OMEGABOND® High Temperature Chemical Set Cements

- Heat Conductive
- Thermal Shock Resistant
- Insulate Electricity
- Resists Oils, Solvents, Most Acids
- Adhere To Practically All Clean Surfaces **

Basic Unit

$18

MADE IN USA

ALL MODELS AVAILABLE FOR FAST DELIVERY!

CC HIGH TEMPERATURE CEMENT BINDER

CC HIGH TEMPERATURE CEMENT FILLER

OMEGABOND® 700

OMEGABOND® 600

Chemical Set Cements set or cure by an internal chemical action which does not require exposure to air. Chemical Set Cements can be used in thick applications (applied in thicknesses greater than ¼")*.

SELECTION CRITERIA FOR CEMENTS

1. **Type of Application** – Potting, sealing, encapsulating, assembling, bonding. Is a thick or thin film of cement required? This dictates whether or not an air set or a chemical set cement can be used.
2. **Thermal Considerations** – What is the maximum temperature that the cement must withstand? What degree of thermal conductivity is needed? What degree of thermal expansion is allowed? These properties are then matched to the appropriate cement.
3. **Solvent** – 10% Sodium Hydroxide. However it's difficult to remove cured cement.
4. **Substrate** – What materials will the cement be in contact with?
5. **Application Consideration** – Pot life, set time, method of dispensing, batch size, cure procedure.
6. **Miscellaneous Considerations** – Porosity, moisture absorption, electrical resistance, volume stability, clearances/tolerances.

To Order ***(Specify Model Number)***

Model No.	Price	Description
OB-600	**$36**	OMEGABOND® 600 Powder, 8 fluid oz (one part cement; just mix with water)
OB-700	**36**	OMEGABOND® 700 Powder, 8 fluid oz (one part cement; just mix with water)
CC HIGH TEMP	**18**	CC High Temperature Cement Kit, contains 2.25 oz powder and 0.75 oz liquid by weight
CC Filler	**36**	CC High Temperature Cement Powder, 8 oz by weight (Two part cement; mix liquid with CC Binder)
CC Binder	**36**	CC High Temperature Cement Liquid, 8 oz by weight (Two part cement; mix liquid with CC Filler)
OB-KIT-2	**54**	Chemical Set Cement Kit. Ideal for research purposes. Includes 2 fluid oz. each of OB-600 and OB-700 and also one CC High Temp Kit
OB-TL	**36**	OMEGABOND® Thinning Liquid, 8 fluid oz used to dampen porous substrates before application of mixed OB-300 or OB-400 cements

***Ordering Example: OB-KIT-2** is a chemical set cement kit containing OB-600, OB-700, and one CC High Temp Kit, **$54**.*

APPLICATIONS:

OMEGABOND® 600

- Potting
- Bonding
- Insulating
- Embedding
- Coating

OMEGABOND® 700

- Coating
- Assembling
- Sealing

CC High Temperature Cement

- Cementing on and Insulating Thermocouples for Surface Temperature Measurement

Physical Properties†

Cement	OMEGABOND 600	OMEGABOND 700	CC High Temperature
Type of Cement (One or Two Part)	One Part	One Part	Two Part
Coefficient of thermal expansion, in/in/°F	2.6×10^{-6}	12.4×10^{-6}	4.6×10^{-6}
Color	Off White	White	Tan
Compressive strength, PSI	4500-5500	3500	3900
Density, lbs/ft³	160		141
Dielectric constant	3.0 - 4.0		5.0 to 7.0
Dielectric strength at 20°C (70°F), Volts/mil	76.0 to 101.0		25.0 to 51.0
Dielectric strength at 400°C (750°F), Volts/mil	25.0 to 38.0		12.5 to 25.0
Dielectric strength at 795°C (1475°F), Volts/mil	12.5 to 25.0		≤1.3
Maximum service temperature, °C (°F)	1426 (2600)	871 (1600)	843 (1550)
Modulus of rupture, PSI	450		
Tensile strength, PSI	250		425
Volume resistivity at 20°C (70°F), ohm-cm	10^{10}-10^{11}		10^{7}-10^{9}
Volume resistivity at 400°C (750°F), ohm-cm	10^{9}-10^{10}		10^{4}-10^{6}
Volume resistivity at 795°C (1475°F), ohm-cm	10^{8}-10^{9}		10^{2}-10^{3}
Flexural strength, PSI		435	
Absorption, %			10 - 12
Shrinkage, %			0.5
Thermal Conductivity, Btu-in/ft²-hr-°F	10 - 12	4.5 to 5.9	8
Mix Ratio	Mix 100 Parts powder with 13 parts water by weight.	Mix 75-80% powder with 20-25% water by weight.	Mix 3 parts powder to 1 part liquid by weight, or 2 parts filler to 1 part liquid by volume.
Curing Schedule	OMEGABOND 600® cures at room temperature by internal chemical action in 18-24 hours. Cure time can be accelerated by low temperature oven drying at 82°C (180°F). If the cement is to be exposed to elevated temperatures, cure for 18-24 hours at ambient temperature, then oven dry for 4 hours at 82°C (180°F) and for an additional 4 hours at 105°C (220°F). This helps to prevent spilling.	OMEGABOND 700® cures at room temperature with a chemical set action in 18-24 hours, Cure time can be accelerated by low temperature oven drying at 82°C (180°F). If the cement is to be exposed to elevated temperatures, cure for 18-24 hours at ambient temperature, then oven dry for 4 hours at 82°C (180°F) and for an additional 4 hours at 105°C (220°F). This helps to prevent spilling.	CC High Temperature Cement hardens with an internal chemical-setting action with an initial set in approximately 30 minutes. The final set is reached in 18 to 24 hours when cured at room temperature. If it is desired to accelerate the curing time, set the drying oven to 65°C (150°F) and the cement will cure in 4 hours. If the drying oven is set to 105°C (220°F), the cement will cure in 3 hours.
Distinguishing Characteristics and Applications	High dielectric strength. Used to pot nickel chromium resistance heating wire. Won't stick to smooth quartz.	Used on metals or other materials which have a high coefficient of thermal expansion. Excellent bonding characteristics.	Used to cement on and insulate thermocouples for surface temperature measurement.

†These physical properties were determined under laboratory conditions using applicable ASTM procedures. Actual field data may vary. Do not use physical properties data for specifications.

** Air Set Cements are also available See OMEGABOND® 300, OMEGABOND® 400 and OMEGABOND® 500. These cements set or cure through loss of moisture by evaporation. Atmospheric conditions therefore affect the drying rate. Air Set Cements are used mainly in the thin film applications (less than ¼" thickness.)*

*** Porous substrates may require dampening with Thinning Liquid before application of mixed cement. For OMEGABOND® 600 and OMEGABOND® 700 (one part cements), order OMEGABOND® Thinning Liquid, Model No.* ***OB-TL****, Price* ***$36*** *(8 fluid oz). For CC High Temperature Cement, use CC High Temperature Cement Liquid Binder to dampen porous substrates.*

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