

## **BIGA GROUP**

SPECIAL WELDING, SHIP / OFF SHORE / INDUSTRY SERVICE ENGINEERING, CONSULTING AND SURVEY www.bigagroup.com

Outstanding wear and abrasion resistance

Able to withstand high impact forces

Resistance to a wide range of chemicals

Technical Data Sheet 1/26/2012

## DFense Blok™

Product features: Limitations:

**Description:** 

Intended Use:

Typical Physical Properties: Technical data should be considered representative or typical only and should not be used for specification purposes.

DFense Bloki is a revolutionary wear and abrasion alumina ceramic bead-filled epoxy compound. DFense Bloki is formulated to significantly outlast traditional wear and abrasion products while also providing superior peformance in the

Repair scrubbers, ash handling systems, pipe elbows, screens, chutes, chippers, bins, hoppers, bunkers, separators, digester tables. Protect exhausters, launderers, housing fans, crushers, breakers, and conveyor screws.

## Cured 7 days @ 75°F

Non-sagging

None

most severe conditions.

Adhesive Tensile Shear
Coefficient of Thermal Expansion
Color
Compresive Strength
Cured Hardness
Cured Shrinkage
Dielectric Constant
Flexural Strength
Recoat Time
Specific Gravity
Specific Volume
Temperature Resistance
Uncured

- % Solids by Volume Coverage/lb Cure Time Functional Cure Mix Ratio by Volume Mix Ratio by Weight Mixed Viscosity Pot Life @ 75°F
- 2,616 psi 29 [ in / (in x °F)] x 10(-6) Gray 7,145 psi 77D 0.0005 in/in 49 7,876 psi 2 to 3 hours 2.21 12.6 in(3)/lb Dry 300 °F; Wet 140°F 100 47 sq. in/lb @ 1/4" 16 hours

## TESTS CONDUCTED

Cured Hardness Shore D ASTM D 2240 Adhesive Tensile Shear ASTM D 1002 Compressive Strength ASTM D 695 Coef. of Thermal Expansion ASTM D 696 Cure Shrinkage ASTM D 2566 Dielectric Constant ASTM D 150 Flexural Strength ASTM D 790

Surface Preparation: 1. Thoroughly clean the surface with Devcon® Cleaner Blend 300 to remove all oil, grease and dirt.

4-5 hours

Non-Sag Putty

25 minutes

100:45

2.1

2. Grit blast surface area with 8-40 mesh grit, or grind with a coarse wheel or abrasive disc pad, to create increased surface area for better adhesion (Caution: An abrasive disc pad can only be used provided white metal is revealed). Desired profile is 3-5mil, including defined edges (do not "feather-edge+epoxy).

Note: For metals exposed to sea water or other salt solution, grit-blast and high-pressure-water-blast the area, then leave overnight to allow any salts in the metal to %weat+to the surface. Repeat blasting to %weat out+all soluble salts. Perform chloride contamination test to determine soluble salt content (should be no more than 40ppm).

3. Clean surface again with Devcon® Cleaner Blend 300 to remove all traces of oil, grease, dust or other foreign substances from the grit blasting.

4. Repair surface as soon as possible to eliminate any changes or surface contaminants.

WORKING CONDITIONS: Ideal application temperature is 55°F to 90°F. In cold working conditions, directly heat repair area to100-110°F prior to applying epoxy and maintain at this temperature during product cure to dry off any moisture,

