

Phase Change Materials - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 150 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License \$4750.00
- Team License (1-7 Users) \$5250.00
- Site License \$6500.00
- Corporate License \$8750.00

Report description:

The Phase Change Materials Market is expected to register a CAGR of greater than 15% during the forecast period.

The phase change materials market was affected negatively due to the COVID-19 pandemic. The weakening transportation industry and a brief halt in construction activity due to the pandemic lockdown had a detrimental impact on the phase change materials market. However, the market reached pre-pandemic levels and is expected to grow steadily during the forecast period.

Key Highlights

- The expanding global trend toward energy conservation and sustainable development is primarily driving the market. Because of the expanding construction sector, the organic product segment is also anticipated to propel the market ahead.
- However, the hazardous nature of phase change materials is expected to hinder the market's growth.
- The development of phase change thermal interface material and rising awareness of bio-based phase change materials is likely to act as an opportunity in the future.
- The continent of Europe long dominated the market. However, the Asia-Pacific region is anticipated to achieve the greatest CAGR throughout the projection period.

Phase Change Materials Market Trends

Building and Construction Industry to Dominate the Market

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scott-international.com

www.scott-international.com

- The rising emphasis on green building and energy conservation boosted the demand for highly effective and novel construction materials. As a result, phase change materials are employed in several applications, such as under-floor electric heating systems, PCM-filled glass windows, and thermally efficient concrete.
- Thermal comfort in buildings is where PCM is primarily used. PCM can regulate temperature and reduce heat gain or loss via building walls. The market for phase change materials is growing due to the growing usage of these materials in building products, including wallboards, roofing, concrete, and polymers like polyolefin elastomers and polypropylene to increase thermal efficiency.
- The US Census Bureau estimates that the US spent USD 1,809.8 billion on construction-related expenses in December 2022. Comparing December 2022 to December 2021, when the total amount spent was USD 1,681.0 billion, the construction sector rose roughly 7.7%. It, in turn, would help the market for phase change materials to grow.
- Germany is Europe's largest construction market, with the most extensive building stock on the continent. One of the main goals the German government established for the nation was affordable housing. The government plans to build 400,000 new housing units every year, 100,000 of which would be publicly subsidized.
- Germany had also given the go-ahead for constructing 25,399 dwellings for October 2022. Compared to October 2021, this implies a decrease in building permits of 4,198, or 14.2%, according to the Federal Statistics Office (Destatis). Moreover, 297,453 residential building licenses were issued between January and October 2022.
- Additionally, strict US Environmental Protection Agency (EPA) laws surrounding GHG emissions are driving up consumer demand for sustainable energy sources in North America, driving up the need for phase change materials.
- The expansion and proliferation of the building & construction sector are anticipated to be the main driver of the market for phase change materials, thus driving the market forward.

Asia-Pacific Region to Register the Highest Growth

- Asia-pacific region is expected to grow most during the forecast period, owing to the increase in demand from the end-user industries, including building and construction, packaging, textile, electronics, and transportation.
- Due to factors including developing e-commerce titans in the country and a growing per capita income, China is the world's most significant consumer of packaging. With around 60% of the market share in China, food packaging is a substantial participant in the packaging sector. The entire amount of packaging in China is anticipated to reach 447 billion units in 2023, according to Interpak, under the food packaging category.
- According to the Packaging Industry Association of India (PIAI), the Indian packaging industry is expected to grow at 22% during the forecast period. Moreover, the Indian packaging market is expected to reach USD 204.81 billion by 2025, registering a CAGR of 26.7% between 2020 and 2025.
- The fourth quarter of 2022 saw an increase in China's construction output of around 50% over the previous quarter (USD 27.6 billion), reaching an estimated CNY 276 billion (about USD 40 billion), according to the National Bureau of Statistics of China. Due to the nation's emphasis on energy-efficient structures, phase change materials are also widely used in construction.
- The Japanese construction industry is also expected to bloom due to the events expected to be hosted in the country. For instance, Osaka will host the World Expo in 2025. The construction is mainly driven by redevelopment and recovery from natural disasters. Two high-rise towers for Tokyo Stations, a 37-story, 230m tall office tower initially planned to be completed in 2021, and a 61-story, 390m tall office tower is due for completion in 2027.
- The electronics sector also makes extensive use of phase change materials. The Japan Electronics and Information Technology Industries Association (JEITA) anticipated that the total production value of the electronics industry in Japan would be over JPY 10.1 trillion (84.5 USD billion) as of November 2022, roughly 100.7% of the amount from the previous year. Up to November of last year, Japan's electronics exports climbed by about 15% over the same period in the prior year.
- All the above factors will likely increase the demand for phase change materials over the forecast period.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Phase Change Materials Industry Overview

