SCOTTS INTERNATIONAL

Prepreg - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-07-01 | 120 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

Prepreg Market Analysis

The Prepreg Market size is estimated at USD 8.56 billion in 2025, and is expected to reach USD 11.94 billion by 2030, at a CAGR of 6.89% during the forecast period (2025-2030). Commercial aircraft programs that rely on composite-rich wings and fuselages, offshore wind installations that push blade lengths past 100 m, and emerging eVTOL platforms that favor thermoplastic structures collectively underpin this expansion. Strong fuel-burn economics in aerospace, policy-driven renewable-energy build-outs, and vehicle lightweighting regulations reinforce structural-composite demand even as autoclave energy costs and recycling gaps temper near-term momentum. Competitive differentiation hinges on vertical integration, automated lay-up technologies, and certified material databases that safeguard quality while controlling cost. A moderate but tightening supply landscape leaves incumbent suppliers defending price points against rapid Chinese capacity additions, particularly in standard-modulus carbon fiber grades.

Global Prepreg Market Trends and Insights

Surging Aerospace and Defense Build-Rates

Commercial aircraft production is rising as Boeing's 777X and Airbus's A350 continue composite-heavy build schedules, each incorporating more than 50% carbon-fiber-reinforced polymer by weight. High-lift structural components, fuselage barrels, and wing skins rely on certified epoxy-based prepreg that meets stringent fatigue and damage-tolerance requirements. Defense modernization across NATO members mirrors these trends, retrofitting legacy fleets with lighter mission systems that extend range and payload. Long-term contracts allow suppliers such as Toray Industries and Hexcel Corporation to amortize qualification costs while guaranteeing stable deliveries. As composite usage per aircraft climbs, the prepreg market benefits from both volume growth and higher average selling prices anchored by proprietary material databases.

Wind-Turbine Blade Length Escalation

Average offshore rotor diameters now exceed 200 m, forcing blade lengths above 100 m and increasing spar-cap stiffness demands. Carbon-fiber prepreg spar caps reduce blade weight by 25% while maintaining structural integrity, enabling larger turbines to be installed on existing jacket foundations. European OEMs such as Vestas have shifted from fiberglass to hybrid carbon-glass architectures, and Chinese manufacturers are following to meet capacity-addition targets. Vacuum-assisted resin transfer molding and automated fiber placement shorten cycle times and cut labor expenses, bolstering cost competitiveness. With offshore wind commitments accelerating in the North Sea and South China Sea, sustained carbon-fiber demand secures a robust long-term pipeline for the prepreg market.

High Cap-ex and OPEX of Autoclave Curing Lines

Large-format aerospace autoclaves exceed USD 2 million in capital cost and operate 6-8-hour heat-pressure cycles that consume substantial energy. Smaller Tier-2 suppliers face steep financing barriers, limiting global expansion and introducing supply-bottleneck risk when demand surges. Out-of-autoclave processes-vacuum-bag-only curing, resin-infusion, and oven-based cycles-reduce energy by up to 50% but cannot yet replicate autoclave-derived porosity control for primary structures. Incremental adoption in secondary aerospace parts lowers cost envelopes; however, any delay in fuselage or wing certification sustains the autoclave's dominance and continues to restrain wider prepreg market penetration.

Other drivers and restraints analyzed in the detailed report include:

Carbon-Prepreg Penetration in Premium Autos and Sports / eVTOL and Urban-Air-Mobility Demand for Thermoplastic Prepregs / Carbon-Fiber Supply-Chain Volatility /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Thermoset systems retained 73.45% revenue in 2024, underpinned by certification depth in commercial aviation and ballistic-grade defense hardware. Epoxies remain indispensable for primary wings and fuselage sections where high-temperature cures translate to consistent mechanical properties over the aircraft life cycle. In contrast, thermoplastic grades are projected to advance at an 8.88% CAGR on rising eVTOL, automotive, and hydrogen-storage requirements. That expansion contributes USD 1.35 billion to the prepreg market size between 2025 and 2030. Polyetheretherketone and polyphenylene sulfide families deliver heat resistance up to 220 C and allow induction welding, thereby reducing assembly fastener counts and maintenance downtime.

The push for closed-loop material flows strengthens thermoplastic appeal, as scrap off-cuts can be re-melted into secondary mouldings without degrading performance. Automotive OEMs running high-tonnage compression presses report cycle-time improvements of 40% when switching from classic 180 C epoxy cycles to sub-3-minute thermoplastic campaigns. Meanwhile, bismaleimide and phenolic systems hold their niche in high-temperature jet-engine ducts and interior panels that demand flame-smoke-toxicity compliance. Overall, contrasting growth trajectories between resin chemistries ensure competitive diversity within the prepreg market.

Carbon fiber controlled 81.22% by value in 2024 as its unmatched stiffness-to-weight ratio underpins commercial airliner, space-launch, and Formula 1 requirements. Each additional kilogram trimmed from an aircraft's operating empty weight saves up to 75 t of fuel over its service life, a direct economic lever that keeps carbon pricing resilient even during downturns. Glass fiber, however, is projected for 7.99% CAGR growth through 2030, riding 5G electronics, LED substrates, and cost-sensitive mobility applications that tolerate lower modulus values. High-frequency printed-circuit-board laminates formulated with specialized glass-fiber prepreg meet dielectric benchmarks for 24 GHz radar and beyond.

