

Epoxies and Thermally Conductive Pastes

OMEGABOND™ epoxy and OMEGATHERM™ thermal conducting paste are high temperature and high thermally conductive epoxies and silicone products. They are specially formulated for permanent and temporary bonding of thermocouples, thin film RTDs, thermistors and other temperature sensors, to most surfaces—metals, ceramics, glass, plastics, paper products.

OMEGABOND™ and OMEGATHERM™ products are compounded and packaged for convenient, easy mixing and application. Each formulation exhibits important characteristics necessary for accurate, fast, reliable temperature measurement. These are: good adhesion and strength, high temperature rating, high thermal conduction, high electric insulation, thixotropic consistency, fast cure, and easy application.

To assist in your selection, a summary of each product's properties is shown in the accompanying table.

"Twin pak" packaging is supplied to ensure the user with accurate proportioning of resin and catalyst, as well as to provide a clean, fast means of mixing. The "Twin Pak" is a flexible, transparent plastic pouch, separated into two isolated compartments by means of a removable external divider. In one compartment is the resin, the other the pre-measured catalyst. To use, remove the divider, mix the two components by kneading the pouch, then snip off a corner to dispense. Each "Twin Pak" comes with an instruction sheet, enclosed in a clear, heat-sealed plastic envelope.

Typical Properties

Model No.	OB-100	OB-101	OB-200	OT-201
Material	Fast Set Epoxy Adhesive	Epoxy Adhesive	Epoxy Adhesive	Silicone Grease
Max. Continuous Temperature	130°C (265°F)	105°C (221°F)	260°C (500°F)	200°C (392°F)
Cure	8–12 min. set Room Temp.	Room Temp.	Elevated Temp.	Not required
Adheres to	M, C, PL,	M, C, PL,	M, C, PL,	Wets most Surfaces
Most*	PA, W	PA, W	PA, W	
Thermal conductivity (k) (BTU)(in)/(hr)(ft ²)(°F)	Low	High 7.2	Very High 9.6	Extremely High 16
Electrical Insulation Volume Resistivity ohm-cm	High 10 ¹²	Very High 10 ¹⁵	Very High 10 ¹⁵	Very High 10 ¹⁴
Tensile Shear PSI MIN	2000	2200	2700	—
Flexure Strength PSI MIN		12,000	17,000	
Coefficient of Thermal Expansion in/in/°F	51 x 10 ⁻⁶	20 x 10 ⁻⁶	21 x 10 ⁻⁶	

*M = Metal
C = Ceramic
PL = Plastic
PA = Paper Products
W = Wood

The above information, while determined by tests and evaluation, is offered only as a general guide. Actual suitability for a particular purpose must be determined by material user. This information is not to be taken as a warranty for which we assume legal responsibility.



OMEGABOND™ 100

OMEGABOND™ 100 — a fast (8 to 12 minute setting time), room temperature, two-part epoxy. Recommended for easy temporary and permanent bonding of beaded wire and “cement-on” thermocouples. Adheres to metals, ceramics, epoxy laminates, glass, wood, concrete and many other materials—for temperature measurements up to 129°C (265°F). It is not recommended for those endeavoring to achieve the ultimate in precision and speed of response, since this unfilled system has a relatively low thermal conductivity.

Temporary installation of beaded wire thermocouples can be achieved by using a very small amount of OMEGABOND™ 100 to tack the bead to the surface and packing OMEGATHERM™ 201 around the exposed surface to improve heat transfer. This clear syrup consistency—100% solid adhesive — contains no solvents and has good strength and electrical insulation characteristics. Note: The working time after mixing the two-part system at room temperature is only 6 to 8 minutes. OMEGABOND 100 is available in “Twin Pak” packs and 450g and 900g kits.

