

Do you want your customers to experience longer lasting cooling? Meet Alexicool® FM, the innovative hybrid technology for pillows and mattresses, keeping customers not just cooler, but cooler throughout the night.



## Face any of the following challenges? Now is the time to start a discussion with Alexium.

Are you keeping up with the bedding market by introducing the **latest cooling technology innovations**?

Does your foam make a good cooling first impression, but **leave consumers hot after a short time in bed**?

Are your PCM suppliers backing up their new products with **formulating and analytics experience**?

Do your PCM suppliers provide specific and **quantitative performance assurances**?

Is your **quality control and product design** guided by scientific principles and analytics?

Are your customers **satisfied with the level of cooling** in your product?

Do **logistics and production test-run problems** keep you up at night?

Are your PCM suppliers able to **test coated products to determine cooling** for you?

Are you paying for the **most effective PCM**? Are you getting effective PCM for the right price?

Are **sourcing and supply chain issues** delaying your production cycle?

Are your PCM suppliers there for you **on-site to solve problems** as they arise?

Are your suppliers in your facility helping to **convert a prototype into a commercial product**?

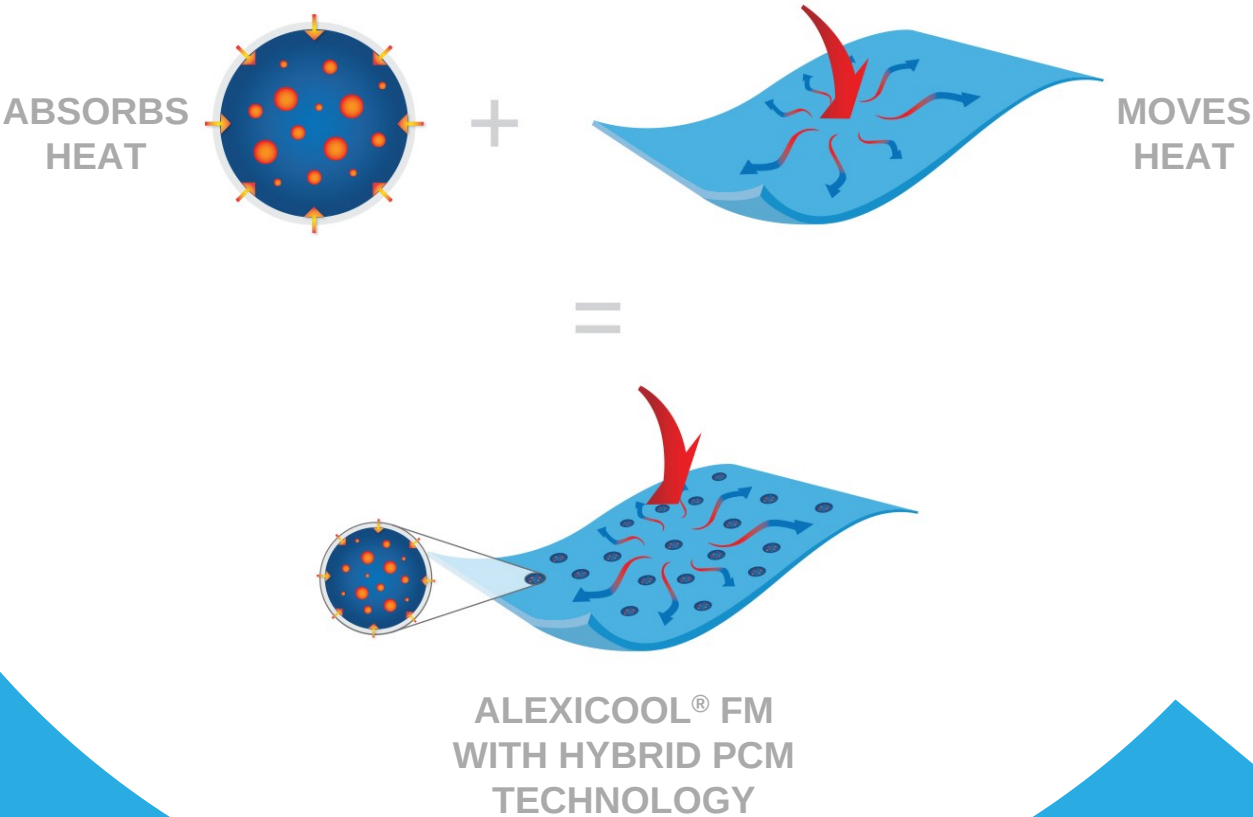
# Alexicool® FM's Hybrid Cooling Technology

