

Press Release

July 22, 2015



## The Creation of Willow Flex

### Flexible 3D Printer filament from Compostable Raw Materials

#### The Creation Story

BioInspiration (Eberswalde, Greater-Berlin, Germany) prides itself on identifying materials that follow nature's lead - compostable, upcyclable, harmless, innovative, resilient. In particular they look for opportunities to expand the material options for Makers and for decentralized production.

In 2014 - they found a market need. Compostable 3D Filament had been available for a few years. Flexible Filaments were the next hot opportunity, but there was no sign of a Flexible Filament made from Compostable Raw Materials. They took it upon themselves to fill this market need.

BioInspiration spoke to several innovative firms but ultimately initiated a working relationship with Green Dot (Cottonwood Falls, Kansas, USA). Green Dot matched innovative materials from their Terratek® Product line with the production expertise of a seasoned team and in-house development facilities.

BioInspiration additionally brought on board 3dk.berlin (Berlin, Germany), a plastic manufacturer with 30 years experience to handle filament production at their in-house facilities. 3dk.berlin has a 3D Print Studio with 7 different printer types allowing for quality and material endurance testing directly following production. With all three partners in place, the teams were able to move forward on an oversea development process to optimize the Terratek® Material for use in 3D Printing.

The process represented the closing of a circle for Green Dot who had been experimenting with ways to put their plastic into 3D Printing for a number of years.

*"When BioInspiration approached us, ready to take the reigns on developing a 3D print form of our materials we moved forward immediately. This brings together two merging branches of Plastic Development – next generation bioplastics and 3D Print integration."*

- Mark Remmert, CEO, Green Dot

## Willow Flex's Advantages

BioInspiration brings forward materials that are part of the Organic Material Evolution.

*"We see over and over that nature has a way of surprising us. When we began experimenting with WillowFlex, we found that as a bioplastics it had several advantages inherent to the material. Besides the compostability, it is also more heat & cold resistant than standard plastic alternatives.*

*- Brian Crotty, CEO, BioInspiration*

## Material Transparency

For BioInspiration, it was important the base material from Green Dot had passed the compostability standards in both the U.S. (ASTM D6400) and the more stringent E.U. (EN 13432) standards. Additionally all base material is delivered as non-GMO material.

### Heat Resistance

The natural bonds of the base material of Willow Flex react differently to heat than traditional plastics. It is able to maintain its structural integrity at temperatures above 100° C which allows it to be used for applications including holding boiling water.

### Cold Resistance

The original Terratek® Base Material is also certified to maintain its flexibility at -28° C. This means Willow Flex printed objects can be used in situations where the object experiences exposure to sub-zero temperatures and retain its functionality.

### Proven Quality

Green Dot has been working with their groundbreaking compostable thermoplastic elastomer (Terratek® Flex) since 2011. Their material and production processes are proven and have been utilized by customers around the world. The optimization for 3D printing means that now Makers and decentralized producers can directly benefit from the material originally developed for traditional plastic production.

## Where does it lead?

WillowFlex is adding to an ever-expanding variety of filaments on the market. We aim to continue bringing more specific solutions to directly meet user and customer needs. The material is a step forward into the Organic Material Evolution - providing nature-inspired and nature-friendly alternatives to current market solutions.

BioInspiration will be working with Green Dot to provide a standard filament based on the same Terratek® line to be released in late-Fall 2015.

The partnership between Green Dot and BioInspiration also provides a local expert for fielding additional inquiries regarding Terratek® materials from Germany and Europe.

BioInspiration is releasing WillowFlex, the resulting 3D Print Filament as a Kickstarter Campaign to give Makers and decentralized producers the first shot at accessing this innovative material. At the conclusion, WillowFlex will move into full production and into the hands of Makers and producers around the world.

<https://www.kickstarter.com/projects/bioinspiration/flexible-compostable-resilient-3d-printer-filament>

## Willow Flex

Resilient when you need it. Compostable when you're done.

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BioInspiration ([bioinspiration.eu](http://bioinspiration.eu))

BioInspiration expands access to materials and process that follow nature's lead - compostable, upcyclable, harmless, innovative, resilient.

The Organic Material Evolution is about providing access to natural products that are equal to or exceeding the capabilities of currently produced materials. BioInspiration's focus is bringing the nascent technologies of innovators to wider use and public awareness. BioInspiration offers material, technical and production innovations. BioInspiration emphasize direct partnerships to bring seamless integration of these innovations into products and existing production streams.

Based outside of Berlin, Germany - BioInspiration is dedicated to advancing the **Organic Material Evolution**.

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Green Dot ([greendotpure.com](http://greendotpure.com))

Green Dot aspires to improve the environment in which we live by building a more sustainable world through renewable biobased resins and promoting their use through invention, creation and research.

Green Dot is a bioscience social enterprise headquartered in Cottonwood Falls, Kansas. We're a full service bioplastics company dedicated to delivering the very best to our customers. That's why we offer our Terratek® line of bioplastics, developed to meet the growing demand for biobased and compostable materials designed to lessen our impact on our environment. Green Dot is committed to providing sustainable materials of uncompromising quality so that everyone can contribute to a more sustainable world.