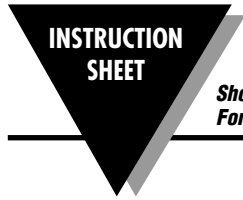




# OMEGABOND® OB-500

## HIGH TEMPERATURE AIR SET CEMENT



M1241/0617

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### GENERAL DESCRIPTION

The OMEGA® OB-500 High Temperature Air Cement is a sodium silicate base, two-part ceramic cement which has many exceptional characteristics including:

- Resists temperatures to 1204°C (2200°F)
- Resists oil, solvents and most acids (except hydrofluoric)
- Heat conductive and thermal shock resistant
- Excellent electrical insulator
- Adheres to metals, ceramics, glass, porcelain and most other surfaces
- Excellent coating properties
- Refractory cement - withstands short-term immersion in molten metal

OMEGA's OB-500 cement is a heat-cured refractory metal that is applied as a coating on expendable thermocouple tubes and as a lining for induction furnaces. It has excellent coating properties and can be applied by rolling, dipping or casting.

### HANDLING INFORMATION

#### CAUTION

- Avoid prolonged breathing of vapors-work in well-ventilated area
- Protect skin against contamination
- Protect eyes against contamination
- Do not take internally

OMEGABOND® 500 Liquid Binder is an alkaline material and may irritate eyes and skin. Avoid contact with eyes and skin by wearing gloves and goggles or face shield. OMEGABOND® 500 Powder Filler is a harmful dust. Avoid breathing dust by using respirators. Avoid contact with eyes or skin by wearing gloves and goggles or a face shield. Wash thoroughly with soap and water after handling the Liquid Binder and/or the Powder/Filler before eating and smoking. Keep containers closed.

### SOLVENT

A 10% caustic or alkaline solution such as 10% NaOH (Sodium Hydroxide) will break down the OB-500 after it has cured. However, care should be exercised as far as the compatibility of the caustic solution with any other components involved in the application, such as the material or surface that the cured cement has been applied to.

### SHELF LIFE

OMEGABOND® 500 Powder and Liquid have a shelf life of six (6) months when stored in unopened, tightly sealed containers in a dry location at 70°F.

### DIRECTIONS FOR USE

OMEGA's OB-500 is a two-part cement and consists of a Powder/Filler and a Liquid/Binder. The mix ratio for cast applications range from 1.86 parts powder to 1 part Liquid by weight. The consistency of mixed OB-500 may be adjusted by regulating the amount of liquid used; however, the use of excess liquid will reduce mechanical strength, increase the amount of shrinkage and delay the set time for the mixed cement. All surfaces to which OB-500 will be applied should be cleaned and free of dirt or grease. Sand blasting is recommended for steel surfaces. Do not apply OB-500 in thickness greater than 1/4".

Porous substrates should be dampened with OMEGABOND® 500 Liquid prior to application of the mixed cement.

### CURING

OMEGA's OB-500 reaches an initial set by air drying for four (4) hours at ambient temperature. A final set is only reached after oven baking at 130°F for four (4) hours. If the cement is to be used at temperatures above 212°F, OB-500 must undergo an extended cure at 220°F or above for 12 hours. The pot life of mixed OB-500 is one hour after the Powder and Liquid are mixed together.

### PHYSICAL PROPERTIES\*

Maximum Service Temperature:	1204°C (2200°F)
Color:	Off white
Coefficient of Thermal Expansion:	16.3 x 10 <sup>-6</sup> in/in/°F
Compressive Strength:**	1500 PSI
Tensile Strength:	150 PSI
Density:	
Wet:	112 lbs/cu. ft.
Dry:	82 lbs/cu. ft.
Flexural Strength:**	650 PSI
Modulus of Elasticity:	3.6 x 10 <sup>5</sup> PSI
Pot Life:	1 hour

\* Determined under laboratory conditions using applicable ASTM procedures. Actual field data may vary. Do not use Physical Properties for specifications.

\*\*Strength at 1 day after curing at 220°F

### NOTE

The Material Safety Data Sheet (MSDS) for the OMEGA® OB-500 cement is shipped with the product. Additional copies can be obtained by contacting OMEGA Engineering and asking for MSDS-0145.



omega.com info@omega.com

### Servicing North America:

U.S.A.:

Omega Engineering, Inc.  
Toll-Free: 1-800-826-6342 (USA & Canada only)  
Customer Service: 1-800-622-2378 (USA & Canada only)  
Engineering Service: 1-800-872-9436 (USA & Canada only)  
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e-mail: info@omega.com

**For Other Locations Visit [omega.com/worldwide](http://omega.com/worldwide)**

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

**WARNING:** These products are not designed for use in, and should not be used for, human applications.

### WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product. If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

**OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.**

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

### RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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