



3D Print Fashion

Established in 1987, Gupta H.C. Overseas (I) Pvt. Ltd. is a leading manufacturer and exporter of ladies' high-fashion leather footwear in India. Backed by leading European design studios and equipped with state-of-the-art facilities like advanced testing labs, Gupta Overseas can produce 8,000 pairs a day. Over the past 32 years, Gupta Overseas has collected a wide variety of awards, including Best Exporter Award by provincial government, Export Excellence Award by Council for Leather Exports, National Productivity & Innovation Award by Government of India, and International Footwear Design Competition 2019 Certificate of Merit by Confederation of International Footwear Association.

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Rishi Gupta

Managing Director at Gupta Overseas



Design Is Never a Piece of Cake

Fashion is all about design, and Gupta Overseas has many permanent Italian, Spanish and Dutch designers and technicians in-house. Needless to say, design validation is essential to Gupta Overseas' operations. In shoe designs, there can be many rounds of iterations before the customers finally give their approval. This is very time-consuming, especially considering that Gupta Overseas is serving a large number of leading brands across six continents.

Gupta Overseas used to rely upon local vendors to make molds for shoe prototypes. The vendors used traditional methods like handcrafting and machining, which could take as long as 10 days.

As a result, Gupta Overseas often needed to jockey for a place in the queue to meet the deadlines. To make things worse, whenever there were any design modifications, the existing molds would need to be discarded and the whole process had to be repeated. Not only did this procedure significantly delay the time-to-market, it also led to staggeringly high sampling costs.

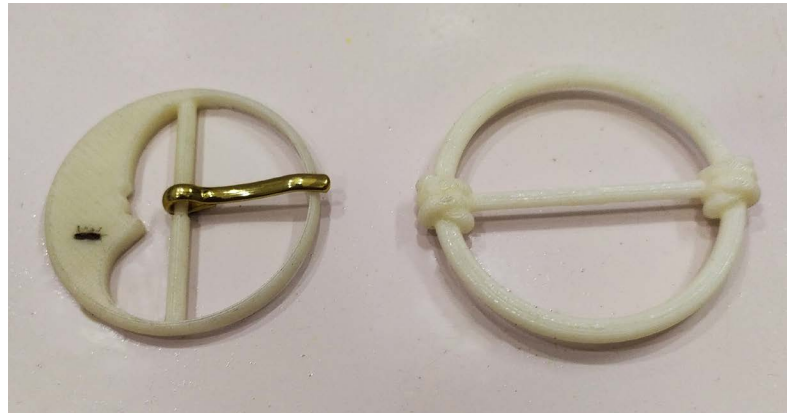
Furthermore, because these prototypes were often made with wood, they were not actual replicas of the shoe components — there was always a small deviation in the second product in comparison to the first.



Time to Speed Up

In an effort to streamline the prototyping process, save costs and expand business, Gupta Overseas started to consider new technologies, and their eyes fell upon 3D printing. With its potential to rapidly and efficiently produce prototypes in-house, 3D printers seemed to be the perfect answer for Gupta Overseas' headache.

At first, Gupta Overseas experimented with some desktop 3D printers, but they were disappointed by the high failure rate and the inconsistent part quality. Someone had to always be watching the printers, so that they could restart the jobs in the case of failures. Hoping to find something that was both reliable and high-quality, they started looking at more professional systems and finally purchased a Stratasys® F170™ 3D printer.



Getting Professional

The F170 is from Stratasys' award-winning F123™ Series, which is built upon 30 years of research and development by a team of engineers, designers, educators and manufacturers. It works with a wide range of materials, such as PLA, ABS, ASA, PC-ABS and FDM® TPU 92A. The parts that the F170 produces are within an accuracy of +/- 0.200 mm, which means that complex parts can be printed with flexibility and precision. In addition, the F170 has advanced features like Fast Draft mode — which is designed for true rapid prototyping — and soluble support to prevent design compromise and eliminate hands-on support material removal. Its large tray size also allows Gupta Overseas to print eight to 10 heels and other shoe components in one go.

Shoe designers and engineers at Gupta Overseas are amazed by the consistency, reliability and efficiency of the system. They use the F170 to print different styles of shoe heels, toe designs and buckles. And printing on-site means no more waiting for vendors or paying rush fees.

The prototypes highly resemble the final products, thereby shortening the iteration process and reducing the time-to-market. According to Rishi Gupta, Managing Director of Gupta Overseas, “The increasing demand for fancy and trendy footwear

with timely and efficient delivery is the key factor driving the global footwear industry. The Stratasys FDM technology makes design validation as easy as 1, 2, 3.”

The wide range of thermoplastics that the F170 can print adequately serve their different needs, including functional testing in some cases. Generally speaking, they use PLA for the first sampling and ABS for the final functional testing because of its high strength.

By bringing the prototyping process in-house with the F170, what used to take 10 days to complete can now be done in one. With simple post-processing like sanding, painting and coating, engineers can present hyper-realistic prototypes for the designers to review and modify within 24 hours. If a concept needs to be changed, it can be changed quickly. This also means that the designers can simultaneously work on two to three seasons of shoe designs. In addition, the costs have been cut by as much as 90% because designers can quickly validate the designs with several prototypes before investing in mold-making. Commenting on the impact of Stratasys' technology, Rishi Gupta stated, “We have seen the number of project delays drastically reduced.”

Stratasys Headquarters

7665 Commerce Way,
Eden Prairie, MN 55344
+1 800 801 6491 (US Toll Free)
+1 952 937-3000 (Intl)
+1 952 937-0070 (Fax)

stratasys.com

ISO 9001:2015 Certified

1 Holtzman St., Science Park,
PO Box 2496
Rehovot 76124, Israel
+972 74 745 4000
+972 74 745 5000 (Fax)

