NATUREWORKS CASE STUDY

3D Printed Tee Markers Bring Sustainability to Golf at The Zurich Classic of New Orleans

Sustainability Initiative Needed for Golf Tournament

In the last few years, the sport of golf has made great strides in environmental stewardship: from reducing water, pesticide, and fertilizer use on courses, to incorporating zero waste practices like organics recycling at tournaments. These initiatives are aligned with NatureWorks' mission of creating responsible high-performance materials for a more sustainable future. To that end, NatureWorks was a proud sponsor of the 2021 Zurich Classic stop on the PGA tour. Zurich, the title sponsor of the event, was looking to achieve a more environmentally responsible tournament and turned to NatureWorks, a leader in sustainable materials, for solutions to reduce the environmental impact of the event.

Partnering with Slant 3D on a Solution

In collaboration with the 3D printing service bureau, Slant 3D, NatureWorks was able to deliver custom branded tee markers made from biobased Ingeo polymer for use throughout the tournament course. The tee markers at each hole were 3D printed using Ingeo 3D870, a grade designed to deliver high-quality, durable parts, while providing improved heat and impact performance. Because these tee markers are made from Ingeo PLA, a plant-derived polymer, they have a carbon footprint 84% lower than if they were produced from a petrochemical-based plastic such as ABS, which is a typical incumbent in 3D printing.

The 3D printing process itself brings sustainability and cost benefits that aren't found in some traditional methods of fabrication. Injection molding, for example, requires expensive custom mold tools, long development timelines, and high logistic costs. 3D printing is a more efficient and lower-waste process, requiring no molds, and allowing for simplified supply chains and design changes to be implemented in near real time. These attributes significantly reduce product development timelines, making 3D printing an excellent production method for highly customizable, low to mid-volume applications like this.

A Custom, Low-Carbon Outcome

Working within specific size and branding requirements, Slant 3D was able to design and print a physical prototype in a matter of days as opposed to the weeks or months traditional manufacturing processes would require. The team arranged for custom colored Ingeo 3D-filament in Zurich's brand colors and delivered all 100 pieces of the final tee markers in under a month.

NatureWorks is proud to have been a part of the Zurich Classic and to have demonstrated one more way Ingeo biopolymer can be part of creating both a great golf experience and a more sustainable future.

Stategic objectives

- Find a creative use for sustainable, biobased materials at the Zurich Classic to lower the environmental impact of the event and demon strate a commitment to sustainability in golf.
- Utilize the strengths of 3D printing as a manufacturing process to deliver a small number of custom produced items that complied with specific with design and branding requirements.

[1]Comparison between the eco-profile data for Ingeo (2014) and an average of ABS manufacturing data from US Producers (American Chemistry Council, 2011).

ingeo™

natureworksllc.com | inquiry@natureworksllc.com | @natureworks

Ingeo and the Ingeo logo are trademarks or registered trademarks of NatureWorks LLC in the USA and other countries. © 2022 NatureWorks LLC. All rights reserved.