

Composite Adhesive Market Report: Trends, Forecast and Competitive Analysis to 2030

<https://marketpublishers.com/r/C608F45027CDEN.html>

Date: November 2024

Pages: 150

Price: US\$ 4,850.00 (Single User License)

ID: C608F45027CDEN

Abstracts

2 – 3 business days after placing order

Composite Adhesive Trends and Forecast

The future of the global composite adhesive market looks promising with opportunities in the automotive & transportation, aerospace & defense, electrical & electronics, and construction & infrastructure markets. The global composite adhesive market is expected to grow with a CAGR of 7.5% from 2024 to 2030. The major drivers for this market are the growing preference for adhesives over conventional binding techniques in various end-user industries and the growing adoption of lightweight composites with superior strength and low-density properties in the automotive, aerospace, and defense industries.

Lucintel forecasts that, within the product category, epoxy is expected to witness the highest growth over the forecast period due to increasing utilization in numerous end-use industries owing to their ability to withstand extreme environmental conditions.

Within the application category, aerospace & defense is expected to witness the highest growth as this adhesive provides strong bonding to the composite materials.

In terms of regions, APAC is expected to witness the highest growth over the forecast period due to growing requirements for composite-based products in EVs, renewables, aerospace & defense, and construction industries.

Gain Valuable insights for your business decisions with our comprehensive 150+ page report.

Emerging Trends in the Composite Adhesive Market

The composite adhesive market is evolving, driven by several key trends that reflect technological advancements and changing consumer demands. These trends include the growing emphasis on sustainability, advancements in adhesive technologies, increasing use of composites in various industries, the rise of automation in manufacturing processes, and the expansion of R&D investments. Together, these trends are reshaping the landscape of the composite adhesive market, enhancing product performance, and aligning with environmental goals.

Sustainability Focus: The drive towards sustainability is becoming a pivotal trend in the composite adhesive market. Manufacturers are increasingly developing bio-based adhesives derived from renewable resources, which reduce environmental impact. This trend is driven by stricter regulations and consumer demand for eco-friendly products. Companies are exploring innovative formulations that minimize volatile organic compounds (VOCs), improving indoor air quality and reducing harmful emissions. As sustainability becomes a competitive differentiator, businesses that prioritize eco-friendly practices are likely to gain market share, ultimately reshaping the industry towards greener alternatives.

Advancements in Adhesive Technologies: Technological innovations are significantly enhancing the performance of composite adhesives. Recent developments include the formulation of high-temperature resistant adhesives and those that offer improved bonding strength with various substrates. Innovations in nanotechnology are also leading to adhesives with superior properties, such as enhanced durability and flexibility. These advancements enable the use of composites in demanding applications like aerospace and automotive sectors, where performance and reliability are critical. As technology progresses, manufacturers can meet increasingly complex requirements, driving growth in the market.

Increased Use of Composites: The expanding use of composite materials across industries such as aerospace, automotive, and construction is a key trend impacting the composite adhesive market. Composites offer advantages such as lightweight, high strength, and corrosion resistance, making them ideal

for modern applications. As industries seek to improve efficiency and reduce weight for better fuel economy, the demand for adhesives specifically designed for composite bonding is growing. This trend not only boosts the adhesive market but also encourages further innovation in adhesive formulations tailored to various composite materials.

Rise of Automation: Automation is transforming the manufacturing landscape for composite adhesives. Automated dispensing systems and robotic applications are improving precision and efficiency in adhesive application processes. This trend reduces waste, increases production rates, and enhances product consistency, meeting the growing demands of high-volume manufacturing. Automation also allows for better integration with smart technologies, such as IoT systems that monitor production quality in real-time. As manufacturers adopt automated processes, they can achieve cost savings and improved product quality, thus reshaping competitive dynamics in the market.

Expansion of R&D Investments: There is a notable increase in research and development investments within the composite adhesive market, driven by the need for innovation and competitiveness. Companies are allocating resources to explore new adhesive formulations and applications, enhancing performance characteristics such as adhesion strength and resistance to environmental factors. Collaborative efforts among manufacturers, universities, and research institutions are fostering innovation and accelerating product development cycles. This trend is critical for meeting evolving market needs and ensuring companies can quickly adapt to new challenges, positioning themselves favorably in the market.