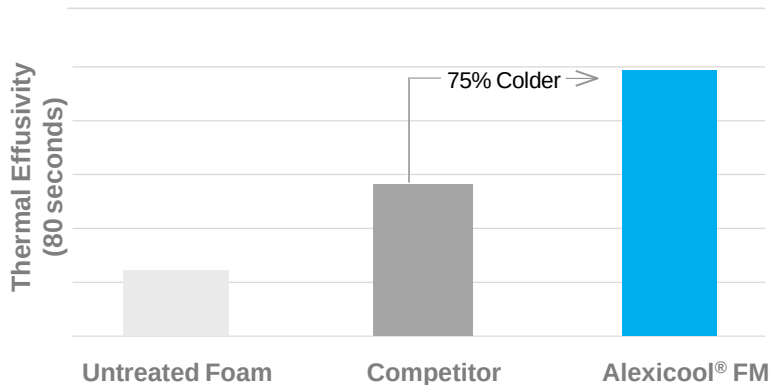
Our hybrid technology means Alexicool® FM is colder, it absorbs heat and moves it away from the body, and it provides a long-lasting cool. The pillow and mattress industry's latest in cooling technology for foam is the proprietary finishing treatment, Alexicool® FM from Alexium. Alexicool® technology enables your mattress or pillow to deliver an immediate and long-lasting effect. When applied to a variety of foam components, Alexicool® solutions ensure your sleep system is cool and comfortable.

Alexicool® technology works by absorbing and releasing thermal energy to maintain a cool, comfortable temperature. Alexicool® products are formulated with encapsulated PCMs which absorb body heat and begin to melt—drawing heat away from the body, containing it in the core of the PCM capsule. This is a regenerative process, when the body is no longer in contact with Alexicool® technology, it will transform back into a solid form, ready to be used again.

Achieve end-consumer comfort faster using Alexicool® FM in your foam components. By layering and strategically adding Alexicool® technology to components, the result is comfort that lasts. The race to relax is on, and Alexicool® technology means your pillow or mattress is designed to get consumers there fast.

	Alexicool® FM with Hybrid PCM Technology	Normal PCM
Absorb Heat	+++	++
Move Heat	+++	+
Overall Cooling	+++++++	+++



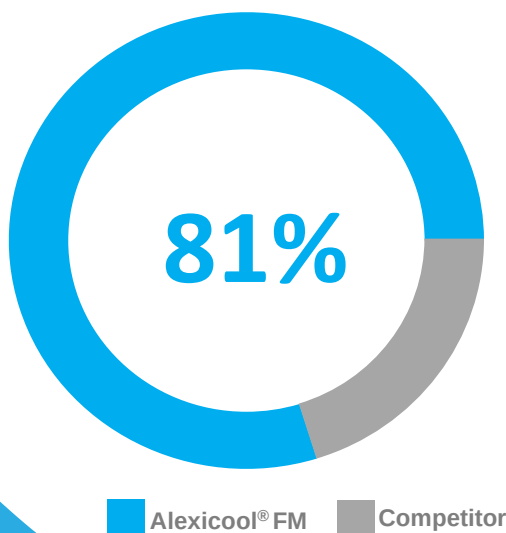
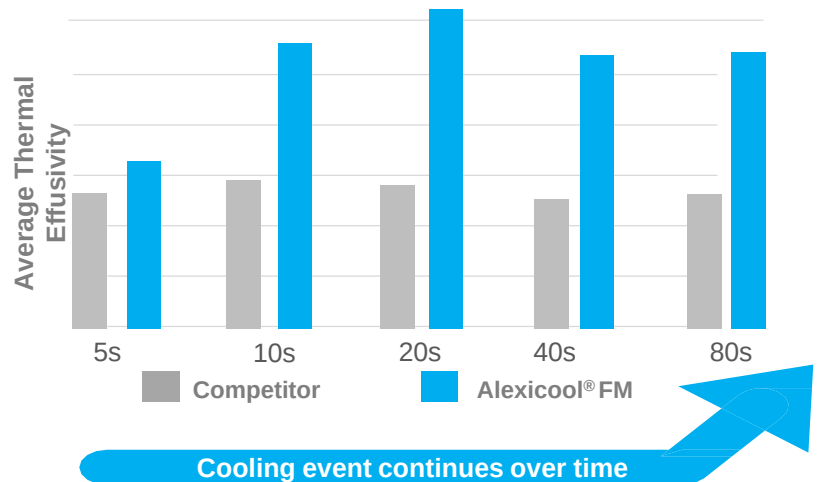


## Alexicool® FM Provides 75% More Cooling

Alexicool® FM provides hybrid cooling for your foam products. Synergistically, the product works by absorbing body heat, capturing heat, and moving heat away from the body. Alexium leads the way in transformative PCM cooling with a hybrid mechanism that allows for both an initial pop of cool and a longer duration of cool.

## Alexicool® FM Provides Longer-Lasting Cooling

Thermal effusivity measures the heat transfer between two objects in contact. Consider picking up two spatulas in your kitchen. The first spatula is plastic and the second spatula is metal. Which one feels cold when you pick it up? That difference is attributed to the thermal effusivity of the materials. Now that we know thermal effusivity is a scientific way to quantify cool, we can measure our tactile experience. When consumers touch an Alexicool® PCM-treated foam, the cool to the touch sensation is noticeably cooler than the competition. And it is measurably providing a cooler experience because it is moving body heat 75% faster than the competition.



