

GFRP Composites Market - Global Industry Size,
Share, Trends, Opportunity, and Forecast, 2018-2028
Segmented By Resin Type (Polyester, Vinyl Ester,
Epoxy, Polyurethane, Others), By End User (Electrical & Electronics, Transportation, Pipes & Tanks,
Construction & Infrastructure, Others), By Region and
Competition

https://marketpublishers.com/r/G84E2D45F6D8EN.html

Date: November 2023

Pages: 190

Price: US\$ 4,900.00 (Single User License)

ID: G84E2D45F6D8EN

Abstracts

Global GFRP Composites Market has valued at USD16.67 billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 5.94% through 2028. Glass fiber is widely recognized as one of the most commonly used reinforced elements in various applications. Primarily found in commercial and industrial sectors, it offers exceptional mechanical properties, including flexibility, durability, high tensile strength, and superior resistance to elevated operating temperatures. Notably, glass fiber composites have emerged as a viable substitute for steel and aluminum due to their lightweight nature.

The demand for glass fiber-reinforced polymer (GFRP) composites has experienced significant growth, primarily propelled by the construction and automobile industries. Moreover, the automotive sector's increasing adoption of lightweight materials is expected to further drive the market's expansion. Additionally, the rising demand for renewable energy sources, such as wind energy, has contributed to the surge in demand for GFRP composites, as consumers seek alternative energy solutions. Among the various types of GFRP composites, polyester-based ones have witnessed substantial growth due to their cost-effectiveness. Similarly, the application of polyurethane GFRP is anticipated to rise due to its remarkable chemical and environmental resistance.



Furthermore, the growing demand for thermoplastic resins has found extensive utility in marine and piping applications. The electrical and electronics sector's steady growth is expected to create new lucrative opportunities for GFRP composites. Nevertheless, fluctuations in raw material pricing may pose challenges to market growth. However, the increasing adoption of these composites as a carbon alternative, coupled with advancements in molding technologies, is projected to drive the market's overall expansion.

Key Market Drivers

Growing Demand of GFRP Composites in Automotive Industry

The automotive industry is gradually shifting towards lightweight vehicles in order to enhance fuel efficiency and reduce carbon emissions, addressing the growing environmental concerns and stricter emission regulations. GFRP composites, with their exceptional high strength-to-weight ratio, have emerged as an ideal choice for achieving these goals. These composites offer significant weight reduction compared to traditional materials like steel, without compromising on vehicle performance or safety, thereby promoting sustainability in the industry.

In addition to their lightweight nature, GFRP composites also offer unparalleled design flexibility, allowing automobile manufacturers to create complex shapes and designs that were previously challenging with traditional materials. This characteristic has made GFRP composites increasingly popular in the production of various car components, including body panels, bumpers, and interior parts. The ability to customize and optimize designs leads to improved aerodynamics and overall performance of the vehicles.

Moreover, GFRP composites exhibit cost-effectiveness and durability, making them an attractive option for automakers. These composites showcase excellent resistance to corrosion, thereby enhancing the lifespan of vehicles and reducing maintenance costs. This durability, combined with their lightweight properties, contributes to the overall sustainability of the automotive industry.

The future of GFRP composites in the automotive industry looks promising. With the constant rise in environmental concerns and the need for more fuel-efficient vehicles, the demand for lightweight and sustainable solutions is expected to grow exponentially. This trend will undoubtedly drive the growth of the GFRP composites market, creating



opportunities for innovation, research, and development.

In conclusion, the increasing demand for GFRP composites in the automotive industry is a significant driver of the global GFRP composites market. As the industry continues to prioritize lightweight, cost-effective, and sustainable solutions, GFRP composites will play an increasingly important role in shaping the future of automotive manufacturing. With a bright future ahead, the GFRP composites market offers immense potential for growth, advancement, and sustainable practices.

Growing Demand of GFRP Composites in Construction Industry

GFRP composites offer several advantages that make them highly sought after in the construction sector. They are lightweight, yet exhibit high strength and durability, making them ideal for various construction applications. Moreover, GFRP composites are resistant to corrosion, which significantly reduces maintenance costs and extends the lifespan of structures.

In modern construction, GFRP composites are extensively used in the manufacturing of panels, roofing, doors, windows, and other structural components. Their versatility and flexibility allow for innovative architectural designs, including complex shapes and forms not achievable with traditional materials. This opens up new possibilities for architects and designers to create unique and visually stunning buildings.

Furthermore, GFRP composites align with the increasing focus on sustainability in the construction industry. They contribute to energy efficiency by providing excellent insulation properties, which helps reduce heating and cooling costs. Additionally, the production process of GFRP composites has a lower environmental impact compared to traditional materials, as it requires less energy and produces fewer emissions. This makes GFRP composites a more environmentally friendly choice for construction projects.

In conclusion, the escalating demand for GFRP composites in the construction industry is significantly driving the global GFRP composites market. As the industry continues to transition towards more sustainable, cost-effective, and innovative building solutions, GFRP composites will undoubtedly play an increasingly vital role. The future of the GFRP composites market holds immense potential, with numerous opportunities for growth and advancement on the horizon. With ongoing research and development, GFRP composites may even find applications in new areas of construction, further expanding their reach and impact.



