

# Electrically Conductive Adhesives in EVs Market Forecasts to 2034 – Global Analysis By Adhesive Type (Epoxy-based, Silicone-based, Acrylic-based and Hybrid Formulations), Conductive Filler Material, EV Type, Application and By Geography

<https://marketpublishers.com/r/EBBD1B5F3B48EN.html>

Date: March 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: EBBD1B5F3B48EN

## Abstracts

According to Statistics MRC, the Global Electrically Conductive Adhesives in EVs Market is accounted for \$0.5 billion in 2026 and is expected to reach \$1.0 billion by 2034 growing at a CAGR of 11.0% during the forecast period. Electrically conductive adhesives are vital in electric vehicles as they create dependable electrical pathways without relying on conventional soldering. They facilitate lighter, more flexible designs that boost energy efficiency and manage heat effectively in batteries, electronics, and sensors. Additionally, ECAs offer resistance to vibration and ensure mechanical stability, meeting the rigorous demands of automotive applications. By enabling compact component assembly, they enhance overall vehicle performance. As the electric vehicle market expands, ECAs are increasingly favored for their durable, efficient, and eco-friendly electrical bonding capabilities.

According to the International Energy Agency (IEA), global EV sales surpassed 14 million units in 2023, accounting for 18% of total car sales worldwide. This rapid growth directly expands demand for advanced joining and interconnection materials like ECAs, which replace traditional solder in sensitive electronic assemblies.

### Market Dynamics:

#### Driver:

Growing adoption of electric vehicles

The surge in electric vehicle adoption is fueling demand for electrically conductive adhesives, which offer dependable connections for batteries, electronics, and sensors while supporting compact, lightweight designs. Global policies promoting EVs through incentives and strict emission standards have accelerated production, increasing the need for innovative bonding materials. ECAs contribute to energy efficiency, thermal control, and structural reliability, making them essential for high-performance and miniaturized EV components. As EV markets continue to grow, the importance of ECAs in enhancing overall vehicle durability and efficiency becomes more pronounced.

**Restraint:****High material cost**

The use of electrically conductive adhesives often incurs higher costs than conventional soldering due to expensive conductive fillers like silver. This increased production cost can affect the total manufacturing expense of electric vehicles, making ECAs less attractive for cost-conscious automakers. As a result, their adoption may be limited to premium models or specialized high-performance components. While ECAs provide benefits such as flexibility, thermal efficiency, and vibration resistance, their higher cost can hinder broader application, particularly in mass-market EVs where budget considerations are critical.

**Opportunity:****Growth in Power Electronics Integration**

The increasing reliance of electric vehicles on power electronics, including inverters, converters, and controllers, creates opportunities for ECAs. These adhesives provide dependable electrical connectivity and effective heat dissipation in dense electronic assemblies. With advanced motor control and energy-efficient systems, ECAs allow efficient integration of miniaturized components. Their benefits in thermal regulation, vibration resistance, and reliability make them ideal for EV power electronics. As EVs adopt more sophisticated electronics, the market for ECAs expands, covering inverters, charging modules, and sensors, offering significant growth potential in high-performance electric vehicle systems.

**Threat:**

## Competition from traditional soldering and welding

Electrically conductive adhesives face competition from conventional soldering and welding, which are established, reliable, and cost-efficient in automotive manufacturing. Automakers often hesitate to switch for high-current or critical parts due to proven long-term performance. Soldering provides higher conductivity and faster assembly, restricting ECAs in some applications. The strong presence of traditional methods hinders ECAs' broad adoption, particularly in cost-sensitive EV production, despite their benefits in flexibility, thermal regulation, and vibration resistance. This competitive challenge remains a key market threat to the growth of electrically conductive adhesives.

### **Covid-19 Impact:**

The COVID-19 pandemic caused significant disruptions in supply chains, delaying the availability of conductive materials like silver essential for electrically conductive adhesives. EV production was impacted by factory shutdowns and workforce limitations, reducing immediate demand for ECAs. Consumer uncertainty around vehicle purchases further slowed adoption. Conversely, government stimulus and green recovery programs encouraged investment in electric vehicle technologies, creating future opportunities for ECAs. While the pandemic temporarily hindered manufacturing and market growth, it also highlighted the strategic importance of ECAs in supporting efficient, sustainable EV production, positioning the market for long-term expansion post-pandemic.