	contamination or solvents, as well as to achieve maximum performance properties.				
Mixing Instructions:	It is strongly recommended that full units be mixed, as ratios are pre-measured				
	<ol> <li>Add hardener to resin.</li> <li>Mix thoroughly with screwdriver or similar tool (continuously scrape material away from sides and bottom of container) until a uniform, streak-free consistency is obtained.</li> </ol>				
	INTERMEDIATE SIZES (1,2,3 lb. units): Place resin and hardener on a flat, disposable surface such as cardboard, plywood or plastic sheet. Use a trowel or wide-blade tool to mix the material as in Step 2 above.				
	LARGE SIZES: (25 lb., 30 lb., 50 lb. buckets): Use a T-shaped mixing paddle or a propeller-type Jiffy Mixer Model ES on an electric drill. Thoroughly fold putty by vigorously moving paddle/propeller up and down until a homogenous mix of resin and hardener is attained.				
Application Instructions:	ADDITIONAL SURFACE PREPARATION and APPLICATION INSTRUCTIONS If grit blasting is not possible and expandable metal cannot be used, it is recommended that Dfense Bloki Surface Wetting Agent be utilized. The Dfense Bloki Surface Wetting Agent can also be used wherever it is desirable to maximize cured adhesion properties (shear, peel, impact). Apply Devcon® Dfense Bloki Surface Wetting Agent at 10 - 20 mils to prepare the metal surface. Immediately apply Dfense Bloki over the Dfense Bloki Surface Wetting Agent. It is recommended that the Dfense Bloki be applied within 45 minutes of mixing/applying the Dfense Bloki Surface Wetting Agent. Should this window be exceeded and the Dfense Bloki Surface Wetting Agenti becomes firm, a recoat of Dfense Bloki Surface Wetting Agent is recommended.				
	Spread mixed material on repair area at a minimum thickness of 1/4". Work firmly into substrate to ensure maximum surface contact. Dfense Bloki fully cures in 16 hours. Application Tip: For easier "workability," a light coating of Devcon Cleaner Blend 300 or 99% Isopropyl Alcohol (IPA) on the surface of the tool used to transfer/spread Dfense Bloki is recommended.				
	FOR BRIDGING LARGE GAPS OR HOLES Place fiberglass sheet, expanded metal or mechanical fasteners between repair area and Dfense Bloki prior to application. FOR VERTICAL SURFACE APPLICATIONS Dfense Bloki can be troweled up to 3/4" without sagging. If greater vertical thickness is desired, apply first layer at 3/4", wait until product is firm and heat of reaction dissipates, apply a second layer of 3/4". Repeat as needed. FOR OVERHEAD APPLICATIONS The Dfense Bloki Surface Wetting Agent is recommended to facilitate ease of application on overhead surfaces. Refer to				
	the first paragraph of the Application Instructions section for details. Dfense Bloki can be applied up to 1/2" to overhead surfaces. If greater thickness is desired apply first layer at 1/2", wait until product has firmed and heat of reaction dissipates, apply a second layer at 1/2". Repeat as necessary. FOR ± 70°F APPLICATIONS Applying epoxy at temperatures below 70°F lengthens functional cure and pot life times. Conversely, applying above 70°F				
Storage	Store et room temperature 70 °E	е.			
Storage.	Store at room temperature, 70°F.				
Compliances:	None				
Chemical Resistance:	Chemical resistance is calculated	with a 7 day, room ten	np. cure (30 days immersion) @ 75°F)		
	1.1.1-Trichloroethane	Very good	Nitric 10%	Fair	
	Ammonia	Excellent	Phosphoric 10%	Fair	
	Benzene	Very good	Potassium Hydroxide 40%	Excellent	
	Gasoline (Unleaded)	Fair	Sodium Hydroxide 10%	Very good	
	Hydrochloric 10%	Very good	Sulfuric 10%	Very good	
	Methanol	Poor	Toluene	Excellent	
	Methyl Ethyl Ketone	Poor	Trisodium Phosphate	Very good	
	Methylene Chloride	Poor	incoarant hoophate	10.9 9000	
Precautions:	Please refer to the appropriate material safety data sheet (MSDS) prior to using this product. For technical assistance, please call 1-800-933-8266 FOR INDUSTRIAL USE ONLY				
Warranty:	Devcon will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can accept no liability for the results obtained.				
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Order Information:	11330 30 lb.				