Business Outline
History
Brochure & Video
Operations
Overseas Operations
What is Silicone?
Product Advertising
Worldwide Network

About Us

01 What is silicone made of?

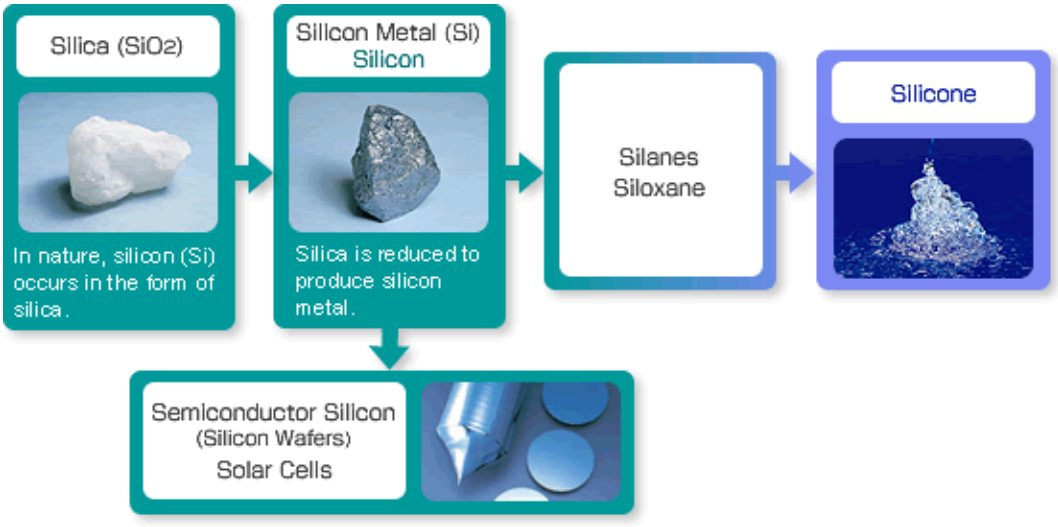
The principal raw material is silicon (Si), which is the second most abundant element in the earth's crust, following oxygen. Silicon does not occur as a single element in nature; it is most commonly found combined with oxygen in the form of silica. Silica is reduced to produce silicon metal, which is reacted with other compounds to produce silicones? a class of synthetic resins with both organic and inorganic characteristics.

Silicones consist of a backbone of alternating atoms of silicon and oxygen known as a siloxane linkage (Si–O–Si), to which are attached various organic groups. Silicones are highly resistant to high and low temperatures, resist degradation by UV rays, repel water, and exhibit a range of other characteristics. Further, they are produced in many forms including silicone fluids, resins, liquid rubbers and solid rubbers. Silicones play a vital role in practically all fields including the electronics industry, the transportation industry, chemicals, textiles, foods, cosmetics, and the construction industry.

Abundance (by weight) of elements found in earth's crust (Top 5)

Order	Element	Clarke number*
1	Oxygen	49.5
2	Silicon	25.8
3	Aluminum	7.56
4	Iron	4.70
5	Calcium	3.39

*Clarke number: indicates the abundance of elements near the earth's surface, expressed as a percentage by weight.



FYI

Silicone vs. Silicon

Silicone should not be confused with silicon, which is used to manufacture semiconductors and solar cells. The term "silicone" refers to a family of manmade compounds, of which silicon (Si) is a key element. Shin-Etsu Handotai (part of the Shin-Etsu Group) produces semiconductor-grade silicon, and is the world's

leading producer.

Back Next

Back Top