OMEGABOND™ 101

OMEGABOND™ 101—is a very versatile room-temperature curing, highly thermally conductive, two-part epoxy adhesive designed specifically to bond permanently “cement-on” and beaded wire thermocouples and other sensors to the widest variety of materials. Adheres to most metals, wood, ceramics, cements, paper products, and many plastics and rubbers. It is rated for continuous use at 105°C (221°F). This thixotropic off-white paste will set up in approximately four hours at room temperature with full curing in 24 hours. Curing can be accelerated by applying moderate heat.

OMEGABOND™ 101 has excellent shear and tensile strength, high electrical insulation and excellent chemical and solvent resistance. It is supplied in convenient “Twin Pak” packs as well as 450g and 900g pound kits, and is easy to mix, apply and cure.

OMEGABOND™ 200

OMEGABOND™ 200 — is a black, high temperature, high thermally conductive, two-part epoxy system which will bond sensors to most materials, including metals, glass, ceramics and most plastics. It is recommended for bonding of “cement-on” and beaded wire thermocouples for accuracy and fast temperature measurement to 260°C (500°F). This epoxy system cures at elevated temperatures. Curing time is 8 hours at 120°C (250°F), 2 hours at 205°C (400°F). It has excellent strength and electrical insulating characteristics. Its thixotropic paste consistency virtually ensures freedom from sag during curing when applied to vertical surfaces.

OMEGABOND™ 200 is mixed 100 parts resin to 10 parts catalyst by weight, and is supplied in “Twin Paks” to ensure proper formulating, 450g and 900g kits are also available.

OB-100



OMEGATHERM™ 201

OMEGATHERM™ 201 — is a very high thermally conductive filled silicone paste, ideally suited for many temperature measurement applications. This thick, grey, smooth paste wets most surfaces and will not harden on long exposure to elevated temperatures. It is rated for continuous use between -40 and 200°C (-40 and 392°F).

OMEGATHERM™ 201 provides an excellent means of conducting heat and expanding the heat-path area from a surface to a temperature measurement sensor, thus increasing the speed of response and improving accuracy. Some applications are:

- a) **Surface Measurement Probes** — dab a small amount on the surface and push the sensor into this area.
- b) **Temporary bonding and encapsulating of temperature sensors** — simply dab OMEGATHERM™ 201 onto the surface or in the cavity, plant the sensor in the paste, and tape to hold in place.

This highly versatile paste is supplied in 14g and 56g jars, as well as in 450g and 900g containers.

ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)		
MODEL NO.	PRICE	DESCRIPTION
OB-100-1/4	£8.40	OMEGABOND 100 epoxy, one 7g twin pak
OB-100-1	10.00	OMEGABOND 100 epoxy, four 7g twin pak
OB-100-16	33.50	OMEGABOND 100 epoxy, 227g resin, 227g catalyst kit
OB-101-1/2	3.40	OMEGABOND 101 epoxy, one 14g twin pak
OB-101-2	8.00	OMEGABOND 101 epoxy, one 56g twin pak
OB-101-16	37.50	OMEGABOND 101 epoxy, 227g resin, 450g catalyst kit
OB-200-2	11.50	OMEGABOND 200 epoxy, one 56g twin pak
OB-200-16	40.00	OMEGABOND 200 epoxy, 227g resin, 450g catalyst kit
OT-201-1/2	10.00	Thermally conductive paste, 14g jar
OT-201-2	16.75	Thermally conductive paste, 56g jar
OT-201-16	101.00	Thermally conductive paste, 450g can

Multi-Purpose OMEGABOND™ & OMEGATHERM™ Kit

This versatile kit is recommended as a convenient way to determine the best means to bond sensors before ordering in quantity. Each kit contains:

- four — 7g “Twin Paks” of OMEGABOND™ 100
- two — 14g “Twin Paks” of OMEGABOND™ 101
- one — 56g “Twin Pak” of OMEGABOND™ 200
- two — 14g Jars of OMEGATHERM™ 201

When ordering, specify “MPK-1” £50 per kit

OB-101



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Your One-Stop Source for Process Measurement and Control!

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