These emerging trends are fundamentally reshaping the composite adhesive market. A focus on sustainability, advancements in technology, and increased use of composites are driving innovation and enhancing product offerings. The rise of automation and expanded R&D investments further ensure that the market remains dynamic and responsive to industry demands. As these trends continue to evolve, they are likely to redefine competitive strategies, product development, and overall market growth, creating new opportunities for stakeholders across the industry.

Recent Developments in the Composite Adhesive Market

The composite adhesive market is witnessing several key developments that are

influencing its growth trajectory. These developments include the introduction of innovative adhesive formulations, increased focus on sustainability, advancements in application techniques, strategic partnerships, and regulatory changes promoting eco-friendly practices. Each of these factors plays a crucial role in shaping the competitive landscape and driving market dynamics.

Innovative Adhesive Formulations: Recent advancements in adhesive formulations have led to the development of high-performance products tailored for specific applications. New epoxy, polyurethane, and acrylic-based adhesives are being designed to provide superior bonding capabilities while maintaining lightweight properties. These innovations are particularly relevant in sectors such as aerospace and automotive, where performance and weight reduction are critical. As manufacturers continue to refine their formulations, the market is expected to see an increase in demand for specialized adhesives that meet stringent industry standards.

Sustainability Initiatives: A growing emphasis on sustainability has prompted manufacturers to adopt eco-friendly practices in the composite adhesive market. Many companies are now focusing on developing bio-based adhesives that are both effective and environmentally friendly. This shift aligns with global trends toward reducing carbon footprints and minimizing the use of harmful chemicals. The introduction of sustainable adhesives not only helps companies comply with regulations but also appeals to environmentally conscious consumers, ultimately enhancing brand reputation and market competitiveness.

Advancements in Application Techniques: Advancements in application techniques are significantly impacting the efficiency of adhesive use in manufacturing processes. Innovations such as automated dispensing systems and improved curing methods are streamlining operations, reducing waste, and increasing application precision. These advancements are particularly beneficial in high-volume production environments, where consistency and speed are essential. By adopting these new techniques, manufacturers can enhance product quality and operational efficiency, contributing to overall market growth.

Strategic Partnerships: Strategic partnerships between manufacturers and research institutions are becoming increasingly common in the composite adhesive market. Collaborations facilitate knowledge sharing and accelerate the development of innovative adhesive solutions. These partnerships often focus on exploring new materials and improving adhesive performance, enabling

companies to stay competitive in a rapidly evolving market. As more firms recognize the value of collaboration, the landscape of adhesive development is likely to become more dynamic and innovative.

Regulatory Changes: Recent regulatory changes aimed at promoting environmental sustainability are influencing the composite adhesive market. Governments are implementing stricter guidelines regarding the use of VOCs and other harmful substances in adhesives, pushing manufacturers toward greener alternatives. Compliance with these regulations is not only necessary for market access but also drives innovation in adhesive formulations. As regulations evolve, companies that adapt quickly to meet these standards will have a competitive advantage, further shaping market dynamics.

These key developments are transforming the composite adhesive market by driving innovation, enhancing sustainability, and improving manufacturing processes. As manufacturers adapt to these changes, the market is likely to witness significant growth fueled by the demand for advanced adhesive solutions across various industries. The continued evolution of technology and regulatory frameworks will further influence market dynamics, creating new opportunities and challenges for stakeholders in the industry.

Strategic Growth Opportunities for Composite Adhesive Market

The composite adhesive market is experiencing significant growth, driven by advancements in technology and increasing demand across various industries, including automotive, aerospace, construction, and electronics. As manufacturers seek to enhance product performance, reduce weight, and improve sustainability, composite adhesives have emerged as critical solutions. This dynamic landscape presents several strategic growth opportunities tailored to key applications.

Here are five promising areas where composite adhesives can drive market expansion.

Automotive Lightweighting: The automotive sector is increasingly focused on lightweight materials to enhance fuel efficiency and reduce emissions. Composite adhesives enable the bonding of lightweight materials like carbon fiber and plastics, facilitating the creation of lighter vehicles without compromising structural integrity. This shift not only supports regulatory compliance regarding emissions but also attracts environmentally conscious

consumers. The demand for composite adhesives in automotive applications is expected to grow significantly, reflecting a broader industry trend toward sustainable manufacturing practices.

