



VITROBOND® CAPPING COMPOUND

DESCRIPTION AND USES

VITROBOND is a mineral-filled, sulfur-based compound formulated for capping concrete test cylinders. It is easily melted, pours smoothly, possesses high compressive strength and gives consistent test results. VITROBOND has been used for many years by independent testing laboratories, pre-stressed concrete structures manufacturers and federal, state and local testing agencies. This compound is suitable for running compressive strength tests upon high strength concrete. VITROBOND offers the following advantages:

- Ready-to-use, just melt and pour. No mixing or possibility of low strength or erratic results from improper proportions.
- Does not require controlled room temperature or humidity conditions during pouring of caps.
- Does not require moist curing or other tedious handling procedures.
- Not affected by dry cylinders.
- Can be tested two hours after cooling.
- Virtually no settling in the melting pot, thus, results are uniform from cylinder to cylinder.
- Can be stored for years; will not deteriorate in any way.

PACKAGING

50 lb. (22.7 kg.) cartons containing ingots

PREPARATION OF VITROBOND

1. Break up ingots and place in a thermostatically controlled electrical melting pot. A home appliance cooker-fryer or oven unit, such as the Westinghouse Cooker-Fryer Model RF-300HDC can be used. ELE International Soiltest Products Division, PO Box 8004, 86 Albrecht Drive, Lake Bluff, IL 60044-8044 offers a suitable electric melting pot. Sta-Warm Electric Company of Ravenna, OH, also produces various types and sizes of melting pots. Melt the VITROBOND, stirring occasionally with metal rod or ladle. Recommended pouring temperature range is from 275°F (135°C) to 295°F (146°C).
2. Do not heat above suggested pouring temperature. Ignition of the VITROBOND could occur at temperatures above 320°F (160°C). If ignition occurs, turn off unit and cover the melting pot. Burning will render VITROBOND useless.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
Density	ASTM C905	136 lb./cu. ft. (2.18 g./cc.)
Tensile Strength, 48 hours @ 77°F (25°C)	ASTM C307	700 psi. (4.83 MPa)
Compressive Strength, 48 hours @ 77°F (25°C)	ASTM C579	7,000 psi. (48.3 MPa)
Compressive Strength, 2 hours @ 77°F (25°C)	ASTM 617	5,000 psi. (34.5 MPa)
Flexural Strength, 48 hours @ 77°F (25°C)	ASTM C580	1,800 psi. (12.4 MPa)
Coefficient of Thermal Exp., in./in.°F (cm./cm.°C)	ASTM C531	2.1 x 10 ⁻⁵ (3.8 x 10 ⁻⁵)
Water Absorption	ASTM C413	0.2%
Strength Retained after Thermal Shock	ASTM C287	400 psi. (2.75 MPa)
Tend. of Aggregate to Settle, Max. Variation from Unity	ASTM C287	0.15
Color		Dark Gray

3. If molten VITROBOND foams due to entrapped air or moisture, continue heating and stirring until smooth again.

PROCEDURE FOR USE

VITROBOND caps are applied to the concrete test cylinder per ASTM C617. Suitable capping rigs are available from manufacturers such as the following:

- Humbolt Mfg. Co., 7300 W. Agatite Avenue, Norridge, IL 60656 (Model H-2952 Cylinder Capper)
- ELE International Soiltest Products Division, PO Box 8004, 86 Albrecht Drive, Lake Bluff, IL 60044-8044 (Model CT-53, Vertical Capper - Model CT-52, Horizontal Capper). Also available, a complete capping set, CT-56
- Tinius Olsen Testing Machine Co., 2100 Easton Road, Willow Grove, PA 19090 (Olsen-Nardiello - Horizontal Capper)

Contact ATLAS' Technical Service Department for information on simple devices for occasional capping. It is suggested that at least two rigs be prepared to avoid loss of time in testing. The base plates of the rig should be very lightly oiled or coated with silicone compound such as a 1% solution of General Electric Fluid SPFE or equal in toluene to facilitate removal of

the cap. When silicone release agents are used, the rig should be allowed to stand approximately 30 minutes after coating before pouring caps. If oil is used, extreme care should be taken to see that there is not an excess of oil which would affect the VITROBOND.

It is recommended that the base plate of the capping rig be preheated to retard the cooling rate of the VITROBOND.

For the most consistent test results, it is suggested that the caps be applied using a vertical capper. Pour the molten VITROBOND on the base plate of the rig and promptly place the cylinder into the molten compound to a depth so that a cap of approximately 1/8" thick will be obtained. It is essential to ascertain that each cylinder is properly aligned so that the caps will be parallel. The cylinder may be removed as soon as the VITROBOND has hardened and the other end may then be capped. The specimen may be tested 2 hours after the final pouring, but not before. It is not necessary to carry out any moist curing before the tests are performed.

STORAGE

VITROBOND can be stored indefinitely without deterioration.

PRODUCT SPECIFICATION

The system shall be VITROBOND as manufactured by Atlas Minerals & Chemicals, Inc.

PRECAUTIONS

The materials referred to in this Data Sheet are for Industrial Use Only. They contain materials that present handling and potential health hazards. Consult Material Safety Data Sheets and the container labels for complete precautionary information.

TECHNICAL SERVICES

ATLAS maintains a staff of Technical Service Representatives who are available to assist you with the use of ATLAS products. In the event of difficulties with the application of ATLAS materials, the installation should be stopped immediately and ATLAS' Technical Service Department consulted for assistance.

WARRANTY

ATLAS warrants that its products will be free from defects in workmanship and materials under normal use for a period of one (1) year from the date of shipment by ATLAS (provided the products are installed before the expiration of the shelf life). THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR THE PURPOSE FOR THIS PRODUCT WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ATLAS' LIABILITY FOR ALLEGED BREACH OF THIS WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT (BUT NOT INCLUDING REMOVAL OF THE DEFECTIVE PRODUCT OR INSTALLATION OF REPLACEMENT PRODUCTS). ATLAS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES DURING THE WARRANTY PERIOD OR THEREAFTER. **ATLAS' WARRANTY IS VOIDED IF PAYMENT FOR PRODUCT IS NOT RECEIVED IN FULL.**