

Solar Reflective Glass Market Assessment, By Type [Low-E Coated Glass, Tinted Glass, Clear Glass, Others], By Coating Type [Hard Coated, Soft Coated], By Sales Channel [Direct, Channel], By End-user Industry [Residential, Commercial, Industrial], By Region, Opportunities and Forecast, 2017-2031F

<https://marketpublishers.com/r/SD22225179F2EN.html>

Date: March 2025

Pages: 247

Price: US\$ 4,500.00 (Single User License)

ID: SD22225179F2EN

Abstracts

Global solar reflective glass market size was valued at USD 7.26 billion in 2023, which is expected to reach USD 12.59 billion in 2031, with a CAGR of 7.12% for the forecasted period between 2024 and 2031.

Solar reflective glasses are designed to block ultraviolet radiation and reduce heat loss using their reflection property, making them an ideal solution for various interior design projects. These glasses are coated with a special material that reflects and absorbs heat, distributing natural sunlight evenly and ensuring privacy without the need for any sort of curtains. Moreover, by using solar control glasses, we can minimize energy consumption, improve comfort, and enhance the overall design. Factors augmenting the market growth of solar reflective glasses include a rise in demand for reflective glasses in the construction sector, a rise in emphasis on energy-efficient construction practices, the need for privacy and comfort, and the continuous rise in the adoption of green building certifications are contributing to the market's growth extensively.

The demand for solar reflective glass in the construction sector is increasing due to several factors. Firstly, the use of glass on building surfaces has increased the penetration of daylight, reducing the need for artificial lighting inside office premises. Additionally, the emphasis on energy-efficient construction practices and the need for privacy and comfort have led to the growing adoption of solar reflective glass in

residential and commercial buildings.

In August 2023, Synapse S350 solar control glass, covering 1160 square meters, was provided by Eyrise for the rehabilitation project 'The Precedent' in Brussels. When Yugening Architecture planned the office and commercial building, the goal for it was to fulfill the Gold-level requirements of the WELL Building Standard in which the switchable eyrise glass plays a significant role.

The rise in Demand for Glass Windows is Proliferating the Market Growth

The increasing demand for glass windows drives substantial growth in the solar reflective glass market. As the architectural and construction industries prioritize energy efficiency, solar reflective glasses are in high demand and are designed to minimize heat absorption efficiently. The trend is propelled by the growing awareness of sustainable building practices and the need for energy conservation solutions, thereby making solar reflective glass a crucial component in modern construction projects.

In February 2022, researchers at the University of Oxford collaborated with industry experts to develop an adaptable smart window technology that could reduce the energy usage of an average home by up to one-third. The new solar reflective glass has a spectrally tunable low-emissivity coating that uses a phase change material to control the amount of heat that comes into the room from the window, without affecting the quality of light.

Rise in Awareness of Carbon Emissions is Enhancing the Market Growth

The rise in awareness of carbon emissions is driving the extensive market growth of solar reflective glass. The global construction sector's increasing focus on sustainability and energy efficiency has led to a rising adoption of solar reflective glass in novel residential and commercial structures to reduce cooling costs and maintain comfortable indoor temperatures. Moreover, government initiatives and incentives, such as financing energy-efficiency upgrades, have further boosted the industry scenario, creating a conducive environment for the widespread adoption of solar reflective glass.

According to the UNEP, Panama could save USD 22 billion in energy expenses by 2050 if it switches to 100% renewable energy, which in turn, can reduce the overall carbon dioxide emissions by almost 91%.

Continuous Growth in Electronic Sector to Cater to Extensive Opportunities

The continuous growth in the electronics sector is expected to provide extensive opportunities in the solar reflective glass market. The increasing adoption of electronic devices and the need for energy-efficient solutions have led to a rising demand for solar reflective glass in various applications, such as smartphones, laptops, and other consumer electronics. The market's potential for growth is evident in the expansion of emerging markets, where urbanization and building demand are on the rise, thereby leading to huge market opportunities in the future.

In June 2023, in response to the increasing demand for improved-neutrality solar control glazing, AGC broadened its selection of solar control glass products. AGC Glass Europe has released three new Stopray products that are focused on delivering high selectivity, a color-neutral appearance, and low reflection in response to customers' growing demands for higher levels of light transmission to utilize natural daylight more effectively and efficiently.

Asia-Pacific Dominate the Solar Reflective Glass Market

Asia-Pacific dominates the solar reflective glass market due to several key factors like rapid urbanization, government initiatives, and the increasing adoption of green building codes in countries like China, India, etc. Moreover, the construction industry in Asia-Pacific especially in countries like China and India has been a major driver of the market, along with the region's large population and rising disposable income.

In August 2023, Vishakha Renewable inaugurated its solar glass manufacturing plant in Mundra, Gujarat, India, featuring a 660 tpd solar glass furnace, the largest in India, and a phase-1 capacity of 4GW. The facility includes a cast floor area of 1 million sq ft, a 90 m prefabricated chimney, an overhead water tank of 500,000 liters, and an erected silo with a capacity of 1420 tons. The construction involved 6.21 million safe man-hours, with Asahi India Glass Limited (AIS) partnering with Vishakha Group for the plant's establishment.

Government Initiatives

Government initiatives play a crucial role in driving the growth of the solar reflective glass market. These initiatives include promoting green buildings, offering financial support, and implementing energy-efficient regulations. By investing in renewable energy projects and showcasing solar-powered public buildings, governments create a conducive environment for the widespread adoption of solar reflective glass and solar

energy technologies. Furthermore, government incentives and regulations can help capitalize on the growing demand for solar control glass in various sectors, such as residential, commercial, and automotive.

For example, an affordable, fully dielectric solar control coating on glass has been developed by researchers at the International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI), an independent research and development center of the Department of Science and Technology, Government of India. The coating can reduce the requirement for air conditioning in buildings and vehicles.

Impact of COVID-19

The COVID-19 pandemic had a significant impact on the reflective glass market. Pre-COVID, the construction industry faced several disruptions due to supply chain issues, travel restrictions, and lockdowns, which affected the production and supply of raw materials extensively. Post-COVID-19, the construction industry continued to be a major driver of flat glass market growth, with a sheer focus on energy-efficient and cost-effective solutions. Hence, it can be deciphered that the pandemic has temporarily disrupted the solar reflective glass market, but the industry is expected to recover and grow with the improvisation in the growth of the construction sector. Moreover, the demand for energy-efficient and cost-effective solutions will drive the market's growth in the post-COVID era.

Key Players Landscape and Outlook

The global solar reflective glass sector is witnessing a rise in innovation as key firms invest heavily in glass windows and technological upgrades of solar glasses. These firms are seeking acquisitions, partnerships, and collaborations to increase their market presence and profitability, driving the industry's quick improvements.

In January 2023, Borosil Renewables, an Indian solar glass manufacturer expanded its production capacity to 1,000 tons per day by starting trial production at its third solar glass furnace, which has a capacity of 550 tons/day. With this capacity, the company can supply solar glass for 6 GW of solar module production per year. The expansion comes after the acquisition of Europe's largest solar glass manufacturer, Interfloat Group, which increased the company's cumulative solar glass capacity in India and Germany to 1,300 tons/day.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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