



*CONSUMER PRODUCTS*  
**CASE STUDY:**

# **Snook-Ease**

Self-Care Solutions Using PCMs

[microteklabs.com](http://microteklabs.com)

**microtek**  
laboratories, inc.



The human body was not designed to tolerate uncomfortable conditions. And during late fall, winter and early spring months that generally means warmth. For the young, elderly, those with medical conditions (such as diabetes) and others involved in cold, damp outdoor activities, foot warmth is paramount.

Whether too hot, not warm enough, or simply unreliable, personal heating products never quite delivered as promised. Today however, a small Ann Arbor-based company, Snook-Ease ([www.snook-ease.com](http://www.snook-ease.com)), is solving the problem. The company's self-care solutions include slippers, socks and heated inserts. Warmed in the microwave, Snook-Ease inserts keeps feet reliably warm longer and safer than other products.

In 2002 company owner, David Ross set out to develop a better solution. *"Our body has a constant need of heat, especially in low temperatures,"* explained Ross. *"As a result, we layer ourselves with clothing, avoid lingering outside and purchase products to help maintain body heat. But sometimes this doesn't provide the amount, type or localized heat needed. The goal was to develop a better personalized heating solution. One that is local, efficient and consistent."*





# The Evolution of Personalized Heating

A product designer with a technical background, Ross relies on more than 20 years of experience to create and develop personal thermal management solutions. Early products were based on flax seed and other grains. However, these materials were significantly limited in terms of applications and effectiveness.

Because grains could not be combined with fabric their use was limited. Moreover, microwaved grain-based products often generated excess heat causing discomfort and burns. Later, the industry moved to flexible silicones. This allowed personalized heating solutions to take on multiple shapes as the material could be incorporated with textiles. Although adding expense to the manufacturing process, silicones opened the door for wider heating or cooling applications.



## LavaTech Inside™ Technology

Ross' passion and experience led him to create the company's proprietary LavaTech Inside technology - a special earth minerals mixture, natural substance, applied on textile. LavaTech is unique in that it does not rely on grains, gels or batteries and is 100% environmentally friendly and machine washable. This allows the transformation of any textile fabric into microwave-heated product. From this technology, an insert was created that can be fitted into any shoe providing heat to a complex and critical area of the body - the feet.





## Challenge: Extended Usage

“Our goal is heating personalization- where you want it, when you want it and for as long as you want it,” explained Ross. “We knew the technology was sound, but to deliver greater value we had to find a way to sustain heating for a longer period of time.” Looking to extend the heating plateau time of his product, Ross sought advice from a University of Michigan chemistry professor. It was here that he learned of phase change technology and a company called Microtek Laboratories.

Dayton, Ohio’s Microtek Laboratories is a leading provider of thermal management technologies and related services. The company’s phase change technology capsules are of higher purity levels than competitive brands. And because they are more robust, Microtek capsules won’t rupture allowing wax to seep into formulas. For manufacturers that means more reliable thermal management.





## Results

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Leveraging Microtek phase change technology, Snook-Ease has developed a warming insert unrivaled in terms of consistency and longevity. Snook-Ease inserts are shown to maintain a constant 57°C temperature for 30% longer. Ross' solution is safe, affordable and practical for people of all walks of life looking for reliable and lasting foot comfort. The product is especially beneficial for those with limited feeling in their feet, such as those with diabetes allowing them to avoid problems associated with foot irritation and burns.

“Thanks to Microtek phase change technology, not only is product performance enhanced; but we are saving on manufacturing costs as well,” concluded Ross.

“The material is cheaper than silicone and thick enough not to seep through any fabric.

**This opens a world of possibilities for future product development. In addition to other heating products, we are exploring cooling applications as well.”**



## What's Next

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With a mission to develop a line of products to provide personalized temperature management, Ross sees endless possibilities. With a world of opportunities, it's safe to say that Microtek phase change technology will continue to play a leading role in current and future Snook-Ease personal temperature management solutions.



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