

## MCG Biocomposites creates environmentally plant markers using Green Dot's Terratek®

green dot<sup>®</sup>

MCG BioComposites began operations in 2007. Early on, the company worked hard to market their biocomposite resin to various organizations' OEMs. There was significant resistance because all they could show were the resin pellets. After brainstorming, the solution was simple. Create a product made from the biocomposite resin to show an example of how the material could be used in a tangible application, in addition to providing a data sheet detailing the physical characteristics, qualities and mold flow analysis of the resin.

The owners of MCG contacted a friend at a local community college that had a mold building program, including plastic injection molding. The tool he was currently using at the community college was a mold for a plant marker that had been designed by a student. Using the plant marker mold and the biocomposite resin, MCG created a plant marker without having to change the tooling and only making minimal changes to the processing parameters. Some of the processing changes included a lower melting temperature so as to not burn the biobased materials blended into the plastics.

They had accomplished three important things:

- They didn't have to change the tooling at all to accommodate a biocomposite compared to traditional plastics.
- They detailed the minimal changes to the processing parameters to accommodate the biobased materials.
- They were able to make a reduced-carbon-footprint product in addition to reducing the energy required to create the product.



After showing their new <u>BioMarkers</u> to people in the plastic injection molding community, distributors became interested in selling the plant marker.





## Previous attempts to manufacture an eco-friendly fin

Futures Fins makes thousands of plastic products every year. As surfers who manufacture equipment in Huntington Beach for other surfers, they are deeply connected to the beach and ocean. Seeing trash and plastic waste wash up on the beach was more than bothersome. The owners felt a responsibility to protect the environment, and aimed to create a product that would reduce landfill waste and be as friendly to the earth as possible.

Collaborating with Green Dot Bioplastics and using the wood-plastic composite wasn't Futures Fins' first attempt at creating an environmentally friendly fin. Previous materials were also experimented with: mushroom foam, hemp, flax, soy-based items and more. Ultimately, these materials were difficult to work with, and did not meet the performance level required.

The composite used ended up being a plug-and-play solution. It's easy to mold, and creates a product that's about 35% lighter than the standard products Futures Fins manufactures. Green Dot's wood-plastic composite can achieve a wide range of characteristics by adjusting the species, size and concentration of wood particles in the formulation. While the formulation can change to produce dramatic differences, the common characteristic among all iterations is sustainability.

## **Futures Fins future**

Futures Fins is living up to their name as they plan to continue collaborating with Green Dot Bioplastics to introduce more products utilizing biocomposites and bioplastics. The key will be increasing the stiffness while keeping the product light, a task Green Dot is prepared to help Futures Fins achieve. This will enable fins to be made for long board and twin fin surfboards as well. The holy grail will be the development of a biocomposite or bioplastic for short boards, but the aggressive riding style demands more out of the fin.





## Request a product development consultation

Let's have a conversation about your product, timeline and goals.

click here to get started

or visit offers.greendotbioplastics.com/bioplastic-product-consultation



527 Commercial Suite 310 Emporia, Kansas 66801 USA

Email: info@greendotbioplastics.com Phone: 620-273-8919