



Atlas Minerals & Chemicals, Inc.



DATA SHEET

8-54SU (4-15)
Supersedes 8-54SU (8-13)

CARBO-VITROBOND® GW HUB COMPOUND

DESCRIPTION AND USES

CARBO-VITROBOND GW is a 100% carbon filled, plasticized hot pour sulfur based cement. It has been used as a grinding wheel hub compound for many years by the country's leading manufacturers of vitrified grinding and abrasive wheels. CARBO-VITROBOND GW is easily melted and will not settle out in the melting pot. It pours smoothly and freely, is dense and strong and has very little odor.

ADVANTAGES

1. Specific gravity is 1/5 that of lead. One pound goes five times as far as lead.
2. Less weight per hub means lower shipping costs per wheel.
3. Excellent adhesion to the wheel. Will not lose strength or adhesion under conditions of vibration, thermal or physical shock.
4. Can be cast level to the wheel surface. Does not have to be machined.
5. Is self-lubricating to drive shaft so that it doesn't freeze to the drive shaft as does lead.
6. Widest easy-flow range of any competitive product.
7. Excellent fluidity permits hubs to be completely filled.
8. Filler will not settle out and give some hubs greater density than others.
9. Sets hard within minutes.
10. No waste - what is melted but not used can be allowed to cool, then remelted and used later.
11. No objectional odor.
12. Inexpensive.

PACKAGING

50 lb. (22.7 kg.) carton containing 5 lb. (2.3 kg.) ingots

MIXING AND APPLICATION

1. Break up CARBO-VITROBOND GW ingots and place in a suitable clean, dry kettle. Melt over low heat, stirring occasionally with metal rod or ladle. Recommended pouring temperature is from 275°F (135°C) to 295°F (146°C). Use of a thermometer is suggested for best results.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
Density	ASTM C905	125 lb./cu. ft. (2.00 g./cc.)
Adhesion to Scored Carbon Brick	ASTM C321	200 psi. (1.38 MPa)
Tensile Strength, 48 hours @ 77°F (25°C)	ASTM C307	400 psi. (2.76 MPa)
Compressive Strength, 48 hours @ 77°F (25°C)	ASTM C579	5,500 psi. (37.9 MPa)
Flexural Strength, 48 hours @ 77°F (25°C)	ASTM C580	1,000 psi. (6.89 MPa)
Coefficient of Expansion, Atlas Range 77°F (25°C)-167°F (75°C), in./in./°F (cm./cm./°C)	ASTM C531	1.8 x 10 ⁻⁵ (3.02 x 10 ⁻⁵)
Strength Retained after Thermal Shock	ASTM C287	150 psi. (1.03 MPa)
Tend. of Aggregate to Settle, Max. Variation from Unity	ASTM C287	0.15
Color	—	Black

2. If CARBO-VITROBOND GW ignites due to overheating, remove source of heat and cover with a lid or wet cloth. Discard material if heated above 320°F (160°C) or if ignited.
3. If molten CARBO-VITROBOND GW foams due to entrapped air, continue heating and stirring until the liquid becomes smooth again.
4. When electrical thermostatically controlled melting pots (described in a later section) are used for production work, there will be little likelihood of overheating and igniting.

Jigs of the type used for the pouring of lead hubs can easily be adjusted for use with CARBO-VITROBOND GW, taking into account the lower shrinkage factor of the latter. New jigs can also be easily prepared to fit your own specific needs. The mandrel can be made in either one or two pieces with the pin separate from the base plate. The mandrel should be coated with a release agent to permit easy removal. A 1% solution of General Electric Silicone Fluid SFPE in toluene has been found to be quite effective. The solution is applied by brush or spray and the mandrel can be used 30 minutes after application. One coat will last for many runs. Both the base plate and the template used at

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the top of the jig should be tapered toward the mandrel. All parts should be carefully machined because CARBO-VITROBOND GW, with its excellent fluidity, will fill all cracks and crevices and may make release difficult. The pouring hole should be located at the highest point on the outside rim of the cavity so that the cavity is completely filled. Where large areas are to be filled, both a pouring hole and air escape hole, on the opposite side from the pouring hole are necessary and the hub is to be filled until the cements seep out of both openings so that no voids are present. After the CARBO-VITROBOND GW has been allowed to cool, the template is given a sharp blow on a lug provided for this purpose. The action will force the template to shear off the excess cement which has accumulated at the pouring and air holes. The template and mandrel are then removed. A complete line of thermostatically controlled electrical melting pots is available from the Sta-Warm Electric Company, Inc., P.O. Box 150, Ravenna, Ohio.

STORAGE AND SHELF LIFE

Store all materials in a cool, dry environment. Keep all materials out of direct sunlight. Ideal storage temperature is 75°F (24°C). In unopened original containers, the materials referred to in this Data Sheet have a shelf life of approximately one year.

PRODUCT SPECIFICATION

The system shall be CARBO-VITROBOND GW 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 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.**