

TAKING THE NATURAL STEP

The Zephyr Snowboard Boots

OLIVIA PEDERSEN
FUNDEMENTALS OF SUSTAINABLE DESIGN
03.25.18



BACKGROUND

The Zephyr snowboard boot is manufactured by Thirtytwo snowboard boot and apparel company. Thirtytwo is an American company that has been making snowboard boots since 1995. Sole Technology Inc is the umbrella corporation that Thirtytwo is owned under. After beginning the study and research I learned that ST Inc. aims to be at the forefront of sustainability within the action sport industry.

Snowboard boots are used daily for work and recreation for snowboarding. However, as the premier footwear item used by snowboarders, snowboard boots have yet to see innovation in sustainable sourcing and longevity of product lifespan. Specifically, the Zephyr boot is a product that I purchased at the beginning of this winter season and am already seeing daily wear and tear that seems extensive for such a short use window. In the early days of snowboarding, the boots were borrowed from sorrel snowboots. Since then the technology has come a long way, yet it still seems that there is a long road ahead until snowboard boots, in their entirety, meet the ceiling of where they could be at regarding product lifespan and materials used.

“An ardent advocate of the environment, Sole Technology is committed to environmental leadership. Waste is the enemy according to Senizergues, and he is leading Sole Technology’s efforts to become one of the most ecologically sensitive organizations in the industry.

To date, the company has employed several environmentally friendly initiatives; highlights include the installation of an extensive solar panel system, corporate-wide recycling efforts, water-free urinals and dual flush systems to reduce water usage. Sole Technology hired the first ever Environmental Affairs Manager in the action sports industry and formed the Blue Bin Brigade, an internal committee whose goal is to increase awareness about the environment and find eco-friendly ways of conducting business in all aspects of the company. In 2008, the company conducted an eco-audit, looking at every angle with a strong focus on water usage, waste and consumption and carbon emissions, setting the precedent to becoming a carbon neutral company by 2020.

While these efforts result in added manufacturing and hard costs for Sole Technology, Senizergues is steadfast in his insistence that the additional costs will not be transferred to the consumer. Sole Technology answers to a greater calling: the future of action sports, humanity and our planet.”

-Sole Technology Inc.

SUSTAINABILITY PRINCIPLES ANALYSIS

PREFACE: Although Sole Technology is taking large strides toward becoming carbon neutral by 2020 focusing on facility energy efficiency primarily with solar and water innovations it seems they still lack largely in product development towards sustainable products; this aspect is where this report will focus.



SP 1: REDUCE BILL OF MATERIALS

In the design of these boots at least ten different materials can be identified on a surface level that make-up the complete product. These materials include plastics of various calibers, fleece, foam, rubber, clothe, etc. Using so many different materials in the makeup of these boots makes it difficult to cycle the materials used into next-generation options such as upcycled, downcycled, or refurbished products. Additionally, the use of adhesives and sealants used in constructing the boot add complications to breaking down the product as well as leach harmful chemicals during the manufacturing process and maybe even during use as the rider wearing the boot sweats heavily during use, rubbing skin directly on product materials.

SP 2: REDUCE WASTE IN PACKAGING

Upon receiving the product it was delivered in a cardboard outer shipper, a cardboard merchandise box, and then stuffed full of paper inside of the merchandise box with the boots additionally wrapped in plastic and multiple insert cards were also present. Most of these layers of packaging seem unnecessary regarding the objective of shipping the item safely to the consumer; especially since snowboard boots are not fragile items that break or get deformed easily. The amount of paper product wasted here is enormous regarding environmental waste and economic cost for the company to produce all this shipping material. After delivery of the product, it is then the consumer's responsibility to hopefully recycle these paper products correctly, if at all.

SP 3: ELONGATE PRODUCT LIFESPAN

This SP circles back to SP1 regarding the materials used to produce the product to its finished form. After only one season of use, the boots have degraded and broken down quickly. It seems this cause was due to weak materials used such as clothe and soft rubber. If the product were streamlined with a more durable material, the product could last more than one season. Additionally, with a stronger primary material, the boots could be designed to have "plug-in" parts to easily replace areas of the boots that are wearing out. Plug-in replaceable parts would elongate the skeletal structure of the boot producing less waste overall.

