



**ErgonArmor™**

# BGA

AN ACCELERATOR-GEL ADDITIVE



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## AN ACCELERATOR-GEL ADDITIVE FOR USE IN PRODUCTION OF POLYMER MODIFIED ASPHALT

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### **BGA ACCELERATOR-GEL ADDITIVE**

BGA provides a stable composition for delivering accelerator into the liquid polymer asphalt dispersion during production of polymer modified asphalt.

BGA provides a stable accelerator-gel suspension that will not separate during storage or during manufacturing processes incorporating its use, such as when added to the polymer asphalt system. This provides better dispersion during injection.

BGA should be stored at ambient temperature and is therefore less likely to polymerize.

BGA is of a gel nature, offering ease of handling and pump ability under normal processing conditions at temperatures between 40°F and 140°F.

The injection system for BGA does not require bulk storage tanks or hot oil systems, meaning energy savings and greater safety.

### **ADDING BGA TO POLYMER MODIFIED ASPHALT**

BGA may be added to the polymer asphalt dispersion at various stages of production. NOTE: Some polymer asphalt dispersions of higher polymer concentration may be adversely affected by the addition of BGA.

BGA may be effectively added to polymer asphalt dispersions diluted from concentrates, which are diluted with either neat, processed or polymer-containing asphalts. BGA may also be added to dilution asphalt prior to dilution of the polymer asphalt concentrate. The preferred method of BGA addition is either at the point of the polymer dilution, or during the final product formulation.

### **BGA PROPERTIES**

BGA is a very viscous material, usually shipped in custom totes. Totes from ErgonArmor weigh approximately 1,000 lbs each empty. The density of BGA is 10.5 lbs/gal. Full of BGA, each tote weighs approximately 5,000 lbs. The net volume of each tote is approximately 350 gallons. BGA is also available in 53-gallon drums with 2" diameter bung lids.

### **BGA INJECTION PROCESS & EQUIPMENT**

Each tote has an internal floating roof and requires a 5-PSI air blanket via ¼" quick connect. This allows the floating roof to be pushed down by the air pressure much like a caulk gun empties a caulk tube. Without this air blanket, a large product heel would be left on tote walls. This air blanket also assists in pushing product to the pump suction. BGA is injected at 0.2 to 0.5% by weight. The preferred setup for injecting BGA is a system using two totes. Pump off one, using the other as a spare. Have in place the ability to swap totes during the injection process.

Injected quantity is controlled by weight. A prescribed weight is entered in the digital scale and the pump is turned off by the controller once the prescribed weight is reached.



*Scales are typically Mettler Toledo VLC floor scales (5,000 lb capacity).*



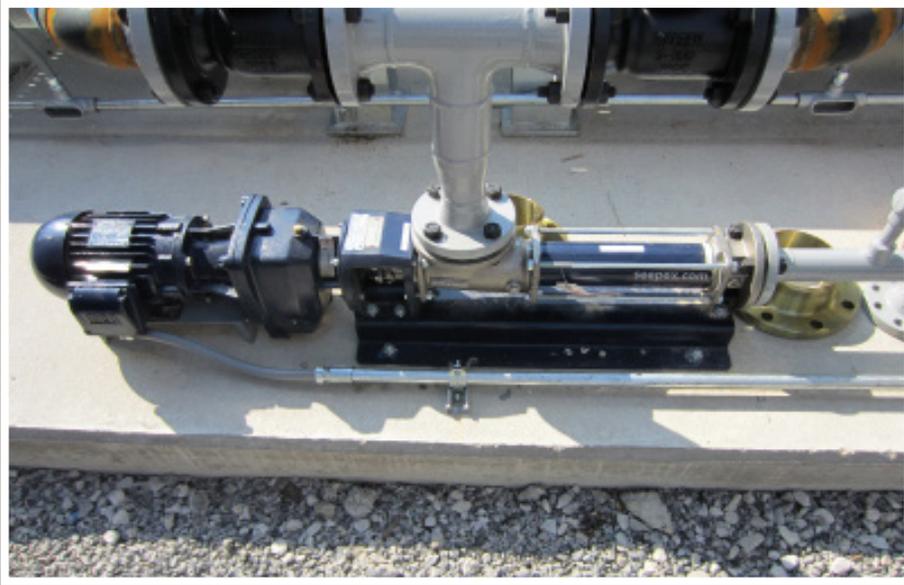
*Two scales are required (one for each tote).*



*Controllers are IND560 controllers (one per each scale, 120-volt power). Include optional discrete I/O output to turn pump off at end of injection.*

*Utilize short truck hose between totes and pump so that scale is isolated from piping and equipment weight/forces.*





The preferred pump is a progressive cavity type (which is needed due to the high viscosity of the product) with injection rate controlled by variable frequency drive. A standard pump model is a Seepex BN5-12 or BN10-12 depending on injection rate required. So that the pump is turned very slowly (typical RPM range of 50 to 100) to wear, the BN5-12 is typically good for 1 to 5 GPM injection rates and the BN10-12 for 5 to 10 GPM range. Equip field with BGA pump start/stop with speed potentiometer.



