

SILICONES & TECHNOLOGY

Did you know?



You may know silicones as the material that repairs leaks in your aquarium or seals your windows. But, did you know that silicones play a key role in technology and electronics?

Silicone materials have revolutionised the electronics sector since they were first introduced on the market in the 1960s, protecting electronic components from heat, dirt, corrosion and jarring movements.

A SELECTION OF APPLICATIONS



Automotive



LED devices



Smartphones



Laptops



Batteries



Satellites



1.7 MILLION PEOPLE ACROSS EUROPE ARE EMPLOYED IN SECTORS THAT ARE RELATED TO SILICONE PRODUCTS.

Industry figures from 2015 reveal a total of 35,000 metric tons of silicone products were sold to the electronics market with a value of €600 million.

A SNAPSHOT OF HOW SILICONES HELP IMPROVE OUR LIVES



LEDS

SILICONES IMPROVE PERFORMANCE

Better reliability and longevity

Better energy efficiency compared to traditional lighting

Enhanced brightness



ICT AND SEMICONDUCTORS

Silicones have enabled smaller technology

Silicones prolong useful life

Silicones increase reliability and performance



You will find more information on the socio-economic contribution of silicones in our report available at silicones.eu





THEY PROTECT.

••• Silicones are stable over a wide temperature range from -40° C to +180° C (some specialty silicones from -90°C to +230°C), allowing for resistant adhesion, photothermal stability, and the ability to withstand high voltage.

••• Silicones provide heat-resistant, electrically insulating and flame-retardant protection in electronics like keypads, protecting the sensitive electronics against contaminants and wear and tear.

THEY SHIELD.

••• Silicones can form a “custom-fit”, shielding from the mechanical, moisture, and temperature fluctuations.

••• Silicones can survive heavy vibrations, making it well-suited to protect against the toughest conditions on earth.

THEY INCREASE EFFICIENCY AND CUT ENERGY DEMAND.

••• In ICT, silicones have contributed to greater connectivity, mobility and enhanced power, increasing the productivity of electronic devices. As a result, the processing power and storage capacity of mobile devices are now 100 times higher than PCs of just 20 years ago.

••• Silicones prolong the useful life of electronic equipment, by contributing to reduced cleaning, maintenance, operational and replacement costs, thereby reducing solid waste generation and maintenance needs. Those gains results in an increased product lifetime.

••• Silicones contribute to energy efficiency improvements in lighting. LED lights could not be made without silicones, and they use 90% less energy than alternative lighting sources.

••• Silicones protect batteries from heat and cold through the formation of an insulating thermal shield around the battery. They also protect batteries from electric surges or battery fires. In electric cars they protect batteries through temperature control and heat dissipation.

By using products made with silicones, you generate on average
9 TIMES LESS GREENHOUSE GASES *than were emitted during manufacturing and disposal of that product.*



PUT SIMPLY, SILICONES MAKE THINGS WORK BETTER!

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 technology applications, the following website will help you find what you need:

WWW.SILICONES.EU

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This factsheet is one of a series developed by silicone producers in Europe to highlight some interesting and surprising facts about the use of these innovative materials and how they contribute to Europe's goals of smart, sustainable and inclusive growth.