

# TECHNICAL DATA

## QUESTMARK 3181

### HIGH BUILD QUICK SET EPOXY COLOR COAT

#### PRODUCT DESCRIPTION:

3181 is a two component 100% (+/- 1%) solids colored epoxy coating designed for applications where a high build impact and chemical resistant floor is needed. 3181 has good low temperature cure capabilities down to as low as 45°F. However, 3181 only has fair color stability and should be topcoated with an aliphatic urethane when long term color stability is a requirement.

#### RECOMMENDED FOR:

Recommended for a high build topcoat on concrete or masonry. Product is suitable in many chemical exposure environments.

#### SOLIDS BY WEIGHT:

100% (+/- 1%)

#### SOLIDS BY VOLUME:

100% (+/- 1%)

#### VOLATILE ORGANIC CONTENT:

Nearly zero pounds per gallon

#### STANDARD COLORS:

Light gray, medium gray, tile red, and beige

#### RECOMMENDED FILM THICKNESS:

12-30 mils

#### COVERAGE PER GALLON:

53-130 square feet per gallon @ 12-30 mils

#### PACKAGING INFORMATION

3 gallon kit (2.9-3.0 gallons net approximately)

15 gallon kits (14-15 gallons net approximately)

#### MIX RATIO:

12 pounds (1 gallon) part A to 4.05 pounds (.50 gallons) part B (volumes approx.) (standard colors)

#### SHELF LIFE:

1 year in unopened containers

#### FLEXURAL STRENGTH:

7,400 psi @ ASTM D790

#### COMPRESSIVE STRENGTH:

10,000 psi @ ASTM D695

#### TENSILE STRENGTH:

5,800 psi @ ASTM D638

#### ADHESION:

440 psi @ elcometer (concrete failure, no delamination)

#### ULTIMATE ELONGATION:

3.2%

#### FINISH CHARACTERISTICS:

Gloss (>70 at 60 degrees @ Erichsen glossmeter)

#### HARDNESS:

Shore D= 70

#### GARDNER VARIABLE IMPACTOR:

50 inch pounds direct – passed

#### ABRASION RESISTANCE:

Taber abraser CS-17 calibrase wheel with 1000 gram total load and 500 cycles= 26 mg loss

#### VISCOSITY:

Mixed = 1000-2000 cps (typical, most colors)

#### DOT CLASSIFICATIONS:

Part A not regulated

Part B "CORROSIVE LIQUID N.O.S., 8, UN1760, PGIII"

#### CURE SCHEDULE: ( 70° F )

pot life – 1 1/2 gallon volumes .....16-26 minutes  
tack free (dry to touch).....3.5- 5.5 hours  
recoat or topcoat..... 6-8 hours  
light foot traffic.....6-12 hours  
full cure (heavy traffic).....2-5 days

#### APPLICATION TEMPERATURE:

45-90 degrees F with relative humidity below 85%

#### CHEMICAL RESISTANCE:

REAGENT	RATING
xylene	B
trichloroethylene	B
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:

Recommended 1015, 1144, 1154 or other suitable primer coats.

#### TOPCOAT:

Optional: 1321/8324 aliphatic urethanes can be used for increased chemical resistance or increased UV stability.

#### LIMITATIONS:

- \*Color or gloss may be affected by environmental conditions like humidity, temperatures, chemicals or lighting such as sodium vapor lights.
- \*Colors may vary from batch to batch. Therefore, use only product from the same batch for an entire job.
- \*Because of the short pot life and dry time, attention should be given to the trim work and tie-in areas to keep a wet edge so as to avoid roller marks, differences in color or shading problems.
- \*This product is not UV color stable.
- \*Light or bright colors may require a suitable primer or topcoat to achieve a satisfactory hide.
- \*Substrate temperature must be 5°F above dew point.
- \*All new concrete must be cured for at least 30 days prior to application.
- \*Apply a suitable primer before using this product.
- \*See reverse side for application instructions.
- \*Physical properties are typical values and not specifications.
- \*See reverse side for limitations of our liability and warranty.

# MIXING AND APPLICATION INSTRUCTIONS

- 1) **PRODUCT STORAGE:** Store product at normal room temperature. Continuous storage should be between 60 and 90 degrees F. Low temperatures or temperature fluctuations may cause product crystallization.
- 2) **SURFACE PREPARATION:** The most suitable surface preparation would be a fine brush blast (shot blast) to remove all laitance and provide a suitable profile. All dirt, foreign contaminants, oil and laitance must be removed to assure a trouble free bond to the substrate. A test should be made to determine that the concrete is dry; this can be done by placing a 4' X 4' 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.
- 3) **PRODUCT MIXING:** This product has a mix ratio of 12# part A to 4.05# part B or two parts A to one part B by volume for standard colors. Standard packages are in pre-measured kits and should be mixed as supplied in the kit. We highly recommend that the kits not be broken down unless suitable weighing equipment is available. After the two parts are combined, mix well with slow speed mixing equipment such as a jiffy mixer until the material is thoroughly mixed and streak free. After mixing, transfer the mixed material to another pail (the transfer pail) and again remix. The material in the transfer pail is now ready to be applied on the primed substrate. Because of the short pot life, mix only an amount that can be used in the prescribed pot life as stated in the cure schedule section. Improper mixing may result in product failure.
- 4) **PRIMING:** A suitable primer should be used before applying this product. See the front side of this technical data for primer information. If a primer is not used, more porous substrates may cause outgassing and possible surface defects.
- 5) **PRODUCT APPLICATION:** The mixed material can be applied by brush or roller. However, the material can also be applied by a suitable serrated squeegee and then back rolled as long as the appropriate thickness recommendations are maintained. Maintain temperatures and relative humidity within the recommended ranges during the application and curing process. If concrete conditions or over aggressive mixing causes air entrapment, then an air release roller tool should be used prior to the coating tacking off to remove the air entrapped in the coating. Always maintain a wet edge to avoid different color shading.
- 6) **RECOAT OR TOPCOATING:** If you opt to recoat or topcoat this product, you must first be sure that the coating has tacked off before recoating. However, all previous coats should be deglossed to insure a trouble free bond prior to application of recoats or topcoats. Colder temperatures will require more cure time for the product before recoating or topcoating can commence. Before recoating or topcoating, check for epoxy blushes (a whitish, greasy film, or deglossing). If a blush is present, it can be removed by any standard detergent cleaner prior to topcoating or recoating. Many epoxy coatings and urethanes as well as multiple coats of this product are compatible for use as a topcoat.
- 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.***

REVISED MARCH 2004