

# DIAMOND POLYMERS

## DP381 – TECHNICAL DATA QUICK SET EPOXY MORTAR

### PRODUCT DESCRIPTION:

DP381 is a two liquid component plus aggregate 100% solids epoxy mortar designed for applications where floors are subjected to moderate to severe chemical exposure.

### RECOMMENDED FOR:

Recommended for moderate to heavy traffic areas where applications may be necessary as low as 45 degrees F.

### NOT RECOMMENDED FOR:

Immersion applications for all acids and chemicals

### SOLIDS BY WEIGHT:

100%

### SOLIDS BY VOLUME:

100%

### VOLATILE ORGANIC CONTENT:

Zero pounds per gallon

### STANDARD COLORS:

Light gray, red, natural and dark gray

### RECOMMENDED FILM THICKNESS:

1/8" to 1/4"

### COVERAGE PER GALLON:

21.79 sq.ft. @ 1/4" and 43.58 sq.ft. @ 1/8"

### PACKAGING

### CUBIC FEET

unit (liquids only)

.194 (approx.)

Unit with aggregate (\*see below)

.454 (approx.)

\*UNIT = 8.75# part A, 4.3# part B. (The amount of aggregate recommended with a unit of liquids is 45.6#)

### MIX RATIO:

UNIT = 1.0 gallons part A to 0.50 gallons part B with 45.6# aggregate (volumes and weights approximate.)

### SHELF LIFE:

1 year in unopened containers

### ABRASION RESISTANCE:

excellent

### FLEXURAL STRENGTH:

8,300 psi @ ASTM D790

### COMPRESSIVE STRENGTH:

10,500 psi @ ASTM D695

### WEATHERING:

Good (chalks)

### VISCOSITY:

Mixed liquids = 500-1000 cps (typical)

### DOT CLASSIFICATIONS:

Part A "not regulated"

Part B "CORROSIVE LIQUID N.O.S., 8, UN11760, PGIII"

### TENSILE STRENGTH:

6,300 psi @ ASTM D638

### ULTIMATE ELONGATION:

3.1%

### IMPACT RESISTANCE:

excellent

### HARDNESS:

Shore D = 82

### CURE SCHEDULE:

pot life – (0.45 cu. Ft. mix)..... 20-30 minutes @ 70° F

recoat or topcoat..... 3-5 hours @ 70° F

light foot traffic..... 4-6 hours @ 70° F

full cure (heavy traffic)..... 2-5 days @ 70° F

### APPLICATION TEMPERATURE:

45-90 degrees F

### CHEMICAL RESISTANCE:

REAGENT	RATING
xylene	B
1, 1, 1 trichloroethane	B
MEK	A
methanol	A
ethyl alcohol	B
skydrol	C
10% sodium hydroxide	E
50% sodium hydroxide	E
10% sulfuric acid	D
70% sulfuric acid	B
10% HCl (aq)	C
5% acetic acid	C

Rating key: A - not recommended, B - 2 hour term splash spill, C - 8 hour term splash spill, D - 72 hour immersion, E - long term immersion. NOTE: extensive chemical resistance information is available through your sales representative.

### PRIMER:

None required

### TOPCOAT:

None required. For increased performance and reduced porosity, topcoat with DP094 or DP095

### LIMITATIONS:

- \* Color stability may be affected by environmental conditions such as high humidity, chemical exposure or lighting such as sodium vapor lights.
- \* Colors may vary from batch to batch due to variations in the silica filler.
- \* Mortar colors are not from our standard color chart.
- \* Substrate temperature must be 5° F above dew point.
- \* For chemical exposure areas, we recommend a suitable topcoat to reduce porosity and chemical migration.
- \* Product is not UV color stable.
- \* All new concrete must be cured for at least 30 days prior to application.
- \* See reverse side for application instructions.
- \* Test data based on neat resin.
- \* Physical properties are typical values and not specifications.
- \* See reverse side for limitations of our liability and warranty.

- 1) **PRODUCT STORAGE:** Store product in an area so as to bring the material to normal room temperature before using. Continuous storage should be above 55° F to prevent product crystallization.
- 2) **SURFACE PREPARATION:** All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble free bond to the substrate. We recommend that an aggressive shot blast be performed prior to the application of this product. A less adequate method would be acid etching, but the etch should properly profile the substrate. All edges and around columns or beams should be mechanically scarified. All termination points should not be feather edged, but should be saw cut with the termination ending at the sawcut. All large cracks should be V cut and filled with an appropriate crack filler. All expansion joints should be filled with an appropriate joint filler. When overlaying an expansion joint, a single saw cut through the epoxy overlay will prevent random fracturing. A test should be made to determine that the concrete is dry; this can be done by placing a 4'x4' plastic sheet on the substrate and taping down the edges. If after 24 hours, the substrate is still dry below the plastic sheet, then the substrate is dry enough to start coating. The plastic sheet testing is also a good method to determine if any hydrostatic pressure problems exist that may later cause disbonding.
- 3) **PRIMER:** No primer is necessary. This material is self priming. However, any suitable primer can be used.
- 4) **PRODUCT MIXING:** It is important that the liquids be mixed together first. Mix the liquids in an oversized container thoroughly and until streak free. After the liquids are thoroughly mixed, add in the aggregate. Mix in the aggregate with slow speed mixing equipment such as a jiffy mixer or rotating bucket/stationary mixing blade assembly. It is equally important that enough time is spent mixing in the aggregate to insure that the aggregate is thoroughly wetted out. No induction time is necessary. Improper mixing may result in product failure.
- 5) **PRODUCT APPLICATION:** Apply the mixed material at 1/8 to 1/4 inch thickness. Apply the material with a hand trowel or other suitable application equipment. Do not over-trowel the material as this may cause isolated blisters to form. Maintain temperatures within the recommended ranges during the application and curing process.
- 6) **RECOAT OR TOPCOATING:** No recoating or topcoating is necessary. However, if you opt to topcoat the applied mortar, allow it to cure before topcoating. Many epoxies and urethanes can be used. Contact your sales representative for suitable topcoat selections.
- 7) **CLEANUP:** Use xylol
- 8) **FLOOR CLEANING:** Caution! Some cleaners may affect the color of the floor installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.
- 9) **RESTRICTIONS:** Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured (see technical data under full cure). It is best to let the floor remain dry for the full cure cycle.

## **NOTICE TO BUYER: DISCLAIMER OF WARRANTIES AND LIMITATIONS ON OUR LIABILITY**

*We warrant that our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Listed physical properties are typical and should not be construed as specifications. **NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, REGARDING SUCH OTHER INFORMATION, THE DATA ON WHICH IT IS BASED, OR THE RESULTS YOU WILL OBTAIN FROM ITS USE. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, THAT OUR PRODUCT SHALL BE MERCHANTABLE OR THAT OUR PRODUCT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. NO WARRANTY IS MADE THAT THE USE OF SUCH INFORMATION OR OUR PRODUCT WILL NOT INFRINGE UPON ANY PATENT.** We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Our products contain chemicals that may **CAUSE SERIOUS PHYSICAL INJURY. BEFORE USING, READ THE MATERIAL SAFETY DATA SHEET AND FOLLOW ALL PRECAUTIONS TO PREVENT BODILY HARM.***