

Phase Change Materials Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The phase change materials market is expected to register a CAGR of greater than 15% during the forecast period (2022-2027).

The phase change materials market was affected negatively due to the COVID-19 pandemic. However, the market has now reached pre-pandemic levels.

Key Highlights

The major factor driving the market is the growing global trend toward energy-saving and sustainable development. However, the hazardous nature of phase change materials is expected to hinder the growth of the market studied.

The organic product segment dominated the market, and it is expected to grow during the forecast period, owing to the growth of construction industries in North America and Asia-Pacific.

Development of phase change thermal interface material is likely to act as an opportunity in the future.

Phase Change Materials Market Trends

Growing Global Trend toward Energy Saving and Sustainable Development

The growing demand for sustainable energy from consumers and industries is constantly changing. Periods of extreme cold or warm weather are the triggering factors for increasing the demand for heating or cooling equipment.

Power generation and its costs can be managed efficiently if some of the peak load could be shifted to an off-peak load period.

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This can be achieved by thermal storage for space heating and cooling purposes. Phase Change Materials (PCM) are used the most for this purpose, as they effectively store and release thermal energy in the form of latent heat. The use of PCM in developing and constructing sustainable energy systems is crucial to the efficiency of these systems, owing to these materials' ability to harness different temperatures in an effective and sustainable way. The main applications of PCM are in harnessing solar energy, thermal comfort in buildings, and vehicle applications. They have been used extensively for harnessing solar energy, especially in the manufacturing of solar cookers. This has aided in the reduction of costs, since solar cookers do not use fuel and they further contribute to reduce air pollution. PCM can also be used for temperature regulation to minimize heat loss or gain through building walls. Moreover, since a small amount of PCM is sufficient to store solar energy, thermal comfort is achieved without a substantial increase in the weight of construction materials. Owing to growing global trend toward energy saving and sustainable development, the applications for PCMs are increasing.

China to Dominate the Asia-Pacific Region

China has the highest share in the market in the Asia-Pacific region. The market is primarily driven by the increase in demand from the end-user industries, including building and construction, packaging, textile, electronics, and transportation. In China, the packaging is also one of the major industries where phase change materials are used for food packaging, medical packaging, and biological and chemical packaging. The uses of phase change materials are prominent in the construction industry, as the country is focusing on energy-efficient buildings. However, the construction industry has been largely affected by the Evergrande Crisis. Phase change materials are widely used in electronics. The electronics industry in China holds a major share in the Asia-Pacific region and also across the world, aiding its significant turnover over the years. Phase change materials are widely used in heating, ventilation, and air conditioning (HVAC) systems. With the increasing domestic and global demand for electronics and the country's transition toward renewable energies, the demand for phase change materials in the electronics industry is also expected to grow during the forecast period. All the aforementioned factors are likely to increase the demand for phase change materials over the forecast period.

Phase Change Materials Market Competitor Analysis

The phase change materials market is fragmented. The major companies (not in any particular order) include Cryopak A TCP Company, 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

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