Key Market Challenges

Shortage of Skilled Labor

The fabrication and application of Glass Fiber Reinforced Polymer (GFRP) composites require a high level of expertise and precision. From the meticulous molding and forming processes to the intricate installation and long-term maintenance of composite structures, each step demands specialized knowledge and skills. The absence of such expertise can not only hamper productivity but also lead to increased waste and compromise the overall quality of the final product.

Moreover, the shortage of skilled labor in the GFRP composites market has emerged as a pressing concern. This scarcity is significantly impacting the market's capacity to meet the surging demand for GFRP composites across diverse sectors such as automotive, construction, and aerospace. Consequently, this shortage poses a potential obstacle to the industry's ability to foster innovation and enhance production processes, potentially hindering advancements, and progress in the field.

Key Market Trends

Growing Demand of Customized Composite Solutions

Customized composite solutions are tailored to meet specific application requirements, offering a wide range of unique attributes that enhance their performance. These attributes include exceptional strength, outstanding durability, reduced weight, and various other performance characteristics. This growing trend has been fueled by industries such as automotive, construction, aerospace, and renewable energy, which demand materials that can cater to their precise specifications.

In the automotive industry, for instance, manufacturers are actively seeking customized composites to not only reduce vehicle weight but also maintain high standards of strength and safety. These custom composites are designed to provide the perfect balance between lightweight construction and structural integrity.

Similarly, in the aerospace sector, there is a significant demand for high-performance composites that can withstand extreme conditions, including temperature variations, high stress, and intense vibrations. The ability of customized composites to offer exceptional strength and durability makes them the preferred choice for aerospace



applications.

Additionally, the construction industry relies heavily on durable and flexible composites that can meet both structural requirements and aesthetic standards. Customized composites are being used to create innovative architectural designs that combine functionality with visual appeal. These composites offer a wide range of design possibilities, allowing architects and designers to bring their creative visions to life.

The increasing demand for customized solutions is driving the growth of the GFRP composites market, encouraging manufacturers to invest in research and development to develop premium quality products. These products are known for their high durability, flexibility, and superior performance, making them highly sought after in various industries.

Furthermore, the customization trend is not limited to traditional industries but is also expanding to new end-use sectors such as electrical and electronic equipment. The unique properties of customized composites make them an attractive choice for applications that require lightweight yet durable materials, promoting the overall growth of the GFRP composites market.

In conclusion, the growing demand for customized composite solutions is a significant trend that is shaping the global GFRP composites market. This trend is driving innovation and growth within the industry as manufacturers strive to meet the evolving needs of different sectors. As industries continue to seek materials that can provide tailored solutions, the demand for customized GFRP composites is expected to further increase, promising a robust and prosperous future for this market.

Segmental Insights

Resin Type Insights

Based on the category of resin type, the polyester segment emerged as the dominant player in the global market for GFRP Composites in 2022. Polyester resin is renowned for its exceptional physical and chemical properties, which render it an ideal choice across a wide range of applications. Its remarkable chemical resistance, impressive strength-to-weight ratio, and unparalleled durability make it the preferred option for numerous end-user companies. Moreover, the utilization of polyester resin can significantly enhance the performance of Glass Fiber Reinforced Polymer (GFRP) composites, making them exceptionally adaptable to a myriad of applications.



The versatility of polyester as a material is truly remarkable, as it can be skillfully tailored to meet the precise requirements of any given application. This inherent versatility, coupled with its cost-effectiveness, has propelled polyester to become a highly sought-after choice in the GFRP composites market. Furthermore, the affordability of polyester in comparison to other types of resins plays a pivotal role in its dominating position in the market, catering to the diverse needs and budgetary considerations of a wide range of industries.

End User Insights

The transportation segment is projected to experience rapid growth during the forecast period. A crucial reason behind the transportation sector's dominance in the GFRP Composites Market is the industry's growing focus on fuel economy. With the use of GFRP composites, lightweight vehicles can be created, resulting in significant improvements in fuel efficiency. These lightweight vehicles not only consume less fuel but also contribute to reduced carbon emissions, making them environmentally friendly alternatives in the transportation sector.

Moreover, the adoption of GFRP composites extends beyond the automotive industry. Lightweight machinery tools made from these composites are also gaining popularity, leading to an expansion of the market size. These lightweight tools not only improve efficiency but also reduce operator fatigue, enhancing productivity and overall work experience.

In the airways sector, GFRP composites have emerged as a significant contributor to the dominance of the transportation industry in the GFRP composites market. Commercial and defense aircraft manufacturers are increasingly incorporating these composites due to their exceptional strength, durability, and lightweight properties. By utilizing GFRP composites in aircraft construction, manufacturers can achieve weight reduction without compromising structural integrity and performance, leading to improved fuel efficiency and extended flight range.

