

Advanced Phase Change Material (PCM) Market by Type (Organic, Inorganic & Bio-based) and Application (Building & Construction, HVAC, Shipping & Packaging, Cold Chain, Thermal Energy Storage (TES), Textile, and Electronics) - Global Trends & Forecasts to 2019

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Abstracts

Advanced PCM is a type of latent heat storage material that has the property of absorbing and releasing large amount of latent heat energy through phase transformation. Though the most common PCM is ice, its use is limited due to fixed melting temperature. Advanced PCM on the other hand is manufactured using paraffin waxes, fatty acids, and salt hydrates among others in which the melting temperature can be modified using appropriate performance-enhancing reagents.

The market for advanced PCM is estimated to grow on account of the increasing energy efficiency regulations, the need for reducing greenhouse emissions, for efficient harnessing of alternative energy, and for reducing operating costs in buildings. High production and encapsulation costs associated with advanced PCM manufacture, lack of awareness, and high investment and R&D costs are the restraining factors for the market.

Region-wise, Europe is leading the advanced PCM market. Growth in Europe is led by the enforcement of energy efficiency regulations for buildings in the region and the need to reduce operating costs. Europe is also estimated to have the highest growth in the market on account of the increasing awareness about the benefits of advanced PCM and the level of commercialization of advanced PCM in the region. The Americas is the second-largest market for advanced PCM and is projected to have a steady growth

between 2014 and 2019. Asia-Pacific is estimated to have high growth in the market due to the region's favorable prospects; several companies are expanding in Asian countries to benefit from the low-cost structures and growing local demand for advanced PCMs for various applications, such as HVAC, cold chain, thermal energy storage, textiles, shipping, packaging & transportation, among others.

Organic PCM had the largest market size, by value in 2013 while inorganic PCM dominated the market, in terms of volume. Organic PCM are projected to have the higher growth rate than inorganic PCM due to the higher prices and ease of microencapsulation for organic PCM. Bio-based PCM have been estimated to have the highest CAGR of 21.6% between 2014 and 2019.

The report analyzes the advanced PCM market trends and forecasts till 2019. The market size has been provided in terms of market volume (tons) and value (\$million). The report also identifies prominent players and provides analysis for each player in terms of company overview, financials, products & services offered recent developments, and company strategy.

The advanced PCM market is projected to register a CAGR of 20.8% between 2014 and 2019 to reach \$1, 472 million. The HVAC application, that uses advanced PCM, is witnessing a CAGR of 20.7% and constitutes a significant part of the overall advanced PCM market. However, the thermal energy storage application is projected to register a high CAGR of 22.0% by 2019.

The advanced PCM industry is moving towards investments in the implementation of technologies to produce new and high-quality products. The present encapsulation technology has proved to be highly expensive and advancements in the area will benefit the overall advanced PCM market in a major way. The companies involved in this market are extensively engrossed in research and developments of new products for specific applications and conditions.

All these factors, along with the growing packaging, construction and alternative energy industry, are projected to continue to drive the demand for advanced PCM.

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FIGURE 70 MICROTEK LABORATORIES INC.: SWOT ANALYSIS

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FIGURE 72 PLUS POLYMERS PVT. LTD.: SWOT ANALYSIS

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FIGURE 88 LAIRD PLC: COMPANY AT A GLANCE
FIGURE 89 RGEES LLC: COMPANY AT A GLANCE
FIGURE 90 THE BERGQUIST COMPANY INC.:
FIGURE 91 CLIMATOR SWEDEN AB:

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