## Alexicool® FM Feels Colder According to Consumers

In a blind test, 81% of consumers surveyed said Alexicool® FM-treated products were colder than the competition.

## The Alexium Advantage

	Alexium	Others
Innovation	<p>Custom cold: product designed and optimized to meet your specifications</p> <p>Listen to customers and tailor product to exceed needs</p> <p>Fast product development cycles</p> <p>Lab scale prototyping</p> <p>Rapidly moving from prototype to production to meet market needs</p>	<p>"One size fits all" product</p> <p>Fewer new offerings</p> <p>Long product development cycle</p> <p>Less responsive to market and customer demands</p>
Sleep System Design	<p>Customized solutions for a variety of substrates, optional layering for enhanced cooling</p> <p>We help customers design sleep systems</p> <p>Work with customers to build and test system prototypes</p>	<p>Some are dependent on inherent solutions, which are not customizable</p> <p>Cooling is an afterthought</p> <p>Outdated PCM technology and lack of PCM-application support</p>
Customer Support	<p>Dependable, on-site support for prototype trials and qualification trials</p> <p>Technologically savvy sales team with bedding and mattress industry know-how</p> <p>In-house lab provides application assistance and analytics expertise</p>	<p>Third party product support</p> <p>Limited customer support</p>
Quality	<p>Develop and reliably deliver formulated PCM solutions</p> <p>Product consistency, matching precise product specifications to improve product quality</p>	<p>Non-tailored PCM products</p> <p>Added risk, labor costs, and complexity at customer manufacturing operations</p>

## Customer Comments on the Alexium Advantage

"Consumers crave the cool touch of PCM. In my opinion, and I have tested the competitors, Alexium has the coolest products."

"Alexium provides timely service and quick attention."

"When it comes to recommending Alexium, on a scale of 1 to 10, I'd give Alexium a 10."

"The technical team at Alexium is highly engaged. They interact with me on the niche attributes and aspects of their product and understand the specialized qualities of my products."

"Alexium nurtures partnerships, and they are creative and have technical knowhow to continuously develop new technology."



## Analytical Excellence

At Alexium, analytical excellence means our team of innovators provide options supported by data to create selling points and product differentiation, i.e. measurable cooling, duration, product design based on claims supported by science. Using a systems approach and data-driven analytics, Alexium experts can work in tandem with you to deliver innovative cooling solutions with real time technical support.



The Guarded Hot Plate determines heat flux, indicating the comfort characteristics of your foam using Alexicool® FM.



Alexicool® technology is backed by data gathered using tools like this Differential Scanning Calorimetry (DSC) for precise thermoanalysis.

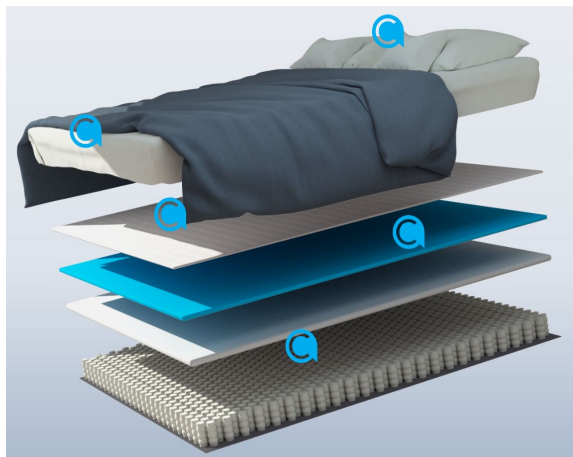


Formulating experts enhance the performance of your foam and improve its value to end-consumers.



Our nimble research and development team is ready to explore and develop alongside customers for the ultimate in customized cooling.





## Applications with Alexicool® FM

Various foam applications include pillows, mattress layers, toppers, and more. Additionally, Alexicool® technology is available as a cooling solution for textile applications such as mattress pads, high loft, ticking, and sock. It is also used for pillow shells and encasements.

At Alexium, we take a systems approach to customizing your cooling solution. Designing your product with multilayer PCM applications ensures a cooling effect that lasts longer and feels cooler. We are committed to service as much as innovation. Our goal is to give you technologically advanced solutions delivered with unparalleled value. Alexium works with your processes and products to make sure you get the ideal thermal regulation performance.

## Innovation

- Product differentiation
- Formulation expertise
- Product and application development professionals
- On-site support to ensure proper set up
- Flame retardant expertise

## Testing

- Transient Plane Source (TPS) Thermal Effusivity Testing
- Guarded Hot Plate
- Differential Scanning Calorimetry (DSC)
- Qmax
- Thermal imagery testing

## Logistics

- Global manufacturing and warehousing capabilities
- Support for global shipping requirements

## About Alexium

Originating in Australia, Alexium is an environmentally conscious specialty chemical technology company headquartered in Greer, South Carolina. Alexium specializes in advanced applications in the textile industry, including flame retardant technology and cooling chemistry solutions. Our formulations are made as a single step, drop-in solution that can be added at any finishing facility around the globe with no changes to equipment. Alexium's IP portfolio includes 20+ global patent applications covering chemical structures and applications.



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