Aerospace Applications: Aerospace manufacturers are continually seeking ways to improve the performance and efficiency of their aircraft. Composite adhesives are crucial for bonding composite materials used in airframes and interior components. The lightweight and high-strength characteristics of these adhesives contribute to better fuel economy and operational efficiency. Additionally, the aerospace industry's push for innovative designs offers substantial growth potential for composite adhesives, particularly as they meet rigorous safety and performance standards, driving increased adoption in new aircraft models.

Construction and Infrastructure: The construction industry is increasingly leveraging composite materials for improved durability and performance in infrastructure projects. Composite adhesives facilitate the bonding of various materials, including metals, ceramics, and polymers, allowing for greater design flexibility and longevity. As urbanization accelerates and infrastructure projects proliferate, the demand for advanced bonding solutions is expected to rise. This presents an opportunity for composite adhesive manufacturers to expand their market presence in construction applications, particularly in sustainable building initiatives.

Electronics and Electricals: The rapid evolution of the electronics industry, driven by the demand for miniaturization and enhanced performance, presents another growth opportunity. Composite adhesives are used in applications ranging from printed circuit boards to sensor assemblies, providing excellent thermal and electrical properties. As electronic devices become more compact and complex, the need for reliable bonding solutions that can withstand high temperatures and environmental stressors will increase. This trend positions composite adhesives as key enablers of innovation in the electronics sector.

Renewable Energy: The renewable energy sector, particularly in wind and solar energy applications, is increasingly adopting composite materials for improved efficiency and longevity. Composite adhesives are essential for bonding turbine blades and solar panels, providing durability against harsh environmental conditions. As global energy policies shift toward sustainability, the demand for composite adhesives in renewable energy applications is expected to grow. This

sector not only represents a significant market opportunity but also aligns with broader environmental goals, making it an attractive focus for manufacturers.

These strategic growth opportunities highlight the versatility and importance of composite adhesives across various applications. As industries increasingly prioritize efficiency, sustainability, and innovation, the composite adhesive market is poised for significant expansion. Manufacturers that capitalize on these trends can enhance their competitive positioning and contribute to the evolution of modern materials.

Composite Adhesive Market Driver and Challenges

The composite adhesive market is influenced by a range of drivers and challenges shaped by technological advancements, economic factors, and regulatory frameworks. Understanding these dynamics is essential for stakeholders aiming to navigate this complex landscape. Key drivers include innovation, rising demand in end-user industries, sustainability efforts, increased production efficiency, and regulatory support. Conversely, challenges encompass material compatibility issues, fluctuating raw material prices, and stringent regulatory compliance. Here's an analysis of these factors.

The factors responsible for driving the composite adhesive market include:

Technological Advancements: Continuous innovations in adhesive formulations and bonding technologies are driving the composite adhesive market. These advancements enhance performance characteristics such as temperature resistance, curing times, and bonding strength. New methods, like 3D printing and automated application processes, increase efficiency and reduce waste, making composite adhesives more appealing to manufacturers. As industries demand higher-performance materials, technological progress ensures that composite adhesives remain at the forefront, facilitating their adoption across diverse applications.

Rising Demand in End-User Industries: Sectors such as automotive, aerospace, construction, and electronics are experiencing robust growth, driving the demand for composite adhesives. As these industries adopt advanced composite materials for their superior strength-to-weight ratios, the need for effective bonding solutions becomes crucial. This increasing demand not only propels market growth but also encourages innovation in adhesive products

tailored to meet specific application requirements, further solidifying the position of composite adhesives in these key sectors.

Sustainability Efforts: The global emphasis on sustainability and environmentally friendly practices is a significant driver in the composite adhesive market. Manufacturers are increasingly seeking adhesives that are eco-friendly, recyclable, and produced through sustainable processes. The push for lightweight materials that enhance energy efficiency in vehicles and buildings also aligns with sustainability goals. This trend encourages the development of innovative adhesive solutions that not only meet performance requirements but also contribute to reduced environmental impact.

