

# Силикатные керамические элементы и зиралит для проектирования автоматических выключателей

## Техническое описание

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# Silicate Ceramic Elements and Ziralit for Circuit Breaker Design

Insulation is a central element in circuit breaker technology. Silicate ceramic elements and Ziralit offer additional properties and advantages indispensable to electrical circuit breakers.

Naturally, insulation is the most important element here, but other properties such as high strength and form stability, resistance to aging, insensitivity to chemical influences and corrosion, tracking resistance as well as resistance to temperature changes and heat are all among the many features of CeramTec circuit breaker components made from silicate ceramics.

This results in a number of advantages customers won't want to miss: Ceramic components extend the technical service life of fuses, increase safety, allow shorter disconnect times and ensure more cost-efficient design.



## Components for Circuit Breaker Technology

- Tubes and SMT fuse bodies for miniature fuses
- Insulator bodies for low-voltage high-performance fuses
- Fuse carriers for high-voltage high-performance fuses
- Arc plates for the insulation of plastic enclosures against arc discharge

### Ziralit – More than an Insulator

Ziralit is a zirconium oxide toughened alumina with many advantages in circuit breaker technology – especially in telecommunications:

- Excellent flexural and dielectric strength
- Outstanding temperature resistance
- Superior toughness
- Enhanced performance for large-scale production and tight tolerances

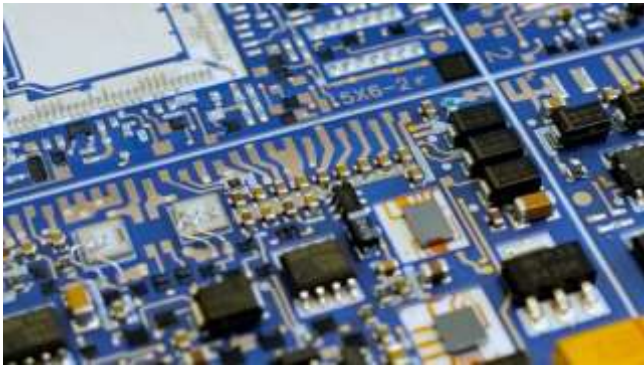
Due to its high temperature performance, the material offers tremendous advantages over standard silicate ceramic parts for fuses in the field of telecommunications, where highly demanding requirements of 600V and 60A are not uncommon.



Together with **active components**, passive components form the foundation in the fast-paced world of electronics. They fulfil elementary tasks, such as the power supply of a device or the transmission of signals, and ultimately form electrical and electronic circuits.

In these circuits, in turn, resistor bodies are indispensable: they conduct the current in a precise manner to achieve a desired performance and are thus a very essential factor for stability in circuits. In addition to our cylindrical CeramCore<sup>®</sup> resistor bodies, we also offer flat, rectangular SMT components (**lasered or stamped**; made of Rubalit 708S<sup>®</sup>, Rubalit 710F<sup>®</sup> and Alunit<sup>®</sup>).

Coils, on the other hand, have the ability to convert electrical energy into magnetic fields and, conversely, to release the electrical energy again. Fuses, in turn, protect valuable components from overheating due to overcurrent.



Technical ceramics are once again convincing as a material for passive components due to their **outstanding properties**. Particularly noteworthy in this context is the possibility to realise almost one hundred percent **pore-free surfaces**. Furthermore, technical ceramics are characterised by excellent **electronic insulating properties**, **high strength** and **thermal conductivity**.

For the SMD reflow soldering process of passive components, the **bending strength** and the **fracture toughness** are important. In the pick & place assembly process of passive components, the geometry (**length, width and thickness**) of the support bodies and the **flatness** are of high relevance.

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