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Thin Film Material Market By Type (CdTe, CIGS, a-Si, Others), End-User Industry [Photovoltaic Solar Cells, MEMS, Semiconductors and Electrical (Circuit Boards), Optical Coating, Others], and Deposition Processes – Global Trends & Forecast to 2018

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Abstracts

Thin film material are widely used in various industries for one or more applications. They are used in the encapsulation of photovoltaic solar cell, semiconductor and electrical industry for miniaturization of circuit boards. Their major application is in photovoltaic solar cells, which accounts for a majority of their usage, followed by the MEMS, electrical, semiconductor, and optical coating industry.

Of the three main thin film technologies, Cadmium Telluride (CdTe) has been the most successful, as demonstrated by First Solar (U.S.). This success story is now spurred on by increased investment in the sector. Copper Indium Gallium Selenide (CIGS) is the sector that has received the most funding but has failed to deliver along the expected lines due to encapsulation problems and high capex. Recently, though the capex has decreased and deposition and encapsulation issues have been sorted to an extent, a lot needs to be done. Solar Frontier (Japan) and Hanergy (China) appear to be breaking out as emerging winners. Amorphous Silicon (a-Si) is aiso seeing some renewed interest by some Asian companies, particularly Suntech Holdings (China) and Trony (China), as they drive the costs down.

The thin film material market has a significant number of small as well as few big manufacturers. The companies in thin film material market are segmented according to the technology used by them. In the thin film material market, the companies are sometimes restricted to specific technology because of their geographical presence. For instance First Solar (U.S.) has a market share of around 90% in CdTe technology and it

has majority of market share only in North America as the usage of cadmium in Europe is highly regulated. Hanergy has one third of the market share of CIS/CIGS technology and a majority of its share is in the Asia-Pacific and European market.

The thin film material market has no specific set of raw material or ingredients. Every thin film is unique and the manufacturers use their own set of raw material and ingredients to manufacture these material. The industry also lacks the need for bulk suppliers. The raw material that are used in bulk are rare material and chemicals such as cadmium, indium, telluride, and certain common metals such as copper. These material are not difficult to source, unless there is some crisis or regulatory problems that prohibit their usage beyond a certain value.

This report analyzes various marketing trends and establishes the most effective growth strategy in the market. It identifies market dynamics such as the drivers, restraints, opportunities, burning issues, and winning imperatives. Major companies such as Anwell Solar (Hong Kong), Ascent Solar (U.S.), Avancis GmbH & Co. (Germany), Cicor Group (Switzerland), First Solar (U.S.), Hanergy (China), Kaneka (Japan), Masdar PV (Germany), Moser Baer (India), Solar Frontier (Japan), Suntech Power Co. Ltd. (China), and Trony Solar Holdings Co. Ltd. (China) have aiso been profiled in this report.

Scope of the report

On the basis of region:

- Asia-Pacific
  - China
  - Japan
  - India
- Europe
  - Germany
  - Italy
  - France

U.K.

Russia

North America

U.S.

Canada

The Middle East & Africa

Latin America

On the basis of deposition process:

Chemical deposition process

Physical deposition process

On the basis of types of thin film material:

Amorphous silica (a-Si)

Cadmium telluride (CdTe)

Copper indium gallium selenide (CIGS)

Others

On the basis of application:

Photovoltaic solar cell

MEMS

Semiconductor and electrical (circuit board)

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Optical coating

Others

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