Increased Production Efficiency: The adoption of composite adhesives often leads to enhanced production efficiency and reduced assembly times. The ability to bond dissimilar materials quickly and effectively can streamline manufacturing processes across various sectors. This efficiency not only lowers production costs but also improves overall product quality. As companies focus on optimizing their operations, the integration of composite adhesives becomes a strategic advantage, thereby boosting market growth as manufacturers seek competitive benefits.

Regulatory Support: Governments are increasingly promoting the use of advanced materials and technologies through regulations and incentives. Policies encouraging lightweight and sustainable materials in industries like automotive and aerospace enhance the demand for composite adhesives. Compliance with stringent safety and environmental regulations further drives the need for high-performance bonding solutions. This supportive regulatory environment not only creates a favorable market landscape but also incentivizes innovation within the adhesive industry.

Challenges in the composite adhesive market are:

Material Compatibility Issues: One of the primary challenges in the composite adhesive market is ensuring compatibility between adhesives and the various composite materials used across applications. Variations in surface energy, chemical composition, and thermal expansion can lead to suboptimal bonding performance. Manufacturers must invest in research and development to create adhesives that work effectively with a wide range of substrates. Failure to

address these compatibility issues can result in product failures, impacting customer satisfaction and market reputation.

Fluctuating Raw Material Prices: The prices of raw materials used in the production of composite adhesives can be highly volatile due to supply chain disruptions, geopolitical factors, and market demand fluctuations. These price variations can significantly impact profit margins for manufacturers. To mitigate this challenge, companies must adopt strategic sourcing and supply chain management practices. Developing cost-effective alternatives or more sustainable raw materials can also help stabilize pricing and enhance competitiveness in the market.

Stringent Regulatory Compliance: The composite adhesive market faces stringent regulatory standards concerning safety, environmental impact, and performance, particularly in sectors like automotive and aerospace. Navigating these regulations can be complex and costly, requiring manufacturers to invest in compliance measures and certifications. Non-compliance not only results in financial penalties but can also harm brand reputation. As regulations continue to evolve, staying ahead of compliance requirements will be crucial for market participants aiming to maintain their competitive edge.

The composite adhesive market is shaped by a dynamic interplay of drivers and challenges. While technological advancements, rising demand, and sustainability efforts propel growth, issues like material compatibility, fluctuating raw material prices, and regulatory compliance present significant hurdles. Understanding these factors enables manufacturers and stakeholders to strategize effectively, positioning themselves for success in a rapidly evolving market. Balancing these drivers and challenges will be essential for realizing the full potential of the composite adhesive industry.

List of Composite Adhesive Companies

Companies in the market compete on the basis of product quality offered. Major players in this market focus on expanding their manufacturing facilities, R&D investments, infrastructural development, and leverage integration opportunities across the value chain. Through these strategies composite adhesive companies cater increasing demand, ensure competitive effectiveness, develop innovative products & technologies, reduce production costs, and expand their customer base. Some of the composite adhesive companies profiled in this report include-

3M

Bostik

Dow

H.B. Fuller

Huntsman International

Illinois Tool Works

Permabond

Composite Adhesive by Segment

The study includes a forecast for the global composite adhesive by product, applications, and region.

Composite Adhesive Market by Product [Analysis by Value from 2018 to 2030]:

Acrylic

Epoxy

Polyurethane

Cyanoacrylate

Others

Composite Adhesive Market by Applications [Analysis by Value from 2018 to 2030]:

Automotive & Transportation

Aerospace & Defense

Electrical & Electronics

Construction & Infrastructure

Others

Composite Adhesive Market by Region [Analysis by Value from 2018 to 2030]:

North America

Europe

Asia Pacific

The Rest of the World

Country Wise Outlook for the Composite Adhesive Market

The composite adhesive market is experiencing significant changes driven by advancements in technology, environmental regulations, and increasing demand across various industries, including aerospace, automotive, and construction. The focus on lightweight materials and sustainable solutions is reshaping product offerings and manufacturing processes globally. This landscape is characterized by regional developments, particularly in the United States, China, Germany, India, and Japan, each contributing uniquely to market growth and innovation.

