How Green Dot Helped Pearl Jam Create Better Products with Bioplastic

A case study on the design, material selection and manufacturing of the Ten Club luggage tag

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Pearl Jam, the Ten Club and a commitment to sustainability

What comes to mind when you think of Pearl Jam? Eddie Vedder's gravely, ranging voice? The thirteen-time platinum album *Ten*, arguably one of the most recognizable albums of the '90s? The legions of dedicated followers that make up the band's fan club, the Ten Club?

If you're familiar with any of these things, you're more than likely already familiar with Pearl Jam's commitment to environmental sustainability. It's long been an integral part of the band's identity. The band's carbon mitigation efforts, led by guitarist Stone Gossard, and charitable giving to non-profits such as the Surfrider and Kelly Slater foundations are just a few manifestations of the band's environmental consciousness.

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Making smarter merchandising happen

The Ten Club was founded in 1990 "as a way for the band to give back to their fans and to create a community around Pearl Jam's music." The club started out as little more than a PO Box through which the band could communicate with fans. But as the Ten Club began to grow into a worldwide network of dedicated enthusiasts, Pearl Jam began looking for ways to keep the club growing along with the band.

That search led them to Tim Bierman. At the time working in the music industry in San Francisco, Tim was a friend of bassist Jeff Ament from their days growing up together in Montana. Along with the band's manager, Kelly Curtis, Ament charged Bierman with the task of running the Ten Club, while adapting it to a nebulous new platform everyone seemed to be talking about: The World Wide Web.

Tim Bierman would also end up heading all the band's merchandising efforts, including Pearl Jam's annual membership gift to its fans. His challenge was twofold: Design a gift that represents the band's unique relationship with its fans, while remaining true to the band's commitment to lessening its impact on the environment.

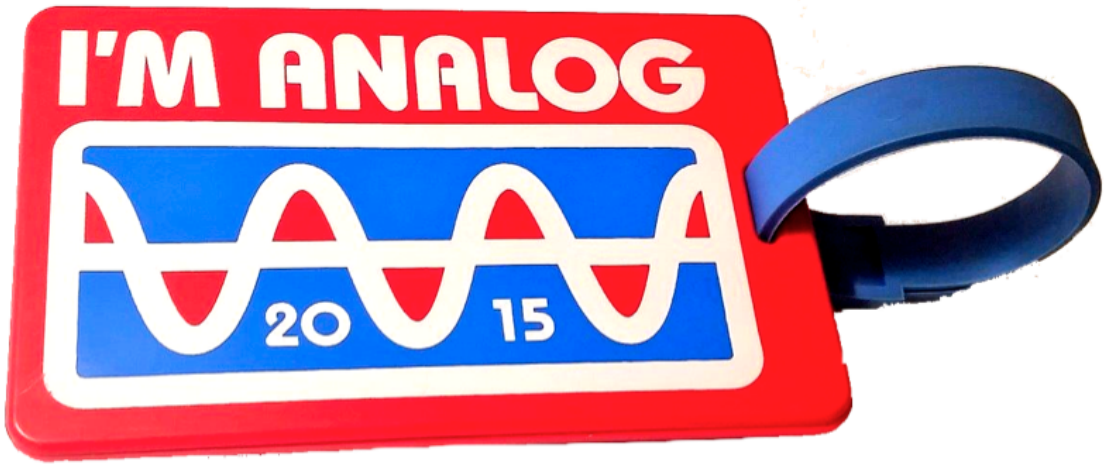
"We've always been an organization that has provided unique merchandise items to our fans that we spend a lot of time on and that we really care about," Bierman said. With that in mind, he and his team began brainstorming gift ideas that would reflect the band's ideals.

Designing a greener gift

Ten Club staff had previously been given a directive to be on the lookout for applications for exciting new materials made by a company that members of Pearl Jam had recently added to their investment portfolio. The company, Green Dot, manufactures a full line of biobased and biodegradable bioplastics used in a wide range of industries including, furniture, pets, toys and lawn and garden. The biodegradable materials were of particular interest to the band members, as they address what they thought was a major issue with consumer plastics.

“The need for better, compostable plastic goods to exist is just so evident,” said Gossard. “And it’s just amazing that it already does exist and we’re just marching against resistance to implementation at this point.”

It was with this material in mind that Pearl Jam settled on the idea of creating a compostable plastic luggage tag for their dedicated followers. Knowing that their most hardcore fans, top-level members of the Ten Club, often traveled to multiple shows on a single tour, creating an item for making travel a little more organized seemed like a smart choice. Tim Bierman began working closely with Green Dot to coordinate execution.



What they now needed was a plastics molder capable of undertaking the job. The ideal company would have experience with plastic injection molding, but be flexible enough to work with a material they had never before encountered. It was also necessary that the company be local, so that the carbon footprint of the manufacturing process didn't negate the gains from manufacturing from a compostable bioplastic.

Green Dot introduced Bierman to Matt Poischbeg, Vice President and General Manager of Sea-Lect Plastics, a Seattle-area custom injection molding company. Working with Bierman and Green Dot, Sea-Lect proceeded to take the concept from the drawing table to the manufacturing floor.