The epoxy-based segment is expected to be the largest during the forecast period

The epoxy-based segment is expected to account for the largest market share during the forecast period because of their robust mechanical properties, strong thermal and chemical resistance, and dependable electrical performance. These adhesives are widely used in bonding essential EV components, including batteries, electronics, and sensors, providing stability against vibration and temperature changes. Their processability, substrate compatibility, and durability make them the favored solution for automakers. As a result, epoxy-based formulations maintain the largest market share, combining performance, reliability, and versatility to support diverse applications across the rapidly growing electric vehicle sector.

The graphene segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the graphene segment is predicted to witness the highest growth rate because of their outstanding conductivity, mechanical robustness, and thermal management capabilities. These adhesives offer lightweight, high-performance bonding for batteries, sensors, and electronic modules. The nanoscale properties of graphene provide superior flexibility and efficient heat dissipation compared to conventional fillers like silver or copper. With the automotive industry prioritizing compact, energy-efficient, and high-performance components, the use of graphene in ECAs is accelerating, fueling rapid market expansion and enabling innovative solutions for next-generation electric vehicle technologies.

### **Region with largest share:**

During the forecast period, the Asia-Pacific region is expected to hold the largest market share, supported by the rapid expansion of EV manufacturing, government incentives, and a robust automotive industry. Leading countries including China, Japan, and South Korea are heavily investing in EV batteries, power electronics, and innovative vehicle components, driving the need for dependable adhesives like ECAs. The concentration of major adhesive producers and emphasis on lightweight, high-performance solutions further reinforces the region's leadership. Consequently, Asia-Pacific remains the largest and most influential market for electrically conductive adhesives, offering significant opportunities for growth and technological advancement in the EV sector.

### **Region with highest CAGR:**

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, fueled by rising investments in EV technology, battery systems, and eco-friendly transport initiatives. Incentives from U.S. and Canadian governments encourage EV adoption and green infrastructure, increasing the need for high-performance adhesives such as ECAs. The region's strong focus on R&D, innovation in lightweight, durable components, and expanding EV manufacturing capacity accelerates market expansion. As a result, North America is set to lead in ECA adoption growth, driven by technological advancement and sustainable automotive strategies.

### **Key players in the market**

Some of the key players in Electrically Conductive Adhesives in EVs Market include Henkel AG & Co. KGaA, 3M Company, Sika AG, H.B. Fuller Company, Dow Inc., Arkema SA, Huntsman Corporation, Parker-Hannifin Corporation, Illinois Tool Works

Inc., Wacker Chemie AG, Ashland Inc., AI Technology, Inc., Aremco Products Inc., Caplinq Corporation, Master Bond, Panacol-Elosol, M.G. Chemicals and Nitto Denko Corporation.

### **Key Developments:**

In January 2026, Ashland Capital Partners announced the sale of KBK Industries (“KBK”), a premier manufacturer of fiberglass and steel tanks and separation equipment. The transaction concludes a highly successful 19-year partnership between Ashland and KBK. KBK Industries has long been recognized as a trusted provider of liquid storage and separation solutions for the energy, chemical, agricultural, and wastewater industries.

In October 2025, Dow and MEGlobal have finalized an agreement for Dow to supply an additional equivalent to 100 KTA of ethylene from its Gulf Coast operations. The ethylene will serve as a key feedstock for MEGlobal’s ethylene glycol (EG) manufacturing facility co-located at Dow’s and MEGlobal’s Oyster Creek site.

In May 2025, 3M has reached an agreement that resolves all legacy claims related to the Chambers Works site in Salem County, New Jersey, currently owned by The Chemours Company and, before that, by DuPont. In addition, the settlement extends to PFAS-related claims that the State of New Jersey and its departments have, or may in the future have, against 3M.

### **Adhesive Types Covered:**

Epoxy-based

Silicone-based

Acrylic-based

Hybrid Formulations

### **Conductive Filler Materials Covered:**

Silver

Copper

Carbon

Graphene

#### EV Types Covered:

Battery Electric Vehicles (BEV)

Plug-in Hybrid Electric Vehicles (PHEV)

Fuel Cell Electric Vehicles (FCEV)

#### Applications Covered:

Battery Assembly & Pack Integration

Power Electronics

Sensors & HMI Modules

Charging Infrastructure Components

Auxiliary Electronics

#### Regions Covered:

North America

United States

Canada

Mexico

## Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

## Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

**What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

**Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

**Company Profiling**

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

**Regional Segmentation**

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

**Competitive Benchmarking**

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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