United States: In the U.S., the composite adhesive market has witnessed a surge in demand due to the aerospace sector's shift towards lighter materials for improved fuel efficiency. Innovations in epoxy-based adhesives are enabling stronger bonding at lower weights, which is crucial for aircraft manufacturing. Furthermore, regulatory pressures for eco-friendly products have prompted manufacturers to invest in bio-based adhesives. Collaboration between companies and research institutions is also driving technological advancements, enhancing performance and durability, and positioning the U.S. as a leader in high-performance adhesive solutions.

China: The Chinese composite adhesive market is rapidly expanding, largely

due to its booming automotive and construction industries. The government's push for electric vehicles has increased the use of composite materials, requiring advanced adhesive solutions. Chinese manufacturers are focusing on developing cost-effective adhesives that comply with international standards. Moreover, significant R&D investments are leading to the creation of high-temperature and moisture-resistant adhesives, essential for various applications. This growth is supported by strong domestic demand and an increasing emphasis on sustainable manufacturing practices.

Germany: Germany remains at the forefront of innovation in the composite adhesive market, primarily driven by its automotive and aerospace sectors. The country is investing heavily in research and development, focusing on high-performance, lightweight adhesive solutions that enhance the durability and safety of composite materials. Additionally, Germany's stringent environmental regulations have catalyzed the shift towards sustainable adhesives, prompting manufacturers to develop bio-based and recyclable products. Collaboration among industry players, universities, and research institutes is fostering a robust innovation ecosystem, solidifying Germany's position in the global market.

India: In India, the composite adhesive market is gaining momentum due to rapid industrialization and infrastructure development. The increasing adoption of composite materials in the automotive and construction sectors is driving demand for innovative adhesive solutions. Local manufacturers are focusing on producing affordable, high-performance adhesives tailored to meet specific regional needs. Additionally, government initiatives promoting "Make in India" are encouraging foreign investments in adhesive technology, boosting the overall market. Environmental sustainability is becoming a priority, with a shift towards eco-friendly adhesive formulations to comply with global standards.

Japan: The Japanese composite adhesive market is characterized by advanced technological developments and a strong emphasis on high-quality products. The country is a leader in electronic and automotive applications, where lightweight and durable adhesive solutions are critical. Japanese companies are investing in nanotechnology to enhance adhesive properties, leading to superior bonding performance. Moreover, there is a growing trend towards eco-friendly adhesives, driven by consumer demand and regulatory frameworks. Collaborations between industry and academia are fostering innovation, ensuring Japan remains competitive in the global composite adhesive market.

Features of the Global Composite Adhesive Market

Market Size Estimates: Composite adhesive market size estimation in terms of value (\$B).

Trend and Forecast Analysis: Market trends (2018 to 2023) and forecast (2024 to 2030) by various segments and regions.

Segmentation Analysis: Composite adhesive market size by product, applications, and region in terms of value (\$B).

Regional Analysis: Composite adhesive market breakdown by North America, Europe, Asia Pacific, and Rest of the World.

Growth Opportunities: Analysis of growth opportunities in different products, applications, and regions for the composite adhesive market.

Strategic Analysis: This includes M&A, new product development, and competitive landscape of the composite adhesive market.

Analysis of competitive intensity of the industry based on Porter's Five Forces model.

If you are looking to expand your business in this market or adjacent markets, then contact us. We have done hundreds of strategic consulting projects in market entry, opportunity screening, due diligence, supply chain analysis, M & A, and more.

This report answers following 11 key questions:

Q.1. What are some of the most promising, high-growth opportunities for the composite adhesive market by product (acrylic, epoxy, polyurethane, cyanoacrylate, and others), applications (automotive & transportation, aerospace & defense, electrical & electronics, construction & infrastructure, and others), and region (North America, Europe, Asia Pacific, and the Rest of the World)?

Q.2. Which segments will grow at a faster pace and why?

Q.3. Which region will grow at a faster pace and why?

Q.4. What are the key factors affecting market dynamics? What are the key challenges

and business risks in this market?

Q.5. What are the business risks and competitive threats in this market?

Q.6. What are the emerging trends in this market and the reasons behind them?