Prototyping

Bierman sent a sample of a luggage tag design. The sample part was made with a silicone molding process commonly used in Asia. Sea-Lect's challenge was to re-engineer the part so that it could be injection molded. To keep down the cost of the mold, the first designs used a simple snap together feature. Bierman liked the concept, but commented that the snap feature was too simple. In order to eliminate this concern, the pass cores were replaced with lift cores. This increased the mold cost slightly, but the resulting part was much cleaner.

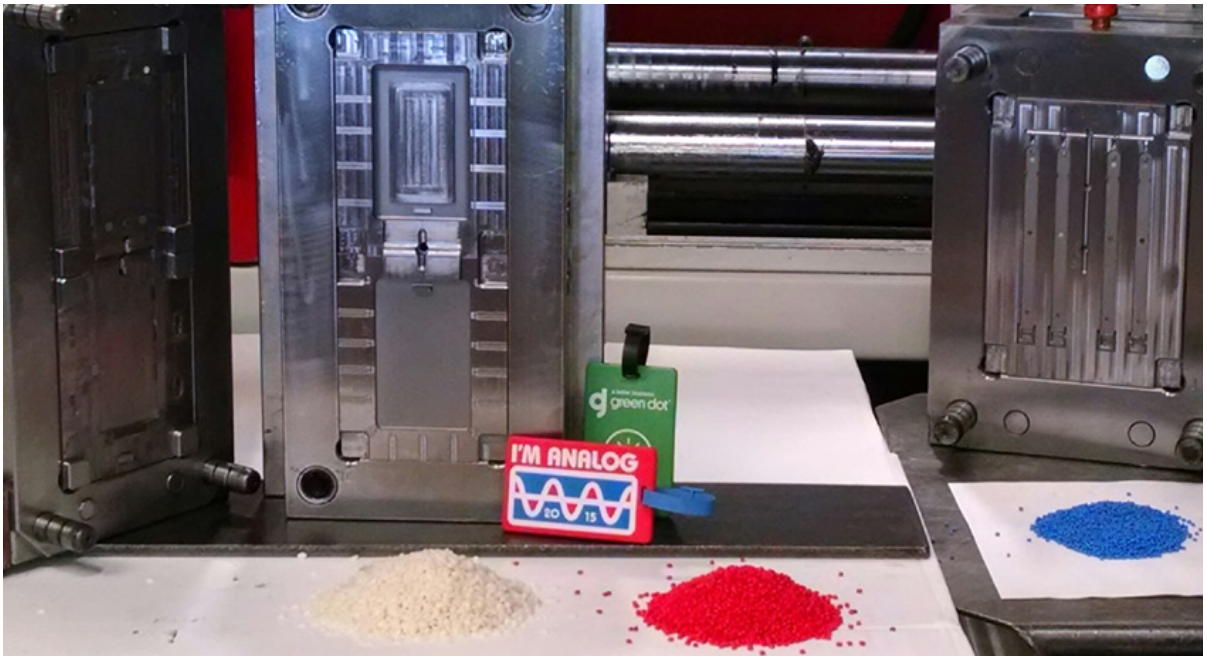
Material Selection

After the design was approved, Green Dot and Sea-Lect began to evaluate which material thickness and hardness was necessary to provide enough stiffness to make the snap feature work, but still keep the part light and durable. To get a better understanding of the performance of the product, Sea-Lect made a 3-D printed prototype out of a soft PolyJet resin at a 90 shore

A hardness. Based on the prototype, Green Dot formulated a biodegradable bioplastic to meet the physical attributes required. The material was approved and sent to make masterbatch resins to color the parts.

Manufacturing

After the first molded samples were received from the toolmaker, some small adjustments were quickly made to the snap feature before the molds were delivered to Sea-Lect. Because the material was new, not a lot of process information was available. In the beginning the tag parts were cracking and warping badly. To eliminate this problem Sea-Lect experimented with the material and mold temperature and dialed in the process at a longer cycle time. “Overall I think the whole process went very well,” said Matt Poischbeg. “Getting the right material and color concentrate took most of the time. Since the material is relatively new and some of the ingredients are of organic nature, predicting the outcome was difficult and needed to be validated by testing.” In spite of these difficulties Poischbeg says, “we still believe that the material has a great value and hope that we can find more customers who, like Pearl Jam, want to use it.”



The Final Product

Working with Green Dot and Sea-Lect Plastics, Pearl Jam was able to create great gift for their fans that was:

- A completely compostable item that could be disposed in a backyard compost where it would gently biodegrade
- A locally-made product with an extremely low all-around environmental footprint
- A unique, inspired way of keeping track of their bags while on the road
- A chance to join Pearl Jam in the promotion of smarter consumer goods, made from smarter materials, for the benefit of a cleaner planet

Stone Gossard hopes that Pearl Jam's process can lead to more widespread efforts on behalf of companies for taking into account their environmental impact.

"If every company was motivated, and was rewarded by their consumers for acknowledging and mitigating their carbon output—using a variety of strategies, whether they be new technologies, investment in green energy, restoration of marginal lands, whatever strategy it is—I think it could be a powerful way of acknowledging what we're doing to the planet."

To learn more about how bioplastics and biocomposites can make more sustainable plastic products please visit the Learning Center at www.GreenDotPure.com

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