The phase change materials market is fragmented. The major companies (not in any particular order) include Cryopak, Microtek Laboratories Inc., Henkel AG & Co. KGaA, Parker Hannifin Corp., and Croda International Plc.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

1 INTRODUCTION

- 1.1 Study Assumptions
- 1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET DYNAMICS

- 4.1 Drivers
 - 4.1.1 Expanding Global Trend Towards Energy Conservation and Sustainable Development
 - 4.1.2 Other Drivers
- 4.2 Restraints
 - 4.2.1 Hazardous Nature of Phase Change Materials
 - 4.2.2 Other Restraints
- 4.3 Industry Value Chain Analysis
- 4.4 Porter's Five Forces Analysis
 - 4.4.1 Bargaining Power of Suppliers
 - 4.4.2 Bargaining Power of Consumers
 - 4.4.3 Threat of New Entrants
 - 4.4.4 Threat of Substitute Products and Services
 - 4.4.5 Degree of Competition
- 4.5 Raw Material Analysis
- 4.6 Patent Analysis

5 MARKET SEGMENTATION (Market Size in Value)

- 5.1 By Product Type
 - 5.1.1 Organic
 - 5.1.2 Inorganic
 - 5.1.3 Bio-based
- 5.2 By Encapsulation Technology
 - 5.2.1 Macro
 - 5.2.2 Micro
 - 5.2.3 Molecular
- 5.3 By End-user Industry

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 5.3.1 Building and Construction
- 5.3.2 Packaging
- 5.3.3 Textiles
- 5.3.4 Electronics
- 5.3.5 Transportation
- 5.3.6 Other End-user Industries
- 5.4 Geography
 - 5.4.1 Asia-Pacific
 - 5.4.1.1 China
 - 5.4.1.2 India
 - 5.4.1.3 Japan
 - 5.4.1.4 South Korea
 - 5.4.1.5 Rest of Asia-Pacific
 - 5.4.2 North America
 - 5.4.2.1 United States
 - 5.4.2.2 Canada
 - 5.4.2.3 Mexico
 - 5.4.3 Europe
 - 5.4.3.1 Germany
 - 5.4.3.2 United Kingdom
 - 5.4.3.3 Italy
 - 5.4.3.4 France
 - 5.4.3.5 Rest of Europe
 - 5.4.4 Rest of the World
 - 5.4.4.1 Brazil
 - 5.4.4.2 Saudi Arabia
 - 5.4.4.3 South Africa
 - 5.4.4.4 Other Countries

6 COMPETITIVE LANDSCAPE

- 6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements
- 6.2 Market Share(%)**/Ranking Analysis
- 6.3 Strategies Adopted by Leading Players
- 6.4 Company Profiles
 - 6.4.1 Appvion Inc.
 - 6.4.2 Croda International Plc
 - 6.4.3 Cryopak
 - 6.4.4 Entropy Solution
 - 6.4.5 Henkel AG & Co. KGAA
 - 6.4.6 Laird Technologies
 - 6.4.7 Microtek Laboratories Inc.
 - 6.4.8 National Gypsum Services Company
 - 6.4.9 Outlast Technologies LLC
 - 6.4.10 Parker Hannifin Corp
 - 6.4.11 Rubitherm Technologies GmbH
 - 6.4.12 Shenzhen Aochuan Technology Co. Ltd
 - 6.4.13 Shin-Etsu Chemical Co. Ltd

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

7.1 Development of Phase Change Thermal Interface Material

7.2 Rising Awareness of Bio-based Phase Change Materials

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**Phase Change Materials - Market Share Analysis, Industry Trends & Statistics,
Growth Forecasts (2025 - 2030)**

Market Report | 2025-04-28 | 150 pages | Mordor Intelligence

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4750.00
	Team License (1-7 Users)	\$5250.00
	Site License	\$6500.00
	Corporate License	\$8750.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-03-05"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com



Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com