



SILICONES & TRANSPORT

You may know silicones can be used to waterproof your home or as the sealant in your bathroom. But did you know silicones play a key role in cars, airplanes, trains and ships?

Silicones can take many forms – from liquids to solids – that allow engineers, scientists, inventors and companies to use them as a vital component in thousands of consumer and industrial applications. Whether as fluids, rubber, gels, resins or mixtures, it is their versatility that makes silicones a key ingredient in products that make our lives better every day. From baking moulds and cars to computers and precision engineered spacecraft, silicones can be found in a myriad of applications. **Put simply, silicones make things work better.**

As modern means of transport become faster, more reliable and more efficient, demands on materials to perform become tougher. As such, smaller parts must resist exposure to extreme heat, moisture, salt and fuels. Most materials deteriorate in these conditions, but not silicones. Silicones retain their properties and – most important – ensure that cars, ships, airplanes and trains operate safely for the long haul.

A selection of applications using silicones



airbags



paints & coatings



light weight doors



rubber



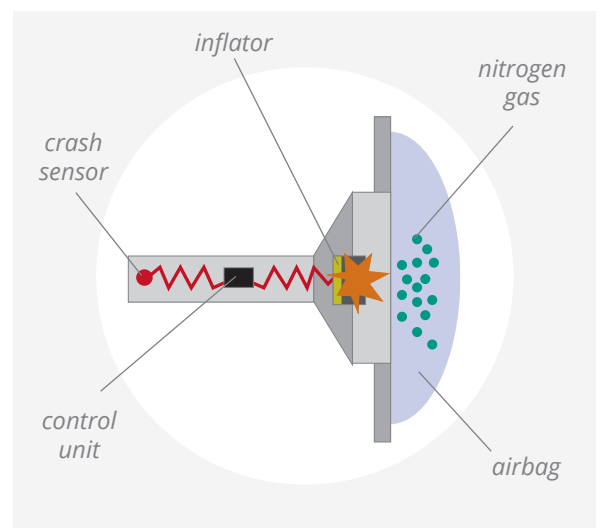
ABS sensor & sealing

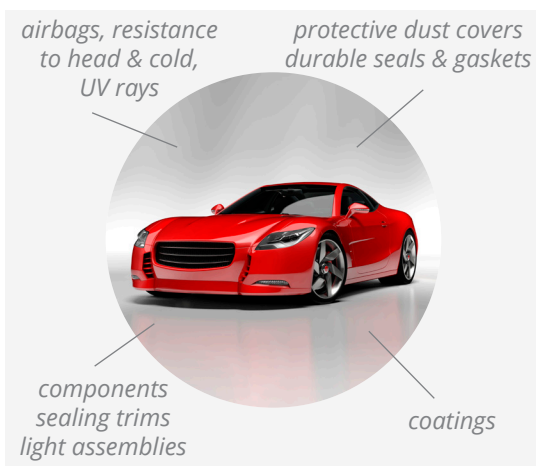
Safety first!

Silicones contribute immensely to the safety of modern vehicles, from enabling airbags in cars to preserving the cabin pressure in airplanes.

Featured application: airbag

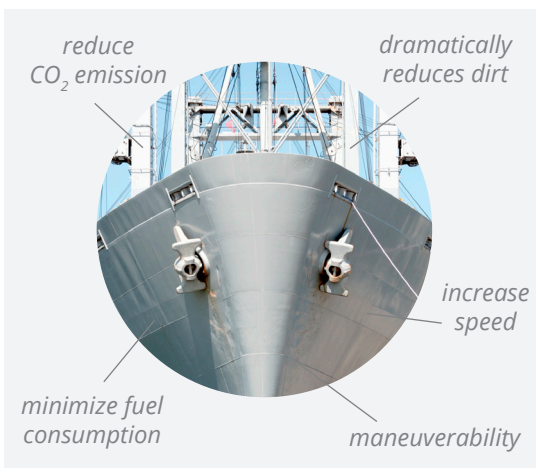
The development and installation of airbags in cars is a milestone in vehicle safety. Highly durable, gas-tight fabrics are crucial to the performance of airbags, which is why these are coated with silicone on the inside. The silicone coating can ensure the bag, which protects the driver and passengers, remains gas-tight and heat resistant under the pressure from rapid inflation and other extreme conditions, such as fire. In addition, the material does not deteriorate with time but retains its properties year after year.





Cars and vans

Silicones are used in almost all aspects of car assembly, from the tires to the engine, windows and sun-roof. They insulate electronic parts, reduce tire rolling resistance, bond lightweight materials together, and seal windows and doors. The same can be said about silicones' uses in airplanes, trains, and even space vessels.



Ships and boats

Silicone-based paints and coatings are safer alternatives to traditional marine coatings and paints. By applying these silicone products to hulls of ships and boats, the build-up of dirt and film is dramatically reduced, thereby improving fuel efficiency enormously. For large cargo ships, this improvement is particularly important because ships' fuel consumption is quite significant. This fact makes the benefit of silicones in this application all the more impressive – fuel savings outweigh CO₂ emissions from production of the silicone product 182 times!¹

Reducing the environmental impact

Silicones make an impressive contribution to minimising fuel consumption of cars and ships, thus reducing significantly the CO₂ footprint of the transport sector.²

Modern, fuel-efficient internal combustion engines run at very high temperatures. Did you know that silicone rubber is the only rubber that can endure these temperatures over a long time, thereby contributing to fuel savings in the operation of cars and trucks? In fact, for every ton of CO₂ emitted during the production of silicone rubber used to make vital motor parts, over 86 tons of CO₂ are saved when the engine is used!

1 GSC Carbon Balance Study, 2012
2 GSC Carbon Balance Study, 2012

WANT TO KNOW MORE?

This is just a snapshot of some of the applications in which silicones are used. For more information on silicones in other health care applications, the following websites will help you find what you need:

www.silicones.eu

or follow us on twitter @siliconeseu

www.siliconesinfo.com

CONTACT ONE OF OUR EXPERTS:

CES Silicones Europe
Dr Pierre Germain
Secretary General

Avenue van Nieuwenhuysse 4, box 2
B-1160 Brussels

Email: pge@cefic.be
Tel.: +32 2 676 73 77
Fax: +32 2 676 73 59

