CASE STUDY

When deadlines are tight and engineering requirements are exacting, PTA Plastics is a go-to supplier.

This is particularly the case in the defense industry, where today’s U.S. military demands the very best in fast, responsive and accurate solutions from their suppliers.

When one of the largest defense and security companies in the world approached PTA to complete a set of 15 complex molds in less than 3 months, they were eager to prove they could deliver. Each part had to meet strict requirements that were vital to the success of the unit. Even the slightest stray from the parameters would compromise the integrity of the product and ultimately result in failure. Precise executions, even under the strictest constraints.

PTA and the customer engaged early in the project to determine material selection. Requirements including chemical resistance, material strength and weight were key factors driving the decision. In order to make sure all critical conditions were met, PTA performed a complete Design for Manufacturability (DFM) review on every part, which included draft angle, wall thickness, gate location and MoldFlow analysis.

One part in particular needed to meet a critical weight requirement which allowed the part to be both light, yet durable and protective. The inside of the part required EMI-RFI shielding to prevent unwanted emissions from entering or exiting the unit. The assembly was very complicated, involving multiple levels of bonding and sealing agents. PTA was able to coordinate the initial phases of this assembly directly with the customers’ supplier, saving time and money.

Last-minute design concerns from the customer proved no hurdle for the quick thinking PTA team. In less than 2 weeks time, PTA was able to build an entirely new cavity and core set that produced a new part for testing. By the end of the development cycle PTA manufactured cavity and core insert sets that produced four entirely different versions of one part, all within the lead-time of the program.

In all, PTA was able to provide fast, dependable technology manufacturing solutions that helped their customer meet its scheduled commitments, which in turn serves the U.S. Army’s objectives – giving soldiers a decisive advantage in locating enemy targets on the battlefields of today and tomorrow.

Materials Knowledge: It was critical that each plastic part be strong, while not exceeding final weight requirements. It was also critical that they withstand attack from a whole host of specified chemical compounds. In order to make sure these needs were met, PTA provided extensive chemical resistance data on numerous materials and supplied sample plaques of multiple materials in various wall thicknesses to be used for testing.

Quality parts that meet stringent requirements under tight deadlines.

Military Applications

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