NEW THERMAL ANALYTICAL TESTING METHODOLOGY SHOWS ALEXIUM ALEXICOOL®-TREATED PILLOWS PROVIDE SUPERIOR COOLING

Pillows treated with Alexicool shown to deliver over 500% greater cooling capacity compared to other commercially available pillows tested

Highlights:

- Alexium pioneers first comprehensive, scientifically valid test to quantify the cooling capacity of PCM products
- Alexium Alexicool shown to perform very favourably against other PCM products tested
- Test uses a refined differential scanning calorimetry method to allow for facile adoption by the industry
- Alexicool's cooling capacity allows bedding/pillow manufacturers to purchase amount of PCM needed to achieve desired cooling level
- Alexicool cooling creates application flexibility; potential new products for new markets

Perth, Australia, and Greer, South Carolina- 23 April 2018 - Alexium International Group Limited ("Alexium," "the Company,"), ASX: AJX, NASDAQ Designation: AXXIY announced today that it has developed an innovative thermal analytical testing methodology that allows for the scientific evaluation of the cooling capacity for phase change material (PCM) products as used on pillows and other bedding industry fabrics. In response to the lack of defendable industry metrics to accurately measure the cooling effects of PCM products, the Company made the strategic decision earlier this year to make significant investment in analytical equipment in an effort to quantify the cooling performance of its Alexicool product against competitive products.

Background

The past decade has seen much innovation inside the sleep/bedding industry, with a plethora of new products being introduced annually to help consumers fall asleep faster and sleep more comfortably, the end goal being an overall healthier sleep experience. As a result, the sleep industry is currently a $50B market that is anticipated to grow at a 6.5% rate over the next 5 years. One of the more popular innovations in this fast-growing market has been the emergence of PCM which, when applied to mattresses, pillows, and other bedding products, creates a "cool to the touch" sensation by drawing body heat away from the material surface and "trapping" it inside microscopic shells. The result are pillows, mattresses and "toppers" that remain cool and comfortable for an extended period, allowing for healthier sleep.

Until recently, there has been an inability to quantify "cooling capacity" among PCM products, most notably when it comes to measuring the *intensity* and *duration* of the cooling sensation created by PCM solutions. As a result, PCM cooling solutions for bedding and pillow fabrics have essentially been considered indistinguishable from each other, evaluated purely on a subjective basis. This lack of performance metrics has resulted in misinformed bedding/pillow manufacturers and underinformed end user purchasers at the retail level. It has also served to drive down PCM prices and stagnate growth inside this up-and-coming market.

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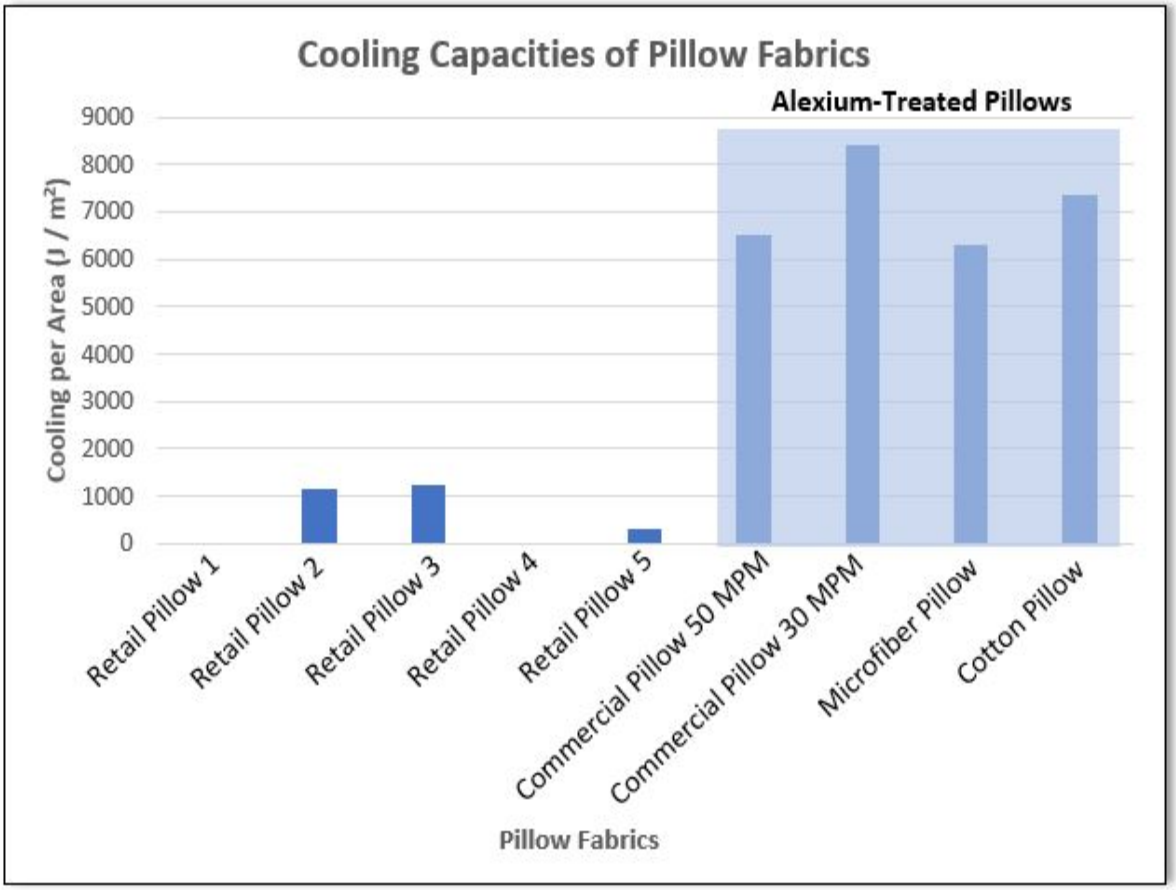
Test Methodology/Pillow Study

