

Thermcoat Cement and Lacquer Kit

THERMCOAT

Each THERMCOAT KIT includes:

- ✓ **THERMCOAT CO** (zinc phosphate cement)
- ✓ **THERMCOAT COL** (liquid for zinc phosphate cement)
- ✓ **THERMCOAT SL** (heat-curing silicone lacquer)
- ✓ **CC HIGH TEMP CEMENT** (high temperature cement binder and filler)
- ✓ **Assorted Fine-Gage Ceramic Insulators**
- ✓ **Assorted Fine-Gage Tubing**
- ✓ **Brushes, Corkscrew, and Assorted Sleeving**

OMEGA's thermcoat kit is used for cementing fine-gage thermocouples in place on metal, plastic and ceramic surfaces and for assembling and installing thermopiles, temperature probes and thermocouple bolometers.



THERMCOAT CO and THERMCOAT COL

This is a fast-setting 2-part zinc phosphate cement which should be worked at temperatures between 16 and 27°C (60 and 80°F). Work with very small quantities. Once cement has set, it cannot be reworked. Cements mixed too thinly, resulting from an excess of liquid COL, may cause spurious voltaic emfs to be generated in fine-gage thermocouples. Before applying cement, thoroughly clean surface and thermocouples and remove all contamination. Shelf life in excess of 2½ years.

THERMCOAT SL is a heat-curing silicone lacquer used for insulating thermocouples and lead wires. It is useful from -145 to 200°C (-229 to 392°F).

Specifications

Color: Dark brown

Nonvolatile Content: 49.0% after 3-hr @ 135°C (275°F)

Specific Gravity: 1.00 @ 25°C (77°F)

Viscosity: 110 @ 25°C (77°F), centipoises

Flash Point, Open Cup: 27°C (80°F)

Solvent: Xylene

Drying Time: 2 to 4 hrs @ 150 to 200°C (302 to 392°F)

Dielectric Strength, 2" Electrodes: 2000 V/mil

Dissipation Factor @ 25°C (77°F):

100 Hz: 0.010

100 kHz: 0.007

Dielectric Constant @ 25°C (77°F):

100 Hz: 3.10

100 kHz: 2.98

Surface Resistivity, Ω: 1 x 10¹⁴

Volume Resistivity, Ω-cm: 2 x 10¹⁴

Weight Loss, Solvent-Free Varnish: 6.4% after 3-hr/250°C (482°F)

Thermal Conductivity: 0.35 x 10⁻³ cal/sec (cm)²°C

Moisture Vapor Transmission: 4.6 g/m²/day

Heat Endurance at 250°C (482°F):

Flex Life: 690-hr

Craze Life: 1960-hr

Thermal Life, Curved Electrode Method:

Hr @ 300°C (572°F): 350

Hr @ 275°C (527°F): 1500

Hr @ 250°C (482°F): 4000

Replacement Cement and Lacquer

Model No.	Size and Price			
	Vial	1 oz	2 oz	4 oz
THERMCOAT CO-(*)	Visit omega.com for pricing			
THERMCOAT COL-(*)				
THERMCOAT SL-(*)				

* Indicate size: V, 1, 2, 4 (vial size is 0.5 oz).

OMEGA® CC High Temperature Cement

A porcelain-like cement consisting of 2 parts: a powder filler and a liquid binder. Mix 3 parts filler to 1 part liquid by weight, or 2 parts filler to 1 part liquid by volume. Hardens with an internal chemical setting action with an initial set in approximately 30 minutes and a final complete set in 18 to 24 hours at ordinary temperatures. The set may be decreased to 30 to 60 minutes after application by baking up to 80°C (175°F). The sodium silicate cement will withstand temperatures up to 840°C (1550°F). It adheres to practically all surfaces which are clean and free of oil and grease.

Physical Properties

Color.....	Tan
Compressive Strength.....	3900 psi
Tensile Strength.....	425 psi
Absorption.....	10 – 12%
Shrinkage.....	0.50%
Dielectric Strength...ASTM D-149—	
at 70°F.....	25.0 to 51.0 Volts/mil
at 750°F.....	12.5 to 25.0 Volts/mil
at 1475°F.....	up to 1.3 Volts/mil
Volume Resistivity...ASTM D-1829—	
at 70°F.....	10 ⁷ – 10 ⁹ Ω-cm
at 750°F.....	10 ⁴ – 10 ⁶ Ω-cm
at 1475°F.....	10 ² – 10 ³ Ω-cm
Dielectric Constant.....	5.0 – 7.0
Thermal Conductivity (K Factor)—	
at 500°F.....	3.41 (BTU-inch)/(sq ft-hr-°F)
Coefficient of Thermal Expansion.....	4.6 x 10 ⁻⁶ in/in/°F
Density.....	141 pcf
Maximum Service Temperature.....	840°C (1550°F)

To Order

Model No.	Description
CC HIGH TEMP	Cement kit with 2.25 oz powder filler and 0.75 oz liquid binder
CC BINDER	8 oz container of liquid binder
CC FILLER	8 oz container of powder filler

To Order	
Model No.	Description
THERMCOAT	Cement and lacquer kit