CREATIVE RECOMMENDATIONS

- 1 Perform Lifecycle Assessment.
- 2 Redesign packaging with less waste.
- 3 Streamline bill of materials.
- 4 Design replacement parts systems.
- 5 Design end of life recycle program.
- 6 Communicate sustainability initiatives into consumer points.
- 7 Design products to be more durable.
- 8 Educate designers (product/packaging) in sustainable practices.
- 9 Design packaging recycle info into product packaging.
- 10 Create boot innovation think tank.
- 11 Create measurements by which to assess sustainable boots.
- 12 Educate sponsored riders and ambassadors about the companies sustainable efforts for them to share.
- 13 Create industry standards for sustainability.
- 14 Design solutions to eliminate adhesives in product design.
- 15 Find a recyclable option for end of life use of product as snowboard boot.

PRIORITIZED RECOMMENDATIONS

SHORT TERM:

#2 REDESIGN PACKAGING WITH LESS WASTE

A packaging redesign project could take less than six months if executed efficiently; being implemented into the winter 2019 product lines. With this recommendation, the suggestion is to eliminate most paper products the packaging currently consists of (this includes a cardboard outer shipper, a cardboard merchandise box, and then stuffing paper inside of the merchandise box with the boots additionally wrapped in plastic and multiple insert cards). With just one box that the boots are packaged and shipped in combining the outer shipper and inner merchandising box. This box would need to be strong enough to endure shipping internationally, but at the same time, easily recyclable once the product arrives to the customer. Also by just eliminating all the inner stuffing papers and plastics, the company could save by ceasing a current practice that is unnecessary because the product is not a fragile item. Lastly, the packaging could have all the insert card info printed on the inside of the box eliminating that paper product as well. This improvement would streamline the packaging overall, saving paper and cost of production.

PRIORITIZED RECOMMENDATIONS

MID TERM:

#7 DESIGN PRODUCTS TO BE MORE DURABLE

This recommendation and “#3 Streamline bill of materials” overlap so I am categorizing them together. If the design team of Thirty-Two boots could look for innovative new solutions to the way snowboard boots are made this would be a huge stride forward for the snowboard industry. The boots across the market today have not evolved much since the 90’s regarding sustainability and materials used. By inventing a revolutionary boot that uses very few materials or one leading material the snowboard boot could evolve into a product that is durable, environmentally supportive. This would reduce consumer turnover and elongate product lifespan as long as this material was more durable than what is currently being used (hardshell boots is the direction I am thinking).

PRIORITIZED RECOMMENDATIONS

LONG TERM:

#13 CREATE INDUSTRY STANDARDS FOR SUSTAINABILITY

By defining what sustainability would mean for snowboard boots or the snowboard industry as an entirety, Sole Technology could build a standard that is measurable and educational for all companies making similar products. By tracking and analyzing their progress, they would begin to collect data that others can work off of and learn from when trying to make responsible choices from their own company.

Without tracking it is hard to measure progress, by building out a standard and doing studies on what materials are safe, efficient, and lasting when designing snowboard boots—a better product could be created. This outcome would hopefully lead to more sustainable innovations as well as a satisfied customer that has an overall better product that will last longer.

CONCLUSION

The first move towards these recommendations and improvements would be to gain perspective, changing mindsets, and approach, which should be fairly easy due to the course of action that Sole Technology is already on towards a carbon neutral company. Packaging design is a great and “easy” place to start because it all comes down to the designer and suppliers working together to be aware of the effects of the packaging they produce. Innovative product design that ends in a sustainable snowboard boot might take a few years of research and development as well as investment but is entirely possible if that is the company’s objective. The benefits would be tremendous. It would create a product that has less environmental impact. Provide a product that is ultimately more durable and lasts the consumer longer providing more return on their investment. Lastly, help the industry as a whole progress towards smarter and safer solutions in the industry.

