

# Prepreg Market Report by Resin Type (Thermoset, Thermoplastic, Epoxy, and Others), Fiber Type (Carbon, Glass, Aramid), Manufacturing Process (Hot-Melt Process, Solvent Dip Process), End Use Industry (Aerospace and Defense, Automotive, Electrical and Electronics, Wind Turbine, Sporting Goods, and Others), and Region 2024-2032

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## Abstracts

The global prepreg market size reached US\$ 12.3 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 23.5 Billion by 2032, exhibiting a growth rate (CAGR) of 7.28% during 2024-2032. The growing focus on manufacturing lightweight automotive parts, rising utilization of wind energy as a sustainable alternative to fossil fuels, and increasing space exploration activities and the development of next-generation aircraft are some of the major factors propelling the market.

Prepregs is a composite material that comprises two primary components, including reinforcing fibers and a thermosetting resin matrix. It is produced through a meticulous manufacturing process that ensures uniform resin distribution, enabling precise control over material properties. It requires a specific curing process, typically involving heat and pressure, to transform the resin from a liquid to a solid state, ensuring maximum strength and stiffness. It offers high strength-to-weight ratios, reducing the overall weight of products. It also provides exceptional mechanical properties, enhancing product durability and performance.

At present, the increasing utilization of prepregs to make sporting equipment, such as tennis rackets, golf club shafts, and bicycle frames, enhancing performance and durability, is impelling the growth of the market. Besides this, the rising demand for

prepregs in printed circuit boards (PCBs) to provide insulation and mechanical support is contributing to the growth of the market. In addition, the growing employment of prepregs in the marine sector for boat hulls and other components to reduce weight while maintaining structural integrity is offering a favorable market outlook. Apart from this, the increasing focus on sustainability and environmental concerns is supporting the growth of the market. Additionally, the rising space exploration activities and the development of next-generation aircraft are bolstering the growth of the market.

#### Prepreg Market Trends/Drivers:

##### Growing focus on manufacturing lightweight automotive parts

The growing focus on manufacturing lightweight automotive parts is currently exerting a positive influence on the growth of the prepreg market. Besides this, in the automotive sector, manufacturers are continuously seeking innovative ways to design and produce lightweight components. Prepregs, which are composite materials composed of resin matrices reinforced with fibers, are emerging as a key solution in achieving this objective. Their use results in automotive parts that are not only lighter but also offer superior strength and stiffness properties compared to traditional materials. Furthermore, the present emphasis on environmental sustainability and stringent regulations governing emissions are accelerating the adoption of prepregs in automotive manufacturing. The use of lightweight materials, such as prepregs, aids in reducing the carbon footprint of the vehicle, making it an attractive choice for both automakers and consumers.

##### Rising utilization of wind energy

The rising utilization of wind energy due to increasing environmental consciousness among the masses is propelling the demand for prepregs. Besides this, prepregs, being composite materials with excellent mechanical properties and durability, are increasingly being used in the manufacturing of wind turbine blades. The continuous development and enhancement of wind turbine technology is growing the need for materials that can withstand the demanding conditions of wind farms, including high wind speeds and varying temperatures. As a result, prepreg manufacturers are witnessing a rise in orders from the wind energy sector, further contributing to the growth of the market. Moreover, the ongoing expansion of wind energy projects is encouraging investments in the development of advanced prepreg materials specifically tailored for wind turbine applications.

##### Increasing popularity of composite materials

Presently, the increasing popularity of composite materials is bolstering the growth of the prepreg market. Besides this, the aerospace and automotive sectors are presently undergoing a significant transformation, with a rising demand for lightweight, high-strength materials. Composite materials, which include prepregs, are playing an increasingly vital role in meeting these stringent requirements of the industry. This ongoing increment in demand is directly contributing to the continuous expansion of the prepreg market. Additionally, ongoing advancements in manufacturing processes and technologies are continually improving the quality, performance, and versatility of prepregs. Manufacturers are currently investing in research and development (R&D) activities to enhance these materials, making them more cost-effective and easier to work with. These ongoing innovations are driving greater acceptance of prepregs in industries where composite materials are an indispensable requirement.

#### Prepreg Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the market report, along with forecasts at the global, regional, and country levels from 2024-2032. Our report has categorized the market based on resin type, fiber type, manufacturing process, and end use industry.

#### Breakup by Resin Type:

- Thermoset
- Thermoplastic
- Epoxy
- Others

Thermoset dominate the market

The report has provided a detailed breakup and analysis of the market based on the resin type. This includes thermoset, thermoplastic, epoxy, and others. According to the report, thermoset represented the largest segment.

Thermosets refer to a class of polymers or plastics that undergo a chemical change when subjected to heat, resulting in a permanent and irreversible change in their physical properties. They are known for their excellent heat resistance and dimensional stability. They can withstand high temperatures without softening or deforming, making them suitable for various applications where heat resistance is crucial. They are used in the production of electrical components, circuit boards, and insulating coatings. They

are often highly resistant to chemicals and corrosion, making them valuable in industries where exposure to harsh chemicals is common, such as the chemical processing industry. They are also used in the production of various consumer goods, including kitchen utensils, electrical switches, and appliance handles, due to their durability and resistance to heat.

#### Breakup by Fiber Type:

Carbon  
Glass  
Aramid

Carbon holds the largest share in the market

A detailed breakup and analysis of the market based on the fiber type have also been provided in the report. This includes carbon, glass, and aramid. According to the report, carbon accounted for the largest market share.

