

Electrochromic Glass Market will surpass USD 5.08 Billion By 2029; Says Exactitude Consultancy

The electrochromic glass market is driven by energy efficiency demand, smart building trends, and sustainable construction.

LUTON, BEDFORDSHIRE, UNITED KINGDOM, November 22, 2023 /EINPresswire.com/ -- The Global <u>Electrochromic Glass Market</u> Is Expected to Grow At 9.20 % CAGR From 2023 To 2029. It Is Expected to Reach Above USD 5.08 Billion By 2029 From USD 2.30 Billion In 2022.



Electrochromic glass is a type of smart glass that changes its transparency when a voltage is applied to it. Depending on the voltage supplied to the glass, its transparency changes from opaque to transparent. This electrochromic glass is utilized in non-residential structures such as

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The electrochromic glass market is growing rapidly due to increased demand for energy-efficient and smart technologies in construction." *Exactitude Consultancy* workplaces, hospitals, and hotels all over the world. It is particularly effective in terms of energy conservation and does not let extra heat to enter a room, keeping the space cooler during the summer and lowering the expense of air conditioning. This is accomplished by reflecting back the light that falls on the glass, which keeps rooms colder. The increasing demand for energy-efficient solutions is a major driver of the electrochromic glass market. As energy prices rise and environmental concerns grow, there is a growing need for solutions that can help reduce energy

consumption and promote sustainability. Electrochromic glass can help reduce energy consumption by regulating the amount of light and heat that enters a building, car, or airplane. This can help reduce the need for artificial lighting and air conditioning, which are major sources of energy consumption. By reducing energy consumption, electrochromic glass can help lower energy bills, reduce greenhouse gas emissions, and promote energy efficiency.

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Recent Developments:

• Feb 2023 – ChromoGenics was applying to patent its ConverLight[®] Interlayer that enabled the glazing industry to manufacture smart dynamic glass without the need to invest in new equipment. ConverLight[®] Interlayer was accelerating the implementation of ChromoGenic's partner strategy by simplifying partner production of ConverLight[®] Dynamic glass. The innovation increases the scalability of this business and is expected to contribute to increased sales, improved cashflow, and a reduction in tied-up capital.

• May 2022 – AGC (AGC, Inc.; Headquarters: Tokyo; President: Yoshinori Hirai), a world-leading manufacturer of glass, chemicals and high-tech materials, had developed a light-control panoramic roof with Low-E coating, which had adopted for the LEXUS RZ, a dedicated BEV*1 model to be launched by TOYOTA MOTOR CORPORATION in the second half of 2022. The use of Low-E glass*2 with high solar control and heat insulating performance allows the panoramic roof to provide both an open cabin environment and a comfortable cabin temperature, while the elimination of a sunshade contributes to a lighter body.

Asia Pacific is expected to be the 38% market for electrochromic glass.

This is due to several factors, including the growing construction industry, increasing adoption of energy-efficient solutions, and rising disposable incomes in the region. The construction industry in Asia Pacific is growing rapidly, driven by increasing urbanization and population growth. This is expected to drive the demand for energy-efficient solutions, including electrochromic glass, which can help to reduce energy consumption and improve indoor comfort in buildings. In addition, governments in the region are increasingly implementing energy efficiency standards and regulations for buildings, which is expected to further boost the demand for electrochromic glass.

The North American market for electrochromic glass is expected to grow steadily due to the increasing adoption of energy-efficient building materials and the presence of key players in the region. The United States is expected to be the largest market in the region due to the high demand for energy-efficient solutions in the construction industry.

Electrochromic Glass Market <u>Technological Trends</u>

Improved Performance Metrics:

Technological advancements focused on enhancing the performance of electrochromic glass, including faster switching times, increased optical clarity in both tinted and clear states, and improved durability. These improvements aimed to make electrochromic glass more competitive with traditional glass options.

• Integration with Smart Building Systems:

Electrochromic glass was increasingly being integrated into broader smart building systems. This integration allowed for centralized control of building elements, including lighting, heating, and cooling, to optimize energy efficiency and occupant comfort.

• IoT Connectivity:

The Internet of Things (IoT) was playing a role in the development of smart glass technologies. Electrochromic glass could be integrated into IoT platforms, enabling remote monitoring and control through connected devices.

• Energy Harvesting Technologies:

Research and development efforts were directed towards incorporating energy harvesting technologies into electrochromic glass systems. This could involve capturing and utilizing ambient light or other forms of energy to power the electrochromic functionality, reducing the reliance on external power sources.

• Self-Tinting Glass Technology:

Some advancements focused on self-tinting electrochromic glass that could respond to environmental conditions without the need for external control. This feature aimed to enhance user experience and energy efficiency.

Factors That May Impacting Electrochromic Glass Market

• Building and Construction Industry Trends:

The construction industry's growth and trends play a significant role. Increased construction activities, especially in the commercial and residential sectors, can drive the demand for smart glass technologies like electrochromic glass.

• Energy Efficiency Regulations:

Stringent energy efficiency regulations and a growing focus on sustainable building practices can drive the adoption of electrochromic glass. Governments and regulatory bodies may incentivize the use of energy-efficient materials, influencing market growth.

• Consumer Awareness and Demand:

Awareness among consumers regarding the benefits of electrochromic glass, such as energy savings, improved comfort, and enhanced aesthetics, can impact market growth. Increasing demand for smart and energy-efficient solutions in homes and offices contributes to market expansion.

