



## The Evolution of Frameless Sealing Systems in the Premium Automotive Market

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Frameless door systems entered the automotive market and stayed for quite a while, in a niche area of sporty two-door coupes and convertibles. Around 2004, the design started gaining attention when it was added to modern four-door coupes. The styling has a clean appearance and is trending in the luxury vehicle market. When the window is down, and doors are open, these frameless doors have a unique, sporty look with a compact door that eliminates the traditional upper frame.

In today's market, we are seeing frameless door designs at an even higher demand with the trends in sustainability and electrification. The transition between the smooth door glass and b-pillar does not only look aerodynamic, but also offers functionality with reduced wind turbulences and air drag that commonly creates interior cabin noise.

Cooper Standard is one of the pioneers of frameless sealing systems to support these new door designs and offers several decades of experience in this product area. We have previously equipped many generations of car models with these attractive frameless systems, therefore we are widely considered a top brand in high-quality frameless door systems. **Over the past few years, we have developed and produced close to 50 frameless programs for 16 different automotive brands with many more under development.**

Frameless sealing systems are built to look aesthetically appealing, while meeting necessary physical performance, including water leakage prevention, and protection from environmental conditions, such as wind, dust and noise. The amount and complexity of different moldings requires a team of experts, detailed planning and perfect execution. Frameless sealings systems are some of the most complex vehicle sealing systems to execute successfully.

With the introduction of electric vehicles, we are noticing a rising trend of frameless designs. Many OEM partners and end-consumers have acknowledged how the design can differentiate vehicle brands. Below are just a few of the many benefits this product offers.

### Frameless Sealing Systems Product Features

- Higher perceived value as a luxury product with a state-of-the-art design
- Seamless body surface transition of the b-pillar and door glass
- Simplified structure and appearance by eliminating the upper frame
- World-class execution proven on several vehicle models over the years
- Durability to meet physical performance and withstand environmental conditions, such as water, wind, dust and noise
- Enables removable roofs and convertible execution

In addition to our frameless seal options, some OEMs are choosing to adopt Cooper Standard's FlushSeal™ sealing system, a design that combines a clean lateral appearance with a smooth surface transition using a standard frame under the glass door. To learn more, go to <https://cooperstandard.com/products/sealing-systems>.

We look forward to the continued evolution of door sealing systems, as we pursue our Purpose of Creating Sustainable Solutions TOGETHER.