The outstanding performance attributes of GFRP composites, such as their high strength, exceptional durability, and resistance to corrosion, make them an ideal choice for various transportation applications. These attributes not only enhance the safety and longevity of vehicles but also contribute to reducing maintenance and repair costs. As a result, the demand for GFRP composites continues to surge in the transportation sector, solidifying its position as a preferred material choice for a wide range of applications.



Regional Insights

Asia Pacific emerged as the dominant player in the Global GFRP Composites Market in 2022, holding the largest market share in terms of value. One of the key reasons behind Asia Pacific's dominance in the GFRP composites market is the rapid pace of industrialization and urbanization in this region. As countries like China, India, and South Korea experience significant growth in industries such as automotive, construction, and aerospace, the demand for GFRP composites has soared. This industrial growth is driven by factors such as increased investments, technological advancements, and a growing middle class. Consequently, the market for GFRP composites in the Asia Pacific region is witnessing a remarkable upsurge.

Infrastructure development is another major factor driving the GFRP composites market in the Asia Pacific. The region is witnessing a significant rise in construction activities, including the building of bridges, roads, and other infrastructure projects. The durability, strength, and lightweight characteristics of GFRP composites make them an ideal choice for these applications. Moreover, the utilization of GFRP composites in infrastructure projects can lead to improved structural performance, reduced maintenance costs, and increased longevity.

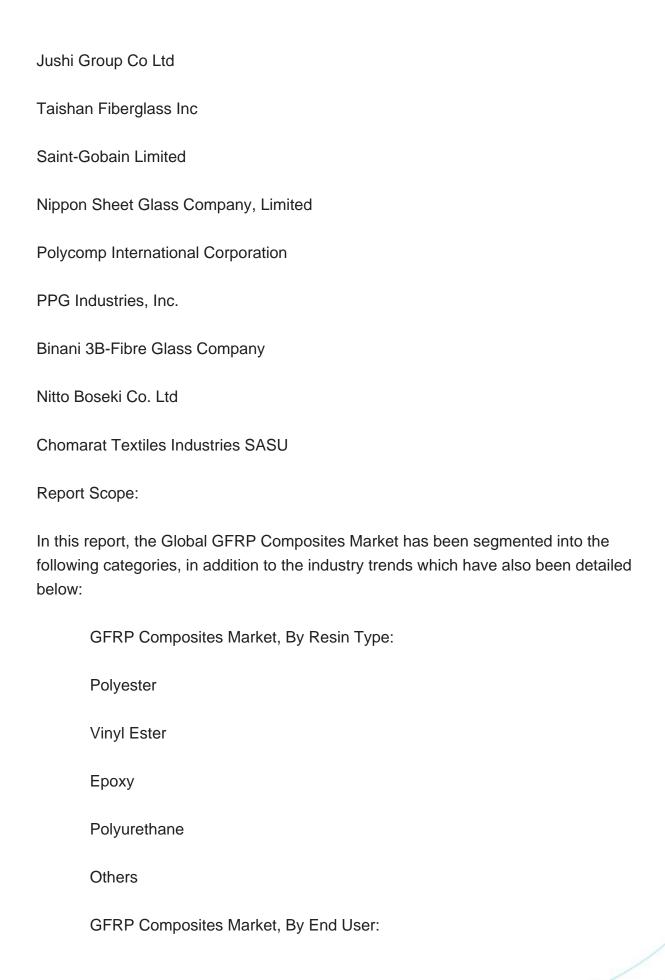
Government initiatives promoting the use of environmentally friendly and energy-efficient materials have also played a significant role in driving the demand for GFRP composites. For instance, the Chinese government's push for green buildings and energy-efficient vehicles has led to an increase in the use of GFRP composites. This is because GFRP composites offer advantages such as high strength-to-weight ratio, corrosion resistance, and low thermal conductivity, making them an attractive choice for sustainable and energy-efficient solutions.

Additionally, the versatility of GFRP composites allows for a wide range of applications across various industries. From automotive parts to wind turbine blades, GFRP composites offer lightweight, durable, and customizable solutions that meet the specific requirements of different sectors. This versatility has further fueled the demand for GFRP composites in the Asia Pacific region, contributing to its continued dominance in the market.

Key Market Players

Owens Corning







Electrical & Electronics
Transportation
Pipes & Tanks
Construction & Infrastructure
Others
GFRP Composites Market, By Region:
North America
United States
Canada
Mexico
Europe
France
United Kingdom
Italy
Germany
Spain
Asia-Pacific
China
India
Japan



Australia		
South Korea		
South America		
Brazil		
Argentina		
Colombia		
Middle East & Africa		
South Africa		
Saudi Arabia		
UAE		
Kuwait		
Turkey		
Egypt		
Competitive Landscape		
Company Profiles: Detailed analysis of the major companies present in the Global GFRP Composites Market.		
Available Customizations:		

offers customizations according to a company's specific needs. The following

customization options are available for the report:

Global GFRP Composites Market report with the given market data, Tech Sci Research



Company Information

Detailed analysis and profiling of additional market players (up to five).



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