

# **NEW GENERATION 100<sup>®</sup>**

## **Heavy Duty Industrial Epoxy Resurfacing System**

### **PRODUCT DESCRIPTION:**

New Generation 100 is a 2-part, heavy-duty, 100% solids, epoxy-based liquid resurfacing system. New Generation 100 is not a seal. It is a coating to be used when concrete floors require major renovation or overhaul.

### **OUTPERFORMS OLD STYLE EPOXIES:**

Contractors that Field Tested New Generation 100 notes its advanced technology compared to old style epoxies. Contractors were specifically impressed with New Generation 100's low viscosity, which makes it easier to apply.

### **PROVIDES TREMENDOUS LABOR SAVINGS:**

100% solids! No water! No solvents! No evaporation! Everything you buy goes on the floor and stays on the floor! Tremendous labor savings! One coat of New Generation 100 can give the same thickness and even more durability than 5, 10 or even 20 coats of solvent-based urethane or water-based product.

Traditional solvent-based products are labor intensive. They must be put down in relatively thin coats to allow the carrier solvents to escape from the coating and permit thorough drying. When put down too thick, the coating may stay gummy, haze or turn white. Since the "drying" or curing of New Generation 100 is totally a chemical reaction, no solvent needs to escape and the product can be put down as thick as needed: 16 to 40 mils (40 thousandths of an inch) can be rolled or squeegeed on, and holes, pits and surface defects up to 12 inches deep can be filled and repaired, all in one coat.

In fact, since the curing reaction gives off a small amount of heat and cure time is accelerated with increasing temperature, thicker coats will cure faster than thin coats! The thicker the coat, the faster the cure time.

### **EXCELLENT MOISTURE RESISTANCE:**

New Generation 100 has excellent moisture resistance. The fresh coating will not "blush" or cloud even when applied at very high humidity.

**TOUGH!**

New Generation 100 is extremely durable and will withstand years of traffic. In fact, it can only be removed by the most aggressive shot-blasting. New Generation 100 eliminates surface dusting -- resists grease, oil and other damaging soils.

**HIGH FLEX AND EASY TO CLEAN:**

Impact resistant, New Generation 100 produces a flexible film that will not shatter or crack. Concrete floors coated with New Generation 100 can be easily maintained with one of Spartan's All Purpose Cleaners.

**HIGH GLOSS, GLAZE-LIKE TOPPING!**

Just one coat of New Generation 100 turns dull, ugly, deteriorated concrete into an extremely attractive, high gloss, clear, laminated coating. Put down a small demonstration patch and your customer will want it applied everywhere.

**ZERO VOCs!**

New Generation 100 contains no VOCs (Volatile Organic Compounds).

**WHERE TO USE:**

- On rough industrial floors to produce a smooth, seamless, easy to clean, high gloss durable surface.
- On old, worn floors to fill small holes, pits, cracks, spalls and other surface defects.
- On high cost repair jobs where extending or "bulking" the New Generation 100 with aggregate fillers such as sand, alumina, small pebbles, marble chips, etc. will reduce costs. (Use up to 4-5 volumes of filler per volume of New Generation 100.)
- On shot-blasted floors to smooth and even.
- In VOC or acid restricted areas.
- On heavy traffic or chemical exposure areas.

**SIZE UP THE JOB:**

After the customer has had time to evaluate the performance of the test patch, you can get serious about that mega-application. Follow the steps below as you fill out the Spartan Job Qualifying Form.

**STEP 1: EVALUATE CONDITION OF FLOOR:**

- Walk the floor with the customer. Take a quart bottle of Concrete Prep with a squirt top.
- Is a seal present?
- Does Concrete Prep fizz, indicating worn, or no seal?
- Is there an acrylic seal, curing membrane or paint that can be removed with a wire brush or Nylogrit pad and stripper?
- Is it worn enough to allow removal with a wire brush pad and Concrete Prep?
- Is it an old flaking urethane that can be removed with a Flo-Pac Scrape-