The importance of corrosion protection for electric vehicles

Corrosion protection is as important for electronic vehicles (EVs) as it is in traditional petrol/gasoline powered vehicles. However, there are some unique factors to consider when it comes to avoiding corrosion problems in electric vehicles:

Battery Enclosure and Connections:
EVs have large, heavy battery packs that are typically enclosed in a protective housing. This enclosure and its connections can be particularly susceptible to corrosion, especially in regions with high humidity or exposure to road salt. Corrosion in the battery enclosure or on electrical connections can affect the performance and safety of the vehicle.

Charging Infrastructure:
Charging equipment, especially in public charging stations, can be exposed to the elements. The connectors, plugs, and wiring can corrode over time. This can lead to issues with charging reliability and safety concerns.

Cooling Systems:
Many EVs use liquid cooling systems to manage the temperature of the battery. The components in these systems, such as radiators and coolant lines, are vulnerable to corrosion. The resulting leaks or blockages in the cooling system can potentially lead to overheating and reduced battery life.

Underbody and Frame:
Just like traditional vehicles, EVs have underbody components such as the chassis, suspension, and brake components that are susceptible to corrosion, especially if the vehicle is driven in areas where roads are salted during winter. Corrosion can weaken the structural integrity of the vehicle.

Electrical Contacts and Connectors:
Electrical connectors and contacts throughout the vehicle can corrode, leading to issues with sensors, lights, and other electrical systems. This can affect overall performance and safety.

Material Longevity:
EVs often incorporate a variety of materials, including metals and alloys, in their construction. Corrosion can significantly reduce the lifespan of these materials, leading to premature failure of crucial components. Protecting against corrosion ensures the durability and reliability of the vehicle over time.

Safety Concerns:
Corrosion can compromise the structural integrity of a vehicle, posing safety risks for occupants. In an EV, where advanced technologies and high-voltage systems are prevalent, maintaining structural integrity becomes even more critical. Proper corrosion protection helps mitigate these concerns.

Performance and Efficiency:
Corrosion on electrical components, connectors, and conductive elements can hinder the performance and efficiency of an EV. For instance, corrosion on battery terminals may increase electrical resistance, leading to reduced energy transfer efficiency and overall performance. Ensuring corrosion-free connections is vital for maintaining optimal efficiency.

Cost Savings:
Corrosion-related damage can result in expensive repairs and replacements. By investing in effective corrosion protection measures, manufacturers and owners can avoid these costs, contributing to the overall economic viability of electric vehicles.

Environmental Impact:
EVs are often considered more environmentally friendly than traditional vehicles. However, if corrosion leads to premature scrapping of EVs or frequent replacement of components, it can undermine their environmental benefits. Proper corrosion protection helps maintain the longevity of EVs, reducing their overall environmental impact.

Maintaining Resale Value:
Corrosion damage can significantly reduce the resale value of a vehicle. As EVs become more common in the used car market, maintaining corrosion protection becomes essential for preserving the value of these vehicles over time.

Regulatory Compliance:
Different regions have regulations and standards regarding vehicle safety. Corrosion protection is often a requirement to meet these standards and ensure that EVs adhere to guidelines.

Aesthetic Considerations:
Corrosion can also affect the appearance of a vehicle. For EV manufacturers who emphasize design

and aesthetics, ensuring that the vehicle maintains its visual appeal over time is crucial for customer satisfaction.

To mitigate and address corrosion issues in EVs, manufacturers take the various measures, including the use of corrosion-resistant materials, applying protective coatings and sealants to prevent moisture and salt exposure, regular maintenance and warranty coverage. It's important for EV owners to follow manufacturer recommendations for maintenance and care, as well as be aware of their local environmental conditions. Proper care and maintenance can help reduce the risk of corrosion and ensure the longevity and safety of the vehicle. Additionally, addressing corrosion issues promptly can prevent them from becoming more serious and costly problems in the long run.

In summary, implementing corrosion protection measures for electronic vehicles should be based on specific circumstances and environmental conditions. Corrosion protection is fundamental for the long-term performance, safety, and sustainability of electric vehicles. It addresses not only technical and safety considerations but also contributes to the overall economic and environmental viability of EVs in the automotive market.

SuperCORR A **specialist barrier film corrosion protection**

EnviroTech Europe supplies advanced corrosion protection products, based on approved synthetic materials, to provide quality solutions to a diverse range of lubrication and corrosion problems. ***SuperCORR A*** is a unique and proprietary formulation with long-lasting, anti-corrosion inhibitors providing a superior lubrication coefficient and protection against moisture, wear, general and fretting corrosion, static electricity, corona, and other electro migration problems. The non-flammable film is only 7 microns (0.007mm) in thickness, is not a wax or oil-based product and is formulated without sulphates, chlorides, petroleum-based material, or halogens, to meet the EU RoHS directive. The use of ***SuperCORR A*** for corrosion protection can not only bring financial savings in reduced maintenance and replacement costs but more importantly greater safety. It is much simpler and a lot less costly to prevent corrosion than to repair or replace the damaged equipment or component that failed because of corrosion.

SuperCORR A is packaged in aerosol cans making access to component parts easy for engineering crews in difficult locations and conditions. Unpainted mild steel will not rust on exterior surfaces directly exposed to sea water environments for at least 6 months, protecting electrical connectors, switches, chains, drive shafts from corrosion while maintaining lubrication on moving surfaces.

EFFICIENT AND ECONOMICAL

- Extremely long-lasting, specially formulated and proprietary anti-corrosive inhibitor.
- Eliminates premature failure of components created by moisture, general or fretting corrosion.
- Prevents deterioration and contamination on all surfaces of electronic and electrical equipment and mechanical close tolerance moving components.
- Reliability increased, maintenance intervals increased and costs reduced, manufacturers save costly warranty service calls or product re-call.

HISTORY

SuperCORR A was originally developed for the U.S. Air Force to comply with military specifications and to prevent electrical and electronic components from systems failures caused by corrosion. It became the industry standard for avionic corrosion protection within MROs (maintenance, repair and operations) and OEMs (overhaul and original equipment manufacturers). It's unique ability to displace water and provide a performance enhancing level of corrosion protection has led to it being used in many other applications and industries worldwide.

FURTHER INFORMATION

Please visit our website **https://www.envirotech-europe.com/supercorr-a** for information about other uses and applications for ***SuperCORR A***.

For more advice, please telephone us on +44 (0) 20 8281 6370 or use our website contact form. All products are supplied and supported by EnviroTech Europe Ltd. Manufactured in the United Kingdom and available on short delivery times through our dedicated team of distributors worldwide.

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