

APPLICATION USE CASE

**Protecting Electronics
in EV Charging Devices**





Market Situation

- As global electric vehicle (EV) volumes continue to grow, the need for reliable charging devices is front and center.
- Consumer satisfaction with the EV experience will largely be driven by cost, convenience and charging device reliability – both at home and on the road.
- For chargers of all power levels – from level 1 to level 3 – protecting the internal electronics from environmental contaminants helps keep them operating as expected.





Application Challenges

- Because the chargers may require service, gasketing materials used to secure the housing structure should provide a tight seal to keep out dust, moisture and corrosion, while allowing access for serviceability. The gaskets need to offer long-term protection, withstand temperature fluctuations, cope with heat generated by electronic components, and resist degradation from outdoor exposure.
- High automation capability to facilitate high volumes (residential and commercial chargers), as well as manage large designs (DC fast charging stations) and various closure geometries will provide manufacturing flexibility, design modification adaptability and reduced production costs.
- Cost-efficiency – driven by material chemistry, application method and lifetime reliability – of gasketing will also play a role in final system cost and, therefore, deployment volumes.





Solutions

- Applicable to EV chargers of all levels, especially those positioned outdoors, Henkel's Sonderhoff formed-in-place-foam-gasket (FIPFG) technology provides a comprehensive equipment and high-reliability material combination.
- Programmable equipment can deposit multiple FIPFG geometries, volumes, and formulations in a continuous bead, eliminating material inconsistency and the seams and gaps associated with manual methods. The system operates, mixes and dispenses at room temperature for a sustainable solution.
- One of the many gasketing and sealant solutions well-proven in automotive applications, **Sonderhoff Fermapor K31 FIPFG** is a two-part, low-density polyurethane foam with excellent resetting ability for repeated opening and closing with no loss of tightness.
- UL-certified **Sonderhoff Fermapor K31** is foamed directly onto the part to deliver soft, elastic foam gaskets that provide excellent sealing against dust and moisture, delivering added levels of reliability and longer service lives to all types of EV charging systems.



Relevant Links

Learn more about Henkel's solution portfolio for EV Charging Infrastructure.

Watch a video – EV Charging Infrastructure – Solutions Overview.

Read an article – Gearing Up for the EV Road Ahead.

Application Use Case – Controlling Thermal Conditions for DC Fast Charging Reliability.



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