

Mouthguard Maker Scores with 3D Printing Technology

Helped Customer Improve Product Performance



The Dutch sports consortium, 3D Mouthguard, needed help developing a custom athletic mouthguard, seeking to bring a better product to market with the precise modeling capabilities and accelerated production times afforded by 3D printing technology. Device wearers needed a flexible and soft material for optimal protection, comfort and durability, while device providers desired an efficient, customizable and cost-effective design that provided a fully automated and digital customer experience.

Nexeo Plastics' 3D printing team joined its supplier DSM to review how to meet the demands of high-performance athletes for a mouth safety product. The analysis included understanding the desire for a product to be both robust enough for complete protection under grueling conditions, but flexible enough to ensure maximum comfort.

Once fully assessed, the Nexeo Plastics and DSM team offered the filament DSM Arnitel®ID 2045 for its combination of flexibility, strength, fast printing speed and ease of use. We also provided precise printing settings to optimize the production process.

The 3D printed mouthguard using Arnitel®ID 2045 delivered on its promise: a soft, flexible fit with superior mouth protection. The 3D printing experience offered the customer an end-to-end, fully automated and digitalized solution for the custom-made mouthpieces. With Nexeo Plastics as a 3D printing partner, 3D Mouthguard's product was well received in the athletic community, earning performance awards and endorsements for innovation.

Discover how Nexeo Plastics can help you overcome your material, process, and application challenges.

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PROJECT AT-A-GLANCE

Recorded Benefits

- Improved material for superior protection and comfort
- Offered favorable price-to-quality ratio
- Customizable to each team and athlete
- Offered shorter lead times and easy reorders

Challenge

Customer sought help developing a custom mouthguard using 3D printing technology to enhance an end-to-end digital solution.

Solution

Nexeo Plastics and supplier DSM provided technical expertise and offered a material for optimal fit and performance to meet protection and comfort requirements.

Result

The new 3D printed mouthguard with the Arnitel®ID 2045 filament offered improved protection and comfort for athletes, allowing the customer to move forward with an award-winning product.



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