

CASE STUDY

Toner Plastics Rapid Prototypes Custom Parts Using Impact Resistant Ingeo 3D870



SITUATION

Dymotek, a Connecticut based custom injection molder and 2017 Plastics News Processor of the Year, recently contacted Toner Plastics, Inc. for support with a mold development and validation project. Dymotek had an urgent need for 24 prototype parts that would be used to evaluate a new mold design. Time was of the essence to kick this project off on time and creating the perfect production tool quickly was a must.

SOLUTION

Using their 3D printing capabilities, Toner Plastics was able to meet this need and produce the required prototypes within two days. Toner Plastics continued to support Dymotek with a second design iteration. Working together, Dymotek was able to validate their design and begin their tool build on time with assurance that their final design was perfect for their application.

The material selected for this application was NatureWorks' Ingeo 3D870, a high heat and impact grade of PLA biopolymer, which was commercialized in February 2017. In collaboration with NatureWorks, the PLA was converted by Toner Plastics into 3D filament as part of an ongoing assessment of newly available raw materials.

Ingeo 3D870 was a natural choice for this application due to its enhanced impact resistance while maintaining the excellent print qualities of PLA. The material choice allowed Toner Plastics to produce tough, ABS-like prototypes while avoiding warping which is often a problem when printing with higher temperature materials.

While providing Dymotek with a valued added service, Toner Plastics seized a great opportunity to validate 3D870 for manufacturability, 3D printing performance, and utility in an end use application.

"We are very happy to have been able to support Dymotek while providing product feedback to one of our key suppliers, NatureWorks," said Toner Plastics manufacturing engineer, Michael Reed. "The feedback and knowledge sharing between our customers and suppliers has allowed us to advance our portfolio of filaments while continuing to broaden our industry knowledge."

“Many thanks to Toner for their responsive service, quick turnaround, and well-made parts. Being able to obtain accurate 3D printed parts on short timelines was critical in our decision-making process and tool design. We will be working with Toner again.”

- Eric Hale
Plant Manager, Dymotek

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 1-800-723-1792

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