



Automotive Case Study: Heavy Goods Vehicle, Heating Ventilation, and Air Conditioning Gasket.

The modern world is witnessing a profound shift towards cleaner and more sustainable energy consumption. The automotive industry plays a pivotal role in driving this change, encompassing commercial vehicles such as cars, trucks, and bikes and larger vehicles used to mass transit people and goods.

Automotive manufacturers rely heavily on the quality and performance of lightweight rubber materials to seal, insulate and protect critical functions whilst also gaining substantial marginal gains towards fuel efficiency and vehicle range capabilities.

The Opportunity & Challenge

A global automotive provider for plastic foams and rubber products, approached Silicone Engineering to assist with a critical project for a renowned international car manufacturer.

The company were looking for a reliable sealing solution for an electric HGV (Heavy Goods Vehicle) HVAC (Heating, Ventilation, and Air Conditioning) system.

They required sealing gaskets for the HVAC units to provide protection from vibration damage. The gasket was also required to be light weight and have adhesive one side of the surface.





The Solution: **kSil**® GP200

From assessing the gasket design, our material engineer suggested that kSil® GP200 sponge sheeting be used for the material of choice for this project.

Due to kSil® GP200's ultra-low, compression force deflection, and compression set the closed cell structure of this gasket material would be able to provide excellent anti-vibration protection.

The vibration-damping properties of the material can be used to isolate and absorb vibrations within the HVAC unit, minimizing noise and preventing damage to the surrounding components.

Additional benefits included thermal insulation which helped maintain the right cabin temperatures for the drivers. Silicones seismic temperature spectrum of -60°C to 230°C would also provide performance assurances in uncompressing environments such as desert climates to sub-zero terrains HGVs frequently traverse in.

Following successful trials, the customer was able to provide there customer with an effective sealing solution for the HGV units.

Automotive

Electric HGV

Silicone Sponge Gasket

Anti-vibration Protection

Lightweight

Temperature Range

-60°C to 230 °C
-76°F to 446°F