CASE STUDY

Renewable Biomaterial Helped Utensil Maker Set the Table for Success

New FC Grade Offered Documented Low-Carbon Statement

Orthex Group, a leading producer of kitchen products, knew being first to market with biobased utensils could help cement the Nordic company as a sustainability frontrunner and provide a serious competitive advantage.

Orthex turned to Nexeo Plastics to help identify a renewable material that would comply with strict food-contact regulations without sacrificing processing performance. Even more challenging, Orthex wanted the utensils to have consistent colorability performance — to be green in all senses of the word and stand out from the market's traditionally black offerings.

Nexeo Plastics helped Orthex select a natural-color polyamide from its supplier DSM's EcoPaXX® high-performance, plant-based materials line that could be effortlessly colored and stand up to the application's high temperatures and shrinkage demands — while dramatically reducing carbon use. When testing revealed several tooling and molding challenges, our engineers worked closely with DSM and the customer until the grade performed well in Orthex's machinery. DSM then optimized the material and tested it to confirm it met food-contact (FC) specifications and obtained the required FC documentation. Additionally, Orthex leveraged Nexeo Plastics' supply chain network to buy, store and transport needed quantities to provide a near just-in-time distribution solution.

By partnering with Nexeo Plastics, Orthex was first to market with utensils made from a 50% plant-based renewable material fully documented for food contact and low-carbon production. With close cooperation of all players, Nexeo Plastics helped the customer overcome numerous challenges to introduce a product basket of bioengineered and recycled kitchen products, decreased overall carbon use from 5.2 kg to 0.9 kg CO_2 (calculated per 1 kg product) and provided timely deliveries of materials in the quantities Orthex needed.

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

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PROJECT AT-A-GLANCE

Recorded Benefits

- Reduced carbon footprint from 5.2 kg to 0.9 kg CO_2
- Improved customer's competitive edge and standing as a market pioneer
- Identified a resin allowing for stable green color to further distinguish products from competition
- Overcame distribution challenges by outsourcing supply chain services

Challenge

Manufacturer needed a suitable material to bring first cradle-to-gate, low-carbon, food-contact product line to market.

Solution

With supplier DSM, Nexeo Plastics helped identify a DSM renewable material, optimize the formula for food contact and troubleshoot production challenges.

Result

Helped customer launch the first food-grade utensil made of 50% renewable material, effectively reducing overall carbon footprint by 83%.

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