Q.7. What are some of the changing demands of customers in the market?

Q.8. What are the new developments in the market? Which companies are leading these developments?

Q.9. Who are the major players in this market? What strategic initiatives are key players pursuing for business growth?

Q.10. What are some of the competing products in this market and how big of a threat do they pose for loss of market share by material or product substitution?

Q.11. What M&A activity has occurred in the last 5 years and what has its impact been on the industry?

Contents

1. EXECUTIVE SUMMARY

2. GLOBAL COMPOSITE ADHESIVE MARKET : MARKET DYNAMICS

2.1: Introduction, Background, and Classifications

2.2: Supply Chain

2.3: Industry Drivers and Challenges

3. MARKET TRENDS AND FORECAST ANALYSIS FROM 2018 TO 2030

3.1. Macroeconomic Trends (2018-2023) and Forecast (2024-2030)

3.2. Global Composite Adhesive Market Trends (2018-2023) and Forecast (2024-2030)

3.3: Global Composite Adhesive Market by Product

3.3.1: Acrylic

3.3.2: Epoxy

3.3.3: Polyurethane

3.3.4: Cyanoacrylate

3.3.5: Others

3.4: Global Composite Adhesive Market by Applications

3.4.1: Automotive & Transportation

3.4.2: Aerospace & Defense

3.4.3: Electrical & Electronics

3.4.4: Construction & Infrastructure

3.4.5: Others

4. MARKET TRENDS AND FORECAST ANALYSIS BY REGION FROM 2018 TO 2030

4.1: Global Composite Adhesive Market by Region

4.2: North American Composite Adhesive Market

4.2.1: North American Market by Product: Acrylic, Epoxy, Polyurethane, Cyanoacrylate, and Others

4.2.2: North American Market by Applications: Automotive & Transportation, Aerospace & Defense, Electrical & Electronics, Construction & Infrastructure, and Others

4.3: European Composite Adhesive Market

4.3.1: European Market by Product: Acrylic, Epoxy, Polyurethane, Cyanoacrylate, and Others

Others

4.3.2: European Market by Applications: Automotive & Transportation, Aerospace & Defense, Electrical & Electronics, Construction & Infrastructure, and Others

4.4: APAC Composite Adhesive Market

4.4.1: APAC Market by Product: Acrylic, Epoxy, Polyurethane, Cyanoacrylate, and Others

4.4.2: APAC Market by Applications: Automotive & Transportation, Aerospace & Defense, Electrical & Electronics, Construction & Infrastructure, and Others

4.5: ROW Composite Adhesive Market

4.5.1: ROW Market by Product: Acrylic, Epoxy, Polyurethane, Cyanoacrylate, and Others

4.5.2: ROW Market by Applications: Automotive & Transportation, Aerospace & Defense, Electrical & Electronics, Construction & Infrastructure, and Others

5. COMPETITOR ANALYSIS

5.1: Product Portfolio Analysis

5.2: Operational Integration

5.3: Porter's Five Forces Analysis

6. GROWTH OPPORTUNITIES AND STRATEGIC ANALYSIS

6.1: Growth Opportunity Analysis

6.1.1: Growth Opportunities for the Global Composite Adhesive Market by Product

6.1.2: Growth Opportunities for the Global Composite Adhesive Market by Applications

6.1.3: Growth Opportunities for the Global Composite Adhesive Market by Region

6.2: Emerging Trends in the Global Composite Adhesive Market

6.3: Strategic Analysis

6.3.1: New Product Development

6.3.2: Capacity Expansion of the Global Composite Adhesive Market

6.3.3: Mergers, Acquisitions, and Joint Ventures in the Global Composite Adhesive Market

6.3.4: Certification and Licensing

7. COMPANY PROFILES OF LEADING PLAYERS

7.1: 3M

7.2: Bostik

7.3: Dow

7.4: H.B. Fuller

7.5: Huntsman International

7.6: Illinois Tool Works

7.7: Permabond

I would like to order

Product name: Composite Adhesive Market Report: Trends, Forecast and Competitive Analysis to 2030

Product link: <https://marketpublishers.com/r/C608F45027CDEN.html>

Price: US\$ 4,850.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/C608F45027CDEN.html>