



A brand of ITW Polymers Adhesives North America

# DFense Blok™

**Description:** DFense Blok™ is a revolutionary wear and abrasion alumina ceramic bead-filled epoxy compound. DFense Blok™ is formulated to significantly outlast traditional wear and abrasion products while also providing superior performance in the most severe conditions.

**Intended Use:** 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.

**Product features:**  
**Outstanding wear and abrasion resistance**  
**Able to withstand high impact forces**  
**Resistance to a wide range of chemicals**  
**Non-sagging**

**Limitations:** None

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

**Cured 7 days @ 75° F**

<b>Adhesive Tensile Shear</b>	<b>2,616 psi</b>
<b>Coefficient of Thermal Expansion</b>	<b>29 [ in / (in x °F) ] x 10(-6)</b>
<b>Color</b>	<b>Gray</b>
<b>Compressive Strength</b>	<b>7,145 psi</b>
<b>Cured Hardness</b>	<b>77D</b>
<b>Cured Shrinkage</b>	<b>0.0005 in/in</b>
<b>Dielectric Constant</b>	<b>49</b>
<b>Flexural Strength</b>	<b>7,876 psi</b>
<b>Recoat Time</b>	<b>2 to 3 hours</b>
<b>Specific Gravity</b>	<b>2.21</b>
<b>Specific Volume</b>	<b>12.6 in(3)/lb</b>
<b>Temperature Resistance</b>	<b>Dry 300 °F; Wet 140 °F</b>

**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

**Uncured**

<b>% Solids by Volume</b>	<b>100</b>
<b>Coverage/lb</b>	<b>47 sq. in/lb @ 1/4"</b>
<b>Cure Time</b>	<b>16 hours</b>
<b>Functional Cure</b>	<b>4-5 hours</b>
<b>Mix Ratio by Volume</b>	<b>2:1</b>
<b>Mix Ratio by Weight</b>	<b>100:45</b>
<b>Mixed Viscosity</b>	<b>Non-Sag Putty</b>
<b>Pot Life @ 75 °F</b>	<b>25 minutes</b>

- Surface Preparation:**
1. Thoroughly clean the surface with Devcon® Cleaner Blend 300 to remove all oil, grease and dirt.
  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 "sweat" to the surface. Repeat blasting to "sweat 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 to 100-110 °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. ----

1. Add hardener to resin.
2. 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.

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 Blok™ Surface Wetting Agent be utilized. The Dfense Blok™ Surface Wetting Agent can also be used wherever it is desirable to maximize cured adhesion properties (shear, peel, impact). Apply Devcon® Dfense Blok™ Surface Wetting Agent at 10 - 20 mils to prepare the metal surface. Immediately apply Dfense Blok™ over the Dfense Blok™ Surface Wetting Agent. It is recommended that the Dfense Blok™ be applied within 45 minutes of mixing/applying the Dfense Blok™ Surface Wetting Agent. Should this window be exceeded and the Dfense Blok™ Surface Wetting Agent™ becomes firm, a recoat of Dfense Blok™ 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 Blok™ 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 Blok™ is recommended.

**FOR BRIDGING LARGE GAPS OR HOLES**

Place fiberglass sheet, expanded metal or mechanical fasteners between repair area and Dfense Blok™ prior to application.

**FOR VERTICAL SURFACE APPLICATIONS**

Dfense Blok™ 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 Blok™ 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 Blok™ 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 shortens functional cure and pot life.

**Storage:**

Store at room temperature, 70 °F.

**Compliances:**

None

**Chemical Resistance:**

*Chemical resistance is calculated with a 7 day, room temp. 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		

**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.

**Disclaimer:**

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representations or warranties of any kind concerning this data.

**Order Information:**

**11330 30 lb.**