

## Ceramacast 645

## **Description**

Ceramacast 645 is a silica-based, pourable ceramic for casting temperature-stressed parts with a high insulation value. This ceramic is characterized by its high temperature resistance.

Ceramacast 645 is a well-proven product for the final sealing of thermo pairs, resistance thermometers, as casting material for electrical feedthroughs, for casting or encapsulating parts such as resistance elements and for high temperature insulation as well as for the insulation of instruments and devices.

Characteristics	Ceramacast 645
Main Components	Silicon Dioxide
Max. Temperature	1370 °C
Mixed Viscosity	3000 cps
Spec. Weight	ca. 1.75 g/cm <sup>3</sup> Powder Density
CTE	9.9 m/m/°C x 10 <sup>-6</sup>
Dielectric Strength	11.8 KV/mm
Volume Resistivity	10 <sup>9</sup> Ohm/cm at RT
Thermal Conductivity	5.04 W/m/°K at RT
	1.01 W/m/°K at 705 °C
Hardness	3.7 Mohs Scale
Thermal Shock Resistance	Very Good
Alkali Resistance	Moderate
Acid Resistance	Moderate
Oxidation Resistance	Very Good
Solvent Resistance	Very Good
Shrinkage	< 1.2 % at 1650 °C

## **Handling**

Ceramacast 645 is a water mixable powder which can be used for pouring after it has been mixed.

It is suitable for dip coating, casting and sealing of parts, as well as for embedding parts by spray application.

## **Hardening**

The material is completely dry in 2 hours and ready for use after tempering at 90 °C. Curing at high temperatures up to 1100° C is recommended when maximum physical properties and moisture resistance are required.