

Printable Finials



ZCorporation's 3D printer provides much more than window dressing for Integra Products Ltd.

You might think that curtain rod finials are a traditional interior decorating item that endures through the ages, with designs that change little from one generation to the next. You couldn't be more wrong, as here, as much as anywhere else, competition exists. Customers are fickle, and new styles and new materials demand new designs and attachments.

To this end, Integra Products Ltd, the leading UK manufacturer of window dressing solutions, whom you might have come across in one or other of our department and DIY chains, has the same problem as every other manufacturer - creating new designs, testing them and turning them into saleable products as efficiently and quickly as possible.

Originally, design concepts for finials and other components would have been produced manually, setting up tools to produce a limited number of samples, which were tested against other fittings and thrown away if they weren't suitable. To improve the process, Integra outsourced the production of prototypes to a 3D printing service company - but that still cost time and money. That is all now a thing of the past, as the company's designers can now produce perfect samples in-house. Installing Z Corporation 3D printing technology has helped them to handle their own 3D printing, speeding up the whole process, reducing their development costs and eliminating errors and rework.

The Staffordshire company now uses physical 3D printed models at every stage of development and right across the organization, for example to refine

concepts, ensure fit and function, communicate effectively with partners, and quickly create mould patterns.

"Our ZPrinter saves us time and money at every step," said Ben White, Integra senior product design engineer. "The biggest savings is getting things right before we invest in tooling. Instead of waiting 40 days for tooling and then seeing if we like our samples, our ZPrinter helps us ensure, before the fact, that our products are going to work, fit with adjacent components, and look great. That can eliminate errors that would otherwise cost us thousands of pounds."

Integra invested in a ZCorporation 3D printer after realizing they could save time, money and rework by making their own prototypes in-house versus using a service bureau, and they can now print as many as 25 models overnight, rather than waiting as long as seven days for prototypes to be returned from the bureau. They reduced prototyping costs by 85 to 90 percent compared to the service bureau's fees for SLS prototypes.

Besides using the ZCorporation printers for concept modelling, they use it at meetings with customers to refine designs, rapidly handing them prototypes reflecting their latest input. "Most of our customers haven't seen this technology and didn't know that it existed," said White. "It confirms our edge in technology and innovation, and embodies our mission to work smarter, not harder."

The ZPrinter has also enhanced communication across the company, its quick turnaround helping Integra

engineers convey information that doesn't come across in their computer renderings. With 3D printed models, designers, marketers and salespeople can fully grasp the proportions between the finial (decorative pole end) and the curtain pole.

ZPrinted models also more effectively depict complex shapes, such as decorative spheres, to manufacturing partners who can't fully understand the intent from the digital drawings. Similarly, ZPrinting helps Integra designers ensure that seams and joints aren't visible in the finished product.

The printer also speeds up the production of silicon mould and patterns for sand casting, cutting the 10-week development cycle to four weeks, and contributes to sustainability. In addition to saving time, money and errors in development, White's team is finding ways to cut costs on actual product materials. "ZPrinting has enabled us to reduce material through extensive testing of prototypes," White said. "As a result, we recently redesigned curtain hooks to reduce each unit's weight by .3 grams while making them stronger. That saves us 500 kg of plastic per year that we don't have to buy, ship and throw away decades from now. ZPrinting helps us be green, and being green saves us money."

So, next time you pop into John Lewis, instead of idly watching the sales girls while your wife is changing your curtain fittings yet again, spend some time considering the little marvels of manufacturing that hold the things up. (Yeah, sexist, I know!)

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