Hybrid laminates combining carbon skins with glass core fabrics in wind-turbine spar caps optimize weight while lowering raw-material cost, widening addressable volume. Aramid fibers retain limited market presence in ballistic protection and impact-energy absorption but underscore the material-specific role each reinforcement plays. As Chinese producers scale output, lower-grade carbon fiber pricing compresses, widening the relative cost delta and spurring substitution debates where performance margins are narrower.

The Prepreg Market Report is Segmented by Resin Type (Thermoset, Thermoplastic), Fiber Type (Carbon, Glass, Aramid), Form (Unidirectional Tapes, Tow Prepreg, Fabric/Woven, Organosheets), End-User Industry (Aerospace and Defense, Wind Turbine, Automotive, and More), and Geography (Asia-Pacific, North America, Europe, South America, Middle East and Africa). The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

North America retained the largest 37.88% share of the prepreg market in 2024, buoyed by Boeing's composite-intensive 787, 777X, and proprietary space-launch structures. Pentagon modernization programs extend material demand into rotorcraft, unmanned systems, and hypersonic vehicles, ensuring stable multi-year order books. The region's certification ecosystem favors domestic suppliers such as Hexcel and Toray Advanced Composites, both of which operate vertically integrated lines from carbonization to prepregging. Nevertheless, 2025 commercial-aerospace revenues slipped after a major narrow-body delivery adjustment, highlighting short-cycle variability amid otherwise strong defense backlogs.

Asia-Pacific emerges as the quickest-growing geography with an 8.12% CAGR forecast to 2030. Chinese state-backed carbon fiber producers are on pace to command nearly 50% of global capacity by 2030, lowering price points and catalyzing broader industrial uptake. Indigenous aerospace programs such as COMAC's C919 and CR929, along with domestic eVTOL prototypes, provide captive demand for high-grade prepreg. Japan's Toray and Teijin maintain technology leadership through high-modulus fibers and automotive-qualified thermoplastic laminates, while South Korea's hydrogen-storage tank initiatives fuel tow-prepreg growth.

Europe sustains mid-single-digit growth anchored by Airbus wing-assembly, UK advanced-propulsion R&D, and aggressive offshore-wind targets in the North Sea. Policymakers intensify scrutiny of end-of-life composite waste, accelerating investment into pyrolysis and solvolysis pilot plants that can reclaim high-value fiber. Gurit's decision to expand German aerospace-prepreg capacity while shuttering a Swiss line illustrates cost-rationalization amid tight European energy pricing. Meanwhile, automotive composite adoption faces regulatory uncertainty over potential carbon-fiber usage limits, though lighter materials remain exempt in renewable-energy and commercial-aviation contexts.

List of Companies Covered in this Report:

AGC INC. / Axiom Materials / DIC Corporation / Gurit Services AG / Hexcel Corporation / Huntsman International LLC / Isola Group / Mitsubishi Chemical Group Corporation / NTPT / Park Aerospace Corp. / Renegade Materials Corporation / SGL Carbon / Solvay / Teijin Limited / THE YOKOHAMA RUBBER CO., LTD. / Toray Industries Inc. / Ventec International Group / Victrex plc /

Additional Benefits:

 The market estimate (ME) sheet in Excel format /
 3 months of analyst support /

Table of Contents:

5.4.1 Aerospace and Defense
5.4.2 Wind Turbine
5.4.3 Automotive
5.4.4 Electrical and Electronics
5.4.5 Sporting and Leisure
5.4.6 Other Industries
5.5 By Geography
5.5.1 Asia-Pacific
5.5.1.1 China
5.5.1.2 Japan
5.5.1.3 India
5.5.1.4 South Korea
5.5.1.5 Australia
5.5.1.6 Southeast Asia
5.5.1.7 Rest of Asia-Pacific
5.5.2 North America
5.5.2.1 United States
5.5.2.2 Canada
5.5.2.3 Mexico
5.5.3 Europe
5.5.3.1 Germany
5.5.3.2 United Kingdom
5.5.3.3 France
5.5.3.4 Italy
5.5.3.5 Spain
5.5.3.6 Russia
5.5.3.7 Rest of Europe
5.5.4 South America
5.5.4.1 Brazil
5.5.4.2 Argentina
5.5.4.3 Rest of South America
5.5.5 Middle East and Africa
5.5.5.1 Saudi Arabia
5.5.5.2 United Arab Emirates
5.5.5.3 South Africa
5.5.5.4 Nigeria
5.5.5.5 Rest of Middle East and Africa

6 Competitive Landscape
6.1 Market Concentration
6.2 Strategic Moves
6.3 Market Share Analysis
6.4 Company Profiles (includes Global level Overview, Market level overview, Core Segments, Financials, Strategic Info, Market Rank/Share, Products and Services, Recent Developments)
6.4.1 AGC INC.
6.4.2 Axiom Materials
6.4.3 DIC Corporation

SCOTTS INTERNATIONAL

Prepreg - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-07-01 | 120 pages | Mordor Intelligence

To place an Order with Scotts International:
- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.
** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-03
		Signature	

Scotts International. EU Vat number: PL 6772247784
tel. 0048 603 394 346 e-mail: support@scotts-international.com
www.scotts-international.com