

MEDIA BACKGROUNDER

Silicone Industry Key Figures – Europe

Silicones contribute to almost all areas of modern life thanks to their versatility and ability to enhance performance. From shampoo and baking moulds to cars, computers and precision engineered spacecraft, silicones can be found in countless innovative applications. Silicones can also be used in renewable energy or energy saving applications; everything from wind turbines to solar panels, LEDs to green tires rely on silicone technology.

Put simply, silicones make things work better.

Many life-changing medical devices depend on silicones for safety, comfort and reliability. Because silicones are well tolerated by the human skin and body, they're an integral part of innovative medical treatments and care. Silicones are also used in fabrics to help colour last longer and maintain feelings of softness. They can increase absorption of water by textiles or repel it. In paints they help resistance and in shoe polishes they make them easier to use.

Silicones have unique properties other polymers cannot match. By changing the size or structure of the silicone molecule or by adding different compounds to it, you can enhance or change the way it behaves.

Quick Facts

- Silicones are a family of sophisticated, performance-enhancing products. They provide benefits people want and need to make life safer, more pleasant, more stylish and more comfortable, at home, at work and in leisure.
- From cars and computers to precision engineered spacecraft or pacemakers, silicones can be found in **thousands of innovative and life-changing applications**. Put simply, silicones make things work better.
- The silicones industry generates an impressive **€9 billion of wealth per annum** for European society.
- The value of basic **silicones sold in Europe is in excess of €1.7 billion**. However, the value of final **products sold is in excess of €60 billion**, of which **€24 billion is the value of the silicones**.
- An estimated **1.3 million Europeans are employed** by the formulators, distributors end-use sales and indirect companies that rely on silicones for their livelihoods.
- The silicone producers alone **directly employ more than 7,500 people**.
- There are more than **250,000 firms** of many sizes, activities and sectors involved in transforming the basic materials into a diverse range of final products.
- The overwhelming majority of them are **Small and Medium Sized Enterprises (SMEs)**.
- Silicones permit companies who work with them to **add significant further value and facilitate innovation** via their extraordinary versatility.

Silicones by Sector

Construction sector: The construction industry uses more silicones than any other sector – **more than 200,000 tons (42%) of the almost 500,000 tons of basic silicones used annually in Europe**.

- Silicone based sealants, adhesives and coatings are used for new buildings and renovations alike, to protect, strengthen, preserve and to provide aesthetic and innovative features.

Personal Care: An estimated **40,000 tons of silicones are used each year by the personal care industry** that has been using them safely and successfully for more than 30 years.

- Approximately half of all makeup, hair and skin care, and underarm products introduced today contain silicone.

Industry: The industrial sector accounts for **19% of silicone use in Europe**.

- Silicones enable the production of specialty chemicals for many industries and are used for example for industrial equipment and molds, plastic auxiliaries, and for the smooth running and reducing wear and tear of machinery.

Electrical and electronics: **Approximately 6% of silicones used in Europe.**

- Virtually any electronic device that is powered by batteries or electric current relies on silicones.
- Silicones provide excellent electrical insulation. It is also used to make casings that can shield sensitive devices from electrical shocks and other hazards.
- High-voltage-insulator silicone coatings perform for 10 years or more, while some other protection methods must be reapplied every 18-36 months.
- Silicones help electronic manufacturers comply with a wide range of laws and regulations including RoHS and WEEE.

Special systems: **Accounts for around 15% of Europe's silicone use** and includes for example, medical devices, the use in fabrics to maintain feelings of softness.

- Silicones are easy to sterilize and are excellent for sensitive applications, such as respiratory tubing and topical medications.
- Polyester silicone resin paints contain up to 30% silicones, which significantly improve their resistance to erosion and weathering.

Transportation: **Accounts for 6% of silicone use.** Silicones deliver the strength, adhesion and durability needed in high-performance automobiles, ships, planes and spacecraft.

- Silicones are used when devices need to be coated, sealed, fastened, weatherproofed and impregnated. For example, silicones coat the air bags that have improved protection in road vehicles
- They help to protect parts from temperature fluctuations or corrosion from, for example, moisture and salt.
- Silicones allow for faster and more efficient assembly by reducing drying and curing times.
- Silicones help automakers comply with a wide range of environmental laws and regulations including Euro 4, Euro 5, EU law 1999/13/EC, and more.
- The material's heat resistance and slipperiness make it an ideal lubricant for automotive parts (as a lubricating spray or grease).

For more information on Cyclosiloxanes, please visit our Cyclosiloxanes Information Centre at www.cyclosiloxanes.org

About CES – Silicones Europe:

We are a non-profit trade organisation representing all major producers of silicones, silanes and siloxanes in Europe. CES is a sector group of the European Chemical Industry Council (CEFIC), which is both the forum and voice of the European chemicals industry. We provide health, safety and environmental information and are dedicated to the principles of Responsible Care.

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