Technical Data Sheet
Version 4. 04/2025

DFense Blok™

Description: Alumina ceramic bead-filled epoxy system with outstanding wear and abrasion resistance for severe service conditions.

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

Features: **Fast cure for minimal downtime, Superior wear and abrasion resistance, Able to withstand impact Resistant to a wide range of chemicals, Non-sagging**

Limitations: Suitability of product is determined by the end user for their application and process.

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 (24°C)	
Adhesive Tensile Shear	2,616 psi (18 MPa)
Coefficient of Thermal Expansion (x10-6)	29 in/in.°F (52.2 cm/cm.°C)
Color	Gray
Compressive Strength	7,145 psi (49 MPa)
Coverage (1/4" / 6.35mm)	50 in^2/lb (905 cm^2/Kg)
Cured Shrinkage	0.0005 in/in (0.0005 cm/cm)
Dielectric Constant	49
Flexural Strength	7,876 psi (54 MPa)
Hardness	77 Shore D
Recoat Time	2 to 3 hours
Specific Gravity	2.21
Temperature Resistance	Dry 300 °F (149°C) ; Wet 140°F (60°C)

Uncured Properties @ 72°F (23°C)	
% Solids by Volume	100
Full Cure	16 hrs
Functional Cure	4.5 hours @ 70°F (21°C)
Mix Ratio by Volume	2:1
Mix Ratio by Weight	100:45
Mixed Viscosity	Non-Sag Putty
Pot Life @ 75°F (24°C)	25 mins.

Standard Tests
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.

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 (0.076-0.127 mm), 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 40 ppm).

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 (13- 32°C). In cold working conditions, directly heat repair area to 100-110°F (38-43°C) 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"(6.4mm). 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 1/2" without sagging. If greater vertical thickness is desired, apply first layer at 1/2" (13 mm) wait until product is firm and heat of reaction dissipates, apply a second layer of 1/2"(13 mm). 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" (13 mm) to overhead surfaces. If greater thickness is desired apply first layer at 1/2" (13 mm), wait until product has firmed and heat of reaction dissipates, apply a second layer at 1/2". Repeat as necessary.

FOR ± 70°F (21°C) APPLICATIONS

Applying epoxy at temperatures below 70°F (21°C) lengthens functional cure and pot lifetimes. Conversely, applying above 70°F (21°C) shortens functional cure and pot life.

Storage: Store at room temperature, 70 °F (21°C)

Compliances: None

Chemical Resistance:

Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75°F (24°C)

1,1,1-Trichlorethane	Very good
Ammonia	Excellent
Benzene	Very good
Gasoline Unleaded	Fair
Hydrochloric 10%	Very good
Methanol	Poor
Methyl Ethyl Ketone	Poor
Methylene chloride	Poor

Nitric Acid 10%	Fair
Phosporic Acid 10%	Fair
Potassium Hydroxide 40%	Excellent
Sodium Hydroxide 10%	Very good
Sulfuric 10%	Very good
Toluene	Excellent
Trisodium Phosphate	Very good

Precautions: **FOR INDUSTRIAL USE ONLY:** Please refer to the appropriate **S**afety **D**ata **S**heet prior to using this product.

Warranty: ITW Performance Polymers 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.

Order Information:

Item No.	Package Size
11330	30 lb (13.6 kg)

Contacts:

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Disclaimer:

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