

Small part, big payout

How Marine Fasteners is using industrial 3D printing to alleviate customer headaches

Introduction

Marine Fasteners (marfas.com) is a Würth company and leading in the supply of industrial parts in the US. You don't get to this position without liking a good challenge.

When one of the big three football helmet manufacturers in the US presented Marine Fasteners with such a challenge, a novel approach to part sourcing using industrial 3D printing significantly reduced lead times and allowed the use of safer materials. By solving this, Marine Fasteners was able to move product design forward faster through rapid iteration and save the helmet manufacturer a significant amount of time.

The Challenge

Any part on a football helmet needs to be designed with safety in mind. Marine Fasteners was navigating a significant challenge in sourcing a plastic chin strap buckle. The industry standard, a metal butterfly clip, bore potential injury risks. Buyers were used to lengthy lead times, and the inefficiencies of the standard procedure began to hamper the ability to promptly meet customer needs. Our customer's R&D department had a solid idea and model, but making the plastic buckle and testing its final form and function just took too much time. Their process was to outsource the production of the prototype to injection molding companies who charged a considerable amount for the process of making a new mold anytime a design change was introduced.



The Solution


After a quick brainstorm the customer sent the CAD file of the part to Marine Fasteners, who 3D printed it and presented the part the next day. This speed of execution and flexibility was a positive surprise to the customer and allowed their team to test form and function immediately. For product designers and R&D departments this increase in agility transforms the process of how new iterations of a design are tested and thus developed further. In this case 3D printing outperformed any third-party options the customer had tried before and reduced weeks of lead time to 24-hour cycles.

Results

With the application of 3D printing technology, the sourcing issue was resolved swiftly and won buyers and designers on the customer side their supervisor's acclaim. Delivery time was reduced dramatically from weeks to a single day, setting Marine Fasteners apart from its competitors. Moreover, the cost-effectiveness of this method, saving thousands typically spent on prototype molds, underscored the value proposition of 3D printing while bolstering Marine Fasteners' competitive edge. Again, speed of execution is critical in product development and this opportunity to work on a solution directly with engineering and product and win back some of that time goes to show Marine Fastener's versatile and adaptable approach to solving challenges like this one.

A look into the future

Following the successful chin strap buckle project, Marine Fasteners is set to further harness the potential of 3D printing in its operations. Our sister company plans to extend its integration of industrial 3D printing and is continuously exploring avenues to leverage this powerful solution to better serve customers and exceed expectations. By becoming a prime resource to their customers Marine Fasteners is staying ahead of the curve while challenging established industry procedures. This case clearly highlights the benefit of offering options beyond the conventional.



This case was executed by Joe Sciulli and Shane Melitshka at Marine Fasteners and Andrew Tordanato at Würth Additive Group. Do you think industrial 3D printing could solve a customer challenge? Send us a message, we'll get back to you.