• Technological Advancements:

Ongoing advancements in electrochromic glass technology, such as improvements in response time, durability, and cost-effectiveness, can impact market dynamics. Innovations that address performance issues or reduce production costs can drive wider adoption.

• Cost of Production:

The cost of manufacturing electrochromic glass can influence its market penetration. As technology matures and production processes become more efficient, the cost of manufacturing may decrease, making electrochromic glass more affordable and accessible.

Electrochromic Glass Market Players

- SAGE Electrochromics Inc.
- ChromoGenics AB
- RavenBrick LLC
- Asahi Glass Company
- Gentex Corporation
- EControl-Glas
- Magna Glass & Window Inc.
- Guardian Industries
- PPG Industries
- View Inc.

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Key Market Segments: Electrochromic Glass Market

Electrochromic Glass Market By Application, 2023-2029, (USD Billion), (Thousand Units)

- Windows
- Mirror

• Display

Electrochromic Glass Market By End User, 2023-2029, (USD Billion), (Thousand Units)

- Construction
- Automotive
- Aerospace

Market Dynamics

1. Drivers:

a. Energy Efficiency: Electrochromic glass helps in regulating the amount of sunlight entering a building, reducing the need for artificial lighting and heating or cooling systems.

b. Smart Building Trends: Growing interest in smart buildings and smart glass technologies that enhance occupant comfort and energy efficiency.

c. Government Regulations: Increasing emphasis on energy-efficient technologies and sustainable building practices enforced by government regulations.

d. Technological Advancements: Ongoing advancements in electrochromic technology, leading to improved performance, durability, and cost-effectiveness.

2. Restraints:

a. High Initial Cost: The initial cost of electrochromic glass technology can be relatively high, which may limit its adoption, especially in cost-sensitive markets.

b. Limited Awareness: Lack of awareness among end-users about the benefits and applications of electrochromic glass.

c. Durability Concerns: Some electrochromic materials may face durability challenges over the long term, affecting their reliability.

3. Opportunities:

a. Green Building Initiatives: Growing interest in sustainable and green building practices presents opportunities for electrochromic glass in eco-friendly construction.

b. Automotive Applications: Expansion of electrochromic glass applications in the automotive sector, particularly in sunroofs and windows.

c. Integration with IoT: Integration with the Internet of Things (IoT) for smart control systems, allowing users to manage glass tint and transparency remotely.

4. Challenges:

a. Technological Complexity: Developing and implementing electrochromic technologies with the required performance characteristics can be technically challenging.

b. Competition from Alternatives: Competition from other smart glass technologies and alternative materials that may offer similar functionalities.

c. Market Adoption Time: The time required for widespread market adoption due to the need for convincing stakeholders about the long-term benefits of electrochromic glass.

Key Question Answered

1. What is the expected growth rate of the electrochromic glass market over the next 7 years?

2. Who are the major players in the electrochromic glass market and what is their market share?

3. What are the end-user industries driving demand for market and what is their outlook?

4. What are the opportunities for growth in emerging markets such as Asia-pacific, middle east, and Africa?

5. How is the economic environment affecting the electrochromic glass market, including factors such as interest rates, inflation, and exchange rates?

6. What is the expected impact of government policies and regulations on the electrochromic glass market?

7. What is the current and forecasted size and growth rate of the global electrochromic glass market?

8. What are the key drivers of growth in the electrochromic glass market?

9. What are the distribution channels and supply chain dynamics in the electrochromic glass market?

10. What are the technological advancements and innovations in the electrochromic glass market and their impact on product development and growth?

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Glass Fiber Reinforced Concrete (GFRC) Market by Manufacturing process (Spray, Premix, Hybrid), by End User (Residential Construction, Commercial Construction, Infrastructure Construction) and Region, Global Trends and Forecast from 2023 To 2029

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Energy Efficient Glass Market by Coatings (Hard Coat, Soft Coat), Glazing (Single Glazing, Double

Glazing, Triple Glazing) End-Use Industry (Building & Construction, Automotive, Solar Panel, Others) and Region, (North America, Asia Pacific, Europe, South America, Middle East & Africa) Global trends and forecast from 2023 to 2029

https://exactitudeconsultancy.com/reports/18505/energy-efficient-glass-market/

Ultra-Thin Glass Market is Segmented by Thickness (<0.1mm, 0.1mm-0.5mm, 0.5mm-1.0mm), Manufacturing process (Float, fusion, down-draw), Application (Semiconductor substrate, touch panel display, fingerprint sensor, others), End user (Consumer electronics, automotive & transportation, medical & healthcare, others) and Region, Global trends and forecast from 2023 to 2029

https://exactitudeconsultancy.com/reports/18994/ultra-thin-glass-market/

Impact Resistant Glass Market by Inter-Layer (Polyvinyl Butyral (PVB), Ionoplast – SentryGlas (SGP), Ethylene Vinyl Acetate, Others), Application (Windows and Door Panels, Military Equipment and Vehicles, Airport Terminals, Residential and Commercial Interiors, Electronics and Consumer Goods, and Others), End-Use Industry (Construction & Infrastructure, Automotive & Transportation, Others) and by Region Global Trends and Forecast from 2023 to 2029

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