

CAULKCRETE® 100 CERAMIC CEMENT



Ideal for Use in Lamps, Appliances, Heaters, Furnaces, Resistors and Elements

Caulkcrete 100 ceramic cement is an excellent, ready-to-mix self-curing ceramic adhesive with superior electrical insulation properties.

Caulkcrete 100 ceramic cement is a white, odorless powder that, when mixed with water, delivers outstanding bonding characteristics and is ideally suited to applications that demand superior electrical insulation properties.

Benefits of Caulkcrete 100 ceramic cement include:

- Excellent bonding to glass, quartz, porcelain and metal
- Resists thermal shock and ultra-high temperatures
- Provides optimum dielectric strength
- Insulates

Typical Material Properties*

Color	White	
Screen Analysis	90%<325 Mesh	
Coefficient of Thermal Expansion	5.6×10^{-6} in/in/°F	
Compression Strength	4500–5500 psi	
Thermal Conductivity	10 BTU/ft ² /hr/°F/IN	
Maximum Service Temperature	3000 °F (1648 °C)	
Volume Resistivity	at 70 °F (21 °C)	10^{11} ohm-cm
	at 750 °F (300 °C)	10^{10} ohm-cm
	at 1475 °F (800 °C)	10^9 ohm-cm
Dielectric Strength	at 70 °F (21 °C)	77 to 103.5 volts/mil
	at 750 °F (300 °C)	24 to 39.5 volts/mil
	at 1475 °F (800 °C)	13.5 to 24 volts/mil
Chemical Resistance	Exhibits resistance to acids or alkalis. Very oil resistant.	

*These results are based on the testing methods, frequency and procedures of Ransom & Randolph or its approved suppliers. The levels referenced herein are only for general guidance and do not constitute a firm specification.

Safety

Avoid direct contact with skin and eyes. We recommend that eye protection and rubber gloves be worn when working with this product. Refer to the Safety Data Sheet (SDS) for full safety details.



RANSOM & RANDOLPH

3535 Briarfield Boulevard, PO Box 1570 | Maumee, OH 43537 USA
800.253.4502 | 419.865.9497 | 419.865.9997 (FAX) | www.ransom-randolph.com



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CAULKCRETE[®] 100 CERAMIC CEMENT

Mixing

Mixing is quick and easy. Simply combine 12-16 parts of water (depending on your application requirements) to 100 parts of Caulkcrete 100 ceramic cement (by weight) and stir vigorously to a creamy, consistent texture.

- Mix all the water and all the Caulkcrete 100 ceramic cement together at once.
- Do not add water gradually.
- Do not add more water as the mixture thickens, as this will weaken the cement.

Setting

The initial chemical set begins within 2 hours of the time water is added to the dry powder and it continues until the mixture is completely dry. Normally, this takes 24 hours, but the time may vary depending on the amount of water used, the thickness of the cement to be dried and atmospheric conditions. Caulkcrete 100 ceramic cement is slightly exothermic.

Curing time can be shortened by placing the mixture in a low temperature oven set at 160 °F (71 °C) for at least 15 minutes. When followed by firing at 1200 °F (649 °C) for 1 hour per inch of thickness, a better bond will develop and moisture resistance will be improved.

Bonding

Thoroughly clean the surfaces that are to be bonded together and use only a thin coating of cement for best results. Caulkcrete 100 ceramic cement can be poured, dipped or brushed into place for coating, potting and sealing applications. Caulkcrete 100 ceramic cement creates an excellent bond to glass, quartz, porcelain, metal and metal oxides.

US: Danger. May cause cancer by inhalation. Causes damage to lungs through prolonged or repeated exposure by inhalation. Contains crystalline silica. See SDS for more information.

EU: Danger. Causes damage to lungs through prolonged or repeated exposure. Contains respirable crystalline silica. See SDS for more information.

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