Despite typically low flow rates, the high viscous and thixotropic product requires larger than normal piping, such as 2" diameter. Sometimes required at higher flow rates and pipe lengths is 3" diameter. Piping is carbon steel A-53 Gr B or similar. No heat tracing or insulation is required as this has not shown to improve the flowability of the product and systems are typically emptied for the off season. A check valve is installed as close to the injection point as possible. Due to the high viscosity of BGA, a spring-loaded check is advised (Check-All WV or similar) so as to prevent sticking open. Though a gate valve may be installed at the injection point, a sample valve (Strahman SV800 or Schuf 32FR with operator) is ideal. The sample valve piston pushes any remaining BGA into the asphalt line when it closes, therefore preventing a hardening of the BGA at the stagnant interface and also providing positive isolation. The operator option (either air or electric) allows for remote operation of the injection valve at the beginning and end of each injection run. The check valve to injection point is traced when just using a gate for isolation (as it has the potential to see asphalt up to the check). No tracing of the BGA line is typically needed when using the sample valve for isolation between runs.

# 5 TIPS / THINGS TO WATCH FOR

1

Ensure facility has a forklift capable of handling the 5,000-lb totes.

2

Tote comes equipped with a 3" Maxi-Dry MD30PFA Flanged Adapter which requires a Maxi-Dry MD30D Coupler on the suction hose.

NOTE: Tote connection will not accept standard cam and groove fittings.

3

Set up method to clear injection point if injection point temperature is higher than 250°F. A short air purge may be used. BGA sitting in contact with hot asphalt will harden over time and plug the injection point.

4

Limit BGA tote air blanket to 5 PSI with high quality, precise regulator. Too much pressure can damage the floating roof and/or tote.

5

Consider locating remote asphalt pump start/stop near BGA pump and scales so that asphalt pump may be started remotely.

## TOTE SETUP



# DRUM SETUP INSTRUCTIONS

BGA IS ALSO AVAILABLE IN 53-GALLON DRUMS WITH 2" DIAMETER BUNK LIDS



Place the 53-gallon drum of BGA on digital scales to accurately measure the injected quantity of BGA added to the polymer modified manufacturing process.



Digital readout from the scales.



The digital scales are tied in to a controller. Injected quantity is controlled by weight. A prescribed weight is entered in the digital scale and the pump is turned off by the controller once the prescribed weight is reached.



A 10:1 airless transfer pump is recommended for pumping the BGA out of drums.



On the inlet side of the pump, an air regulator controls inlet air pressure.



On the outlet side of the pump a 1 1/2" male quick connect is attached to the pump. The outlet hose would couple to the pump using a 1 1/2" female quick connect.



The pump is inserted into the 2" bung opening in the lid of the drum.



Pump mounted down on scale.

# About ErgonArmor:

You've built it. Now let ErgonArmor protect it.

We provide advanced surface protection solutions to a diverse range of harsh environments.

With ErgonArmor, you can be assured that our depths and strengths stand behind the solutions we offer. Let us be the manufacturing and technical resource you turn to for answers in protecting and maintaining the investment you have made in your facility.

ErgonArmor is a division of Ergon Asphalt & Emulsions, Inc., and a subset of the Ergon, Inc., corporation. Ergon began its legacy of delivering dependable, high-performing products with exceptional service more than 60 years ago. Today, the company encompasses business segments including: Refining & Marketing, Asphalt & Emulsions, Oil & Gas, Transportation & Terminaling, Real Estate and Corporate & Other. With many segments operating across the United States, Ergon's widespread presence allows us to meet your needs, no matter your location.

[ergonarmor.com](http://ergonarmor.com)

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## Ordering Information

For additional information, prices, or to place an order, please contact your ErgonArmor sales representative. If you do not know the name of your sales representative, call **877-98ARMOR**.

