

## TECHNICAL DATA SHEET

### Water-Based Clear Polyurethane Gloss & Satin 3:1 Ratio

#### DESCRIPTION

Water-Based Clear Polyurethane Gloss and Satin are both a 2 component 57% solids, water based acrylic polyurethane designed as a non-yellowing clear coating for concrete, cement based overlays, or as a top finish coat on epoxy systems. The high performance clear top coat, available in gloss or satin finish, provides the durability of a solvent base system with the ease and safety of a low VOC (73 g/L) water base system. Unlike nearly all polyurethanes, Water-Based Clear Polyurethane has remarkable properties related to vapor permeability that permit its use in an exterior setting. Generating the premier balance of strength, added UV stability, flexibility, chemical and scratch resistance, it is both user-friendly and extremely durable.

Water-Based Clear Polyurethane is ideally suited for a durable top-coat over an epoxy flake floor or any high traffic area where an exceedingly resilient floor is desired.

#### SURFACE PREP

The principles for surface preparation for Water-Based Clear Polyurethane are aligned with other coating systems placed on concrete or cement based overlays, the substrate must be:

- 1. Clean:** The surface must be free of dust, dirt, oil, grease, paints, glues, sealers, curing agents, efflorescence, chemical contaminants, rust, algae, mildew and other foreign matter that may serve as a bond breaker or prevent proper adhesion. To remove coatings, paint, sealers, glue from concrete, etc. best results are achieved through diamond grinding or shot blasting.
- 2. Cured:** Any concrete must be sufficiently cured to have complete hydration, approximately 28 days depending on temperatures & humidity. Cement based overlays typically cure sufficiently within 2 – 3 days.
- 3. Sound:** No system should be placed on flaking or spalling concrete or cement based overlay. If the surface is delaminating, or divots are present, diamond grinding, shot blasting, or other mechanical means should be used to remove the delaminating areas.

Depending upon size of area, patching may be required prior to application of Water-Based Clear Polyurethane.

## QUICK FACTS

#### PACKAGING

1 gal. (3.8 liter) kit  
1 gal. Part A - short filled can  
(3 qt. / 2.8 liter)  
1 qt. Part B (.9 liter) can

#### MIXING RATIO

3:1 (3 part A to 1 part B)

#### COVERAGE

Varies upon substrate:  
approximately 300 - 400 ft<sup>2</sup> per gal.  
(28 - 37m<sup>2</sup> per 3.8 liter)  
4 - 5.3 mils wet; 2 - 3 mils cured

#### SHELF LIFE

Under normal, moisture free conditions 12 months for unopened container. Do not allow to freeze.



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As a thin mil coating, it will never bridge construction joints in concrete. Large expansive slabs should have planned appropriate flexible caulks to allow for movement. Cracks in concrete may likewise require treatment; evaluate crack as static or structural to set expectation of treatment.

**4. Limit Moisture:** Although Water-Based Flake Floor Epoxy has a high vapor transmission rate up to 13 pounds per 1,000 ft<sup>2</sup>, and the Water-Based Clear Polyurethane is vapor permeable, due to the uncertainty of vapor barriers placed beneath concrete, testing prior to application of epoxy and flakes is appropriate to determine if too much moisture is present.

**a. Plastic sheet test (ASTM-D-4263)** can often identify excessive moisture vapor transmission. Tape all 4 sides of an 18" (45 cm) square of clear plastic to the slab and leave in place for 16 hours. Any condensation formed or darkening of the slab beneath the plastic may indicate the surface is too wet for polyurethane.

**b. Calcium Chloride test (ASTM-F-1869)** will quantify the amount of moisture that is transmitted to surface of the slab. The moisture measurement is expressed in terms of pounds (kg) per 1,000 ft<sup>2</sup> (m<sup>2</sup>) per 24 hours. Measurements that are in excess of 8 pounds per 1,000 ft<sup>2</sup> (3.9 kg per 100 m<sup>2</sup>) over 24 hours are too wet for polyurethane. Follow directions of test kit manufacturer.

**Note:** these observations and measurements may be inherently flawed as they are "snapshots in time". These tests serve only as guidelines.

## TEMPERATURE/CURE

Avoid application on extremely hot days or during wet, foggy weather. Basic rules include:

- Apply in ambient and surface temperatures ranging above 50°F (10°C) and below 90°F (32°C) and that will remain within these ranges for at least 12 hours.
- Surface temperature must be a minimum 5°F (3°C) above dew point.
- Relative humidity should be below 75%.

Cure Rates at 77°F (25°C)      Cure Rates at 50°F (10°C)

Dry to touch = 6 to 8 hours      Dry to touch = 18+ hours

Light traffic = 24 hours      Light traffic = 48 hours

Heavy Traffic = 3 days      Heavy Traffic = 5 days

Full cure = 5 to 7 days      Full cure = 14 days

## MIXING & APPLICATION

### PLANNING

1. Select appropriate PPE (personal protection equipment). Provide adequate ventilation. Refer to SDS.

2. Work across the narrowest dimension of an area where practical. Work to an exit from wet product.

3. To track coverage rate for each kit, after establishing room dimensions, before mixing commences, place a short piece of masking tape on the wall to correspond to the "distance" one premeasured kit should cover.

4. Mask all areas requiring protection; product will stick to just about everything.

### MIXING

1. Organize mixing station that neither has to relocate, nor block the progress of application. Staging is critical so that Part A and part B are not confused with one another or mixed too far in advance. Once A and B are mixed, the catalyzed product should be placed on the floor immediately. If left in the pail too long, product will cure at an accelerated rate, rendering it useless.

2. Pour 1 part B into 3 parts A. Note that kits are premeasured for convenience. Exercise care to avoid pouring product down the sides of the pail, as this will be difficult to mix.

3. Mechanically mix both parts A and B with a paint paddle mixer for a drill for 3 minutes at medium speed. Use the drill at medium speed will help prevent air entraining.

4. We do not recommend thinning.

### FIRST COAT

1. Spiked shoes are NOT required throughout application but may assist to ensure a clean top coat when backrolling.

2. Select applicator (product designed to be rolled, never atomize product through spraying)

a. As a thin mil system, most commonly a roller ranging in nap size from mohair to 3/8" (9.5 mm) is appropriate.

b. Rollers should be premium quality with phenolic core.

c. "De-fuzz" roller by wrapping tightly with masking tape and removing tape.

d. Large areas may require 18" (46 cm) rollers.

3. Cut in by brush areas adjacent to walls.

4. Pour contents completely out in a fairly long trail for application. Any unused portion left in the pail can cure at an accelerated rate rendering it useless.

5. Do not leave pail upside down to drain onto floor. Any unmixed portion of A or B that may have accidentally been placed onto side of pail can now drain down onto the floor, creating a spot that will not cure.

6. Roll product in an area that can comfortably be covered with the material on a wet roller. Before the roller begins to dry out, become tacky and "pull", backroll the same area. Thin coats are imperative.

Maintain a wet edge between the two areas. Large expansive areas will require sufficient manpower and / or appropriately sized rollers to accomplish the wet edge. To illustrate: an area that has dried for 30 minutes will "pull" on the roller as wet product is applied next to it, leaving an unsatisfactory finish. Roller covers will require replacing if pulling or tackiness is observed. Areas of overlap must be wet on wet.

7. Work in pairs. One person applies product over entire area as described above. Second person backrolls what has just been applied with a dry roller. Work around the project together.

8. Backrolling: After achieving the appropriate coverage, begin progressively backrolling. Roller covers may require replacing periodically to prevent catalyzed product from setting up on roller cover or contaminating more freshly placed material.

Note: First coat may "stand alone" as a single coat depending upon application selected, or applicator and personal choice.

Clean out or replace mixing pails, mixer blades, and roller covers in a reasonable fashion, so that the chemistry of A and B remain consistent, especially over large projects.

**SECOND COAT**

Do NOT allow the first coat to cure beyond 24 hours before applying the second coat!

If first coat has cured dry to the touch and is no longer tacky (refer to cure rates listed as a guide) repeat all steps of application listed. Planning, masking, mixing and handling, and application are identical in second coat.

**CLEAN-UP**

Before the polyurethane dries, clean spills and tools with a soap and water mixture.

**DISPOSAL**

Contact your local government household hazardous waste coordinator for information on disposal of unused product. Upon curing, left over catalyzed product is not hazardous.

**WARRANTY**

Warranty of this product, when used according to the directions, is limited to refund of purchase price, or replacement of product (if defective), at manufacturer's or seller's option. WiseBond, The Ipe Clip Fastener Company LLC shall not be liable for cost of labor or direct and/or incidental consequential damages.

**CAUTIONS**

**KEEP OUT OF REACH OF CHILDREN.** Keep areas ventilated to prevent the accumulation of vapors. Inhalation: Recommend NIOSH approved respirator. Skin Contact: Skin contact may cause irritation. Remove contaminated clothing and wash affected skin with soap and water. Launder clothing before reuse. If symptoms persist, seek medical attention. Eyes: Wear safety eye protection when applying. If contact occurs, flush eyes with water for 15 minutes, seek medical attention.

**LIMITATIONS**

- Read the complete SDS prior to application.
- When masking use caution while taping to a floor that is not completely cured, especially at edges, as delamination may occur.
- Protect from metal wheel traffic and some furniture where point of contact may be damaging.
- Chemicals used in tire manufacturing may be detrimental to all sealers from vehicular parking.

**PROPERTIES**

Appearance (cured)	Gloss or matte sheen
Appearance (wet)	Milky liquid
Water Resistance	Excellent, beads water
Mechanical Stability	Excellent
Light Stability	Excellent
Solids	57%
Storage Stability	1 year
Odor	Sweet acrylic
Application Temperature	50°F – 90°F (10°C - 32°C)
VOC content	72 g/L
Set to touch	6 – 8 hours
Pot life approximately	30 minutes

**CHEMICAL RESISTANCE**

<b>24 hours</b>	
MEK (methyl ethyl ketone)	blisters
Xylene	softens
Mineral Spirits	no effect
Ethanol	softens
1,1- trichloroethane	no effect
5% sodium hydroxide	no effect
5% sulfuric acid	no effect
5% hydrochloric acid	no effect
5% nitric acid	no effect
5% ammonia	no effect

**FUELS & FLUIDS**

<b>24 hours</b>	
Gasoline	no effect
Diesel Fuel	no effect
Kerosene	no effect
Brake Fluid	softens / discolors
Skydrol	dulls