In response to the lack of available testing metrics to quantify PCM performance, Alexium developed a testing protocol using a standard industry tool to quantify the cooling capacity, or enthalpic cooling, of PCM products when applied to pillows and other bedding fabrics. As a result, using this testing protocol, pillows treated with Alexium's Alexicool PCM solution were shown to deliver over 500% greater cooling capacity than commercially available pillows treated with other PCM products.

Testing was conducted on microencapsulated octadecane-based PCM in a controlled lab environment using a differential scanning calorimetry method developed by Alexium scientists with a TA Instrument DSC 250. The method was developed to be applicable across a wide range of fiber composition, fabric construction, and types of PCM.



The results of the testing provided a measurement using Joules per gram (J/g), detailing the specific amount of heat being absorbed for each PCM-treated fabric. The resulting enthalpic cooling, or cooling capacity, was therefore determined for each PCM-treated pillow fabric. The results, using this measuring protocol, show that Alexium Alexicool-treated pillows compare very favourably against other similar products available on the market.

As a result of this new test methodology, mattress and pillow manufacturers, and the companies that supply them fabric, are now able to make informed choices about the level of cooling desired for their products. In the case of Alexium's PCM products, because the amount of Alexicool can be scaled up or down to achieve a variety of desired cooling effects, fabric and finished goods manufacturers can achieve a customized and more cost-efficient PCM cooling solution for their fabrics. This application flexibility will also allow for the creation of additional Alexium PCM products to address a wider range of customer markets and demands.

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The Company plans to roll-out a comprehensive marketing communications campaign to educate bedding/pillow industry manufacturers on test results. In addition, point-of-purchase display materials are also being created for retailers to help consumers distinguish among the variety of PCM-treated mattresses and pillows.

Dr. Dirk Van Hyning, Alexium CEO, said "The inability to measure PCM performance has been a known gap in our industry since inception. Out of a complete void of reliable metrics was born a relentless pursuit by our scientists to figure it out. Not only did they develop a highly accurate, quantifiable and defendable methodology for comparing PCM solutions, but the results of our testing revealed what we already believed to be true: Alexicool PCM not only feels cooler when compared to other PCM products, it is cooler."

Said Alexium EVP of Research and Development, Dr. Robert Brookins, "What always impresses me about our team is the way we approach problem solving. The goal is never to simply create effective solutions, but rather to create solutions that are market leaders. That internal mindset of pushing for excellence continues to allow us to bring best-of-breed solutions to our customers. The results of this study are proof positive that Alexicool is just such a solution."

About Alexium International Group Limited

Alexium International Group Limited (ASX: AJX, Nasdaq Designate: AXXIY) holds proprietary patent applications for novel technologies developed to provide flame retardancy for a wide range of materials. These environmentally friendly flame retardants have applications for several industries and can be customized. Additionally, Alexium's product range includes products for a range of other applications including phase change materials, water repellents, antimicrobials, and combinations thereof. Alexium also holds patents for a process developed initially by the U.S. Department of Defense, which allows for the surface modification and attachment of nanoparticles or multiple chemical functional groups to surfaces or substrates to provide functions such as fire retardancy, waterproofing, oil proofing, and anti-microbial treatments. Applications under development include but are not limited to textiles, packaging, electronics and building materials. Alexium's chemical treatments are currently marketed as Alexiflam® and Alexicool®. For additional information, please visit alexiuminternational.com.

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