases where AGS will modify an existing tool in order to optimize the processing of the Injectoblend™ material. These changes are not unique to the Injectoblend™ material, but simply good tooling practices that will help any plastic material (virgin or recycled) run better. For example, many existing molds that are transferred to AGS Technology either have no vents, the vents are “cosmetic”, or the vents have been crushed closed over time and no longer allow air to escape from the cavity. In these cases, AGS will cut the proper vent depth and land specific to the type of raw material. The end result is a more balanced fill, less molded in stress, and improved surface appearance since the new vents allow volatiles to escape to atmosphere.

For new tools, AGS has developed its own tool standard that specifies mold build requirements. The AGS Tool Standard is a living document that captures good tooling practices and “lessons learned” for parts made from virgin or recycled materials. Every new tool managed by AGS Technology is checked against the latest AGS tool standard to help ensure smooth part launches.