Carbon fibers are strong and lightweight, making them ideal for applications where strength and stiffness are crucial, such as aerospace and automotive components. This results in structures that are both durable and fuel-efficient. Carbon fibers have low thermal expansion coefficients, meaning they maintain their shape and dimensions across a wide range of temperatures. This is crucial in applications subject to extreme temperature variations. Carbon is highly resistant to corrosion, making it suitable for use in aggressive environments, like chemical processing plants or marine applications. The properties of carbon fibers can be tailored to meet specific requirements by adjusting the fiber orientation, weave patterns, and resin formulations. This flexibility makes carbon prepregs versatile and adaptable to diverse applications.

#### Breakup by Manufacturing Process:

Hot-Melt Process  
Solvent Dip Process

Hot-melt process holds the biggest share in the market

A detailed breakup and analysis of the market based on the manufacturing process has also been provided in the report. This includes hot-melt process and solvent dip process. According to the report, hot-melt process accounted for the largest market

share.

The hot-melt process, also known as hot-melt adhesive or hot glue process, refers to a method of joining or bonding materials using a thermoplastic adhesive that is heated until it becomes a liquid and then applied to the surfaces to be bonded. The hot-melt process allows for precise control over resin impregnation, ensuring consistent and uniform distribution of resin throughout the prepreg material. This consistency is critical for achieving predictable mechanical properties in the final composite product. Prepregs produced through the hot-melt process often have good tack properties, making them easier to handle and position during composite lay-up processes. This tackiness helps in reducing the risk of fiber misalignment and improving overall manufacturing efficiency.

Breakup by End Use Industry:

- Aerospace and Defense
- Automotive
- Electrical and Electronics
- Wind Turbine
- Sporting Goods
- Others

Aerospace and defense hold the maximum share in the market

A detailed breakup and analysis of the market based on the end use industry has also been provided in the report. This includes aerospace and defense, automotive, electrical and electronics, wind turbine, sporting goods, and others. According to the report, aerospace and defense accounted for the largest market share.

Prepregs are extensively used in the manufacturing of aircraft structures, including wings, fuselages, empennages, and fairings. Their high strength and lightweight properties help reduce the weight of the aircraft, leading to improved fuel efficiency and performance. In helicopters, prepregs are used for rotor blades, tail booms, and other critical components. Their high stiffness and durability make them ideal for withstanding the dynamic loads and vibrations associated with rotary-wing aircraft. Prepregs are crucial in the aerospace industry for building lightweight and strong structures for spacecraft and satellites. They help reduce launch costs by minimizing the weight of these vehicles and payloads. Additionally, prepregs can withstand the extreme conditions of space, including vacuum and radiation.

### Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

North America exhibits a clear dominance, accounting for the largest prepreg market share

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, North America accounted for the largest market share.

North America held the biggest market due to the rising emphasis on fuel efficiency and

reducing greenhouse gas emissions. Besides this, the increasing focus on manufacturing lightweight and durable wind turbine blades, which are essential for enhancing the efficiency and reliability of wind energy generation is contributing to the market growth. Apart from this, the rising demand for lightweight and high-strength materials in the defense sector is supporting the growth of the market. Additionally, increasing advancements in manufacturing processes and resin formulations are propelling the growth of the market.

Asia Pacific is estimated to expand further in this domain due to the rising focus on minimizing material waste and energy consumption in various industrial operations. Moreover, the increasing popularity of composite materials is bolstering the growth of the market.

#### Competitive Landscape:

Key market players are investing in research operations to create advanced materials with improved properties. They are also developing prepregs with enhanced mechanical, thermal, and electrical properties to meet the evolving demands of various industries, such as aerospace, automotive, and wind energy. Top companies are expanding their production capabilities to meet growing demand by building new manufacturing facilities and increasing automation to improve efficiency and reduce production costs. They are also diversifying their product portfolios to cater to a broader range of applications by developing prepregs for niche markets and customizing products to meet specific customer requirements. Leading companies are working on developing eco-friendly prepregs with reduced environmental impact.

The report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Axiom Materials Inc. (Kordsa Incorporated)

Composites One LLC (Synergy55 Inc.)

Gurit Holding

Hexcel Corporation

Mitsubishi Chemical Corporation

Park Aerospace Corp.

SGL Carbon SE

Solvay S.A.

Sunrez Corporation

Teijin Limited



Toray Industries Inc.  
Ventec International Group

(Please note that this is only a partial list of the key players, and the complete list is provided in the report.)

#### Recent Developments:

In 2022, Kordsa Incorporated invested in compositing technologies to reinforce its presence in Europe by acquiring major shares of Microtex Composites.

In April 2022, Gurit Holding announced the acquisition of 60% shares of Fiberline Composites A/S, which will help it enhance its product offering in the wind energy market.

In 2023, Hexcel Corporation announced the inauguration of its new engineered core operations plant in Morocco to fulfill the rising demand for lightweight and advanced composite materials in the aerospace sector.

#### Key Questions Answered in This Report

1. What was the size of the global prepreg market in 2023?
2. What is the expected growth rate of the global prepreg market during 2024-2032?
3. What are the key factors driving the global prepreg market?
4. What has been the impact of COVID-19 on the global prepreg market?
5. What is the breakup of the global prepreg market based on the resin type?
6. What is the breakup of the global prepreg market based on the fiber type?
7. What is the breakup of the global prepreg market based on manufacturing process?
8. What is the breakup of the global prepreg market based on the end use industry?
9. What are the key regions in the global prepreg market?
10. Who are the key players/companies in the global prepreg market?



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