APPLICATION INSTRUCTIONS PUMA-CRETE®

ROLLER-APPLIED COATINGS 106, 107, 108

IMPORTANT GENERAL RULES

- ✓ **Re-coating-24 hour window:** you will obtain a chemical bond. **Note:** *If you miss the 24 hr window before re-coating, next coat shall require a "mechanical bond"; sanding/grinding/abrading the surface.*
- ✓ **Cold Temps: material/air/floor** (<70F) shall thicken the resins and retard the curing. It may also require addition of proper thinner to achieve proper spread rate.
  Minimum Temps: 106 pumaLAC: 55 deg F **107 pumaPOXY**: 55 deg F **108 pumaSPARTIC**: 35 deg F
- ✓ **Warmer Temps: material/floor** (>80F), warm temps shall thin the resins, and accelerate cure. addition of proper thinner shall ***slow the cure***.
- ✓ **Damp:** coatings cannot be applied over damp concrete (will not bond to damp surface).
- ✓ **New Concrete: 28 day** cure required for new concrete. (Low water content concrete mixes shall reduce the duration).
- ✓ **Water spilled on coating (before fully cured hard):** it will be stained whitish haze. Full chemical cure is 7 days.
- ✓ **Sand Between coats:** (*for multi coat, smooth floors):* sand the floor prior to re-coating (*removes small high spots and nubs).* Use 60 grit sandpaper or 25 grit diamabrush.
- ✓ **CHECK LOT NUMBERS of RESINS (part A) and tint for final coat (Top coats)**
  (they must be same, or u must box the material to prevent different colors on the floor)
- ✓ **ALWAYS CHECK 1st/2nd Mix Coverage** and ½ way point, to ensure you are getting the coverage.
- ✓ **USE BLUE TAPE on coatings and wall surfaces, to prevent damage from adhesive.**

CRACKS and JOINTS

IDENTIFICATION of JOINTS/CRACKS: *(from narrow to widest)*

Cracks (non-straight): **>1/16" structural** (*moving crack*)
< 1/16" hairline *(static, non moving)*
Control Joint: **<1/4 "wide** *(saw cut straight lines, into new concrete)*
Typically cut into new slabs at 1/8" wide, and eventually widen to ¼" over time.
Expansion Joint: **>1/4" wide** (designed for high movement)...*diamonds around columns, formed joints, isolation joints-- to accommodate a lot of movement/vibration.*

PRE-FILLING CRACKS and ¼" wide CONTROL JOINTS **115 pumaFLEX** (1 R:1H)
(older slabs, where all movement in sawcut joints has ceased)

115 pumaFLEX is a liquid which cures to a flexible, rubber like consistency. When mixed neat, it is flowable. The addition of 1 to 1.5 parts Solka Floc powder shall modify mix to a paste, which can be applied into cracks with a putty knife, without flow or sinking.

PRE-PATCHING SMALL HOLES AND SKIM COAT OF SMALL SHALLOW ROUGH AREAS **117 pumaCOVE** (3R:1H)
117 pumaCOVE is simply a thickened epoxy which cures to a durable, hard finish. It is suitable for pre-filling small holes up to 1" diameter, and rough concrete (less than 1/8" thickness). Spread with putty knife or flat steel trowel.

PRE-PATCHING DEEP HOLES (over ½") and very ROUGH AREAS with exposed stones

RAPID SET brand products **May be Used for all-around PRE-FILLING, PATCHING, SLOPING**

25 LB bag/box, or 55 lb. bags (stocked at Home Depot).

Blue (Cement-All) *9000 psi ultimate strength*. May be used for holes and skim coats, from zero to 2" thickness

We recommend priming areas with latex concrete bonding agent (by quikrete or sika)for any area less than ¼".

FOR DEEPER/THICKER AREAS:

Rapid Set- Brown:	> ½ inch	*Use for vertical* or flat surface	*Med size aggregate*	7000 psi
Rapid Set- Green:	> 2 inch	Use for deep areas	*Stone aggregate*	*5000 psi*

APPLICATION Cement-All *****USE OVER BARE CONCRETE ONLY*****

1. Dampen bare concrete surface (use sprayer, spray bottle or masonry brush) Saturated, Surface Dry -- *NO PUDDLES*
   (Apply primer coat of latex concrete bonding agent, if less than ¼ inch thickness)
2. Mix 4 parts Cement-All to 1 part cold water.
3. Screed and trowel finish smooth. (Puma-Crete floors/coatings shall adhere to cured material, without abrading/profiling)
4. Over 1/4 inch thickness , you must spray with cool water while it is curing, to keep material cool and prevent cracking.

CURE - *30-60 min at 70 deg F.* ***Surface will lighten in color as it dries.***

STEP by STEP COATING APPLICATION INSTRUCTIONS

Breaks, stoppage and slowdowns during the middle of the pour will affect final results. Bathroom breaks should be prohibited during the pour, and once started, work should continue at steady and rapid pace, until the section is completed.

1) **PLAN OUT EACH SECTION FOR THE POUR**: Plan an "exit strategy" where the workers will exit the floor and clean their tools, and exit the building.
- Tape edges of the floor only as needed. Coatings will tend to "bleed" under edge of most tape, especially if not removed as soon as coating up to it.
- "Cut-In" edges with brush or roller whenever possible, to prevent "bleed thru" on edges.
- Cover drains/cleanouts and anything that needs to be protected from dripping material.
- Protect walls with painters plastic as needed.

2) **RATIO:** ***Always check labels on containers for proper ratio.***

3) **COVERAGE:**
Primer coat: 160-200 sf/gal
Topcoat (over sand broadcast): 125-150 sf/gal. **Intermediate or Top Coat (over primer):** 160-200 sf/gal
This product may be thinned with up to 10% acetone, in order to increase working time, and achieve additional coverage. *Do not apply over 200 sq ft per gal since it can cause "fisheye" and "pinhole" defects.*

Higher coverage rates over a sand finish: *this will result in rougher profile/texture. e.g.- the thinner the material, and the further the material is "stretched" on the floor, the rougher the texture. 125 sq ft per gal is generally very easy to achieve over a sand finish. However, to achieve a rough non-slip (140 to 150 sq ft/gal), materials and substrate must be warm, 10% acetone thinner added. Materials may be poured out in "ribbon" across the floor, then rolled out completely until rollers are dry. Then pour out next mix in a ribbon approximately 2 ft from the wet edge of the fresh material (onto the dry floor). This enables the applicator to achieve a rough, non-slip texture for wet areas with oil or grease spillage.*

4) **TINT/pumaCOLOR /GIS pigment:** 106 pumaLAC, 107 pumaPOXY, 108 pumaSPARTIC .
RESIN (A) is typically un-tinted. pre-mix the tint before use, and ensure that all tint has the same batch number *(or batches must be boxed together). This shall prevent batch to batch color variation.*
Steel gray or darker: 8 oz liquid tint per gallon of liquids.
Light colors: 12 oz liquid tint per gallon of liquids.

5) THINNER: pumaLAC 106 and pumaPOXY 107 PRODUCTS ONLY !
Up to 10% acetone (by volume) may be added for thinning and extending working time. Always use as little

as necessary, since thinner may reduce stain resistance, chemical resistance, and increase cure time. (**note:** 108 pumaSPARTIC requires a special thinner. Contact pumaCRETE tech support for more information).

6) MIXING:

- ✓ Add hardener to the pail first (or part B). Do not spill or scrape off any liquids onto walls of pail **(or may not cure).**
- ✓ Use Spiral shaped paint mixer paddle for mixing liquids.
- ✓ Mix coatings at medium speed with variable speed ½"drill or mud mixer, for **1 to 2 minutes.**

BATCH SIZE:

CUT-IN MIXES: typically use approx 1 pint for cutting in edges, around door frames, corners, edges

CUT-IN MIX RECIPES

3R:1H 107 pumaPOXY	12 oz RESIN + 4 oz HRDNR + 1 oz TINT (6%) + optional 10% acetone (2 oz)
2R:1H 106 pumaLAC	12 oz RESIN + 6 oz HRDNR + 1 oz (6%) TINT + optional 5% acetone (1 oz)
1R:1H 108 pumaSPARTIC	8 oz RESIN + 8 oz HRDNR + 1 oz (6%) TINT + optional SPARTIC EXENDER (2 oz)

FLOOR MIXES: typically make ¾ to 1 gal mixes. requires minimum 2 men. 3 shall be easier to maintain a "wet edge" and finish roll. *(you can dbl this, if you have 3 experienced workers.)*

FLOOR MIX RECIPES

3R:1H 107 pumaPOXY	3 qt RESIN + 1 qt HARDENER + 8 oz TINT + optional 10% acetone
2R:1H 106 pumaLAC	2 qt RESIN + 1 qt HARDENER + 6 oz TINT + optional 5% acetone
1R:1H 108 pumaSPARTIC	2 qt RESIN + 2 qt HARDENER + 4 oz TINT + optional SPARTIC EXENDER (5-10%)

Pour the part RESIN (A) into five gallon pail or your mixer bucket. Scrape the thick remaining resin out of pail using paint stick or paint spatula *(do not wipe off the scraper on inside of the mixing pail).*
-Add tint (if applicable).
-Add proper thinner (if applicable) 106, 107 ONLY---may add up to **10% acetone** maximum.

6) **APPLICATION:**

IT IS RECOMMENDED THAT AT LEAST 1 ROLLER WEAR SPIKE SHOES DURING THE APPLICATION.

Pour/apply all of the material in the pail onto the floor, immediately after it is completely mixed. Pour material out of the bucket in a 6-8 inch wide ribbon, across the floor.

SQUEEGEE SPREADING: Spread material using a 18 inch black (Unger brand or equal) squeegee on a pole. Using 18" and 9" paint rollers (3/8" nap), first "wet out" your roller covers in the puddle. Next, roll out the material that has been spread with the squeegee, evenly and until uniform.

Pour new batch along edge of previous batch, keeping a "wet edge". ***Do not roll into the bead/puddle of material***.

ROLLER SPREADING: If you prefer to apply only with rollers, after the bead of material is poured, roll out the material until it is even and uniform

BACKROLLING:. Once the material has been applied, a roller must cross-roll the material. This final roll will even out any roller lines, drips, uneven areas. The backroller must be just behind the main rollers.

7) **OPTONAL BROADCASTING SILICA (into primer coat)** Using a handheld rotary spreader (or throw by hand), broadcast a light, even layer of silica, to rejection, into the wet primer. Floor must be rolled and leveled prior to sanding. For smaller areas, you may hand broadcast "chicken feed" from 1-2 gal pail. Broadcast from the side of the floor, or wearing spikes walking in the wet floor. *(note: If you broadcast from the "working edge", the finish may be damaged due to uneven sand dispersion.)*

Continue to broadcast until no wet areas remain.

For large areas (>1000 sf)- *you may use a powered battery or 110v broadcaster.)* In general, wait 5-10 minutes after floor is "settled", to broadcast silica. (do not wait more than 10 minutes, or material may not accept/absorb the silica, resulting in a "bald spot" in finished floor.

8) POST FLOOR - JOINT TREATMENT

1. Re-Cut or clean out the joint using an 1/8" wide segmented diamond blade.
2. ***OPTIONAL:*** fill bottom of joints with foam backer rod or sand. *(required only if using SL version without a SolkaFloc thickener)*
3. Tape off edges of joint with blue tape.

4. Fill with appropriate joint filler (non sag paste, or SL self leveling)

CONTROL JOINTS (< ¼" wide, *newer slabs*):

115 pumaFLEX SL 1R:1H ratio tint: 8 oz/gal
Sikaflex 2c (NS non sag).

EXPANSION JOINTS (**> ¼" wide**)

Sikaflex 2c (NS non sag, or SL self leveling). Neutral tint base, with
Limestone (concrete gray) pigment pack.

MIXING/APPLICATION of FLEXIBLE JOINT FILLERS

COVERAGE*:* 200 lf/gal 1/4wide x 3/8 inch deep (theoretical)

115 pumaFLEX SL Flexible Epoxy Sealant (2 gal unit)

SUPPLIES: Mix and Measure pails, spiral paint mixer, blue tape, 2" flexible putty knifes, rags, acetone.
RATIO: 1R: 1H (resin is standard clear)
MIXING: 1 qt RESIN, 1 qt HARDENER, 1 to 1.5 qts SollaFloc powder…….mix for 2 minutes.
APPLY: Use 2" flexible putty knife to apply into joints. Pull tape before material dries.

SIKAFLEX 2C (NS = non sag) (SL=Self Leveling) Polyurethane Sealant 1.5 gal unit

SUPPLIES: Mix and Measure pails, spiral paint mixer, blue tape, 2" flexible putty knifes, rags, acetone.
RATIO: 3R: 1H (resin is in the pail, hardener is in the silver bag) Resin is pre-tinted Limestone color
BACKER ROD: Not required with NS (non sag) version of product. *SL version requires backer rod or thickener.*
MIXING: (NS version): Remove silver hardener pouch, plastic, and pre-mix the resin (bottom of pail).
(SL version): You may add SolkaFloc powder as needed, to thicken to a paste.
Proportion 3 parts resin to 1 part hardener, mix for 2 minutes.
APPLY: Use 2" flexible putty knife to apply into joints. Pull tape before material dries.

9) **CLEANUP**: For cleaning any application, equipment, use acetone.

10) **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.

11) **RESTRICTIONS**: Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured. It is best to let the floor remain dry 12-18 hours prior to light foot traffic. (See ***Puma-Crete Cleaning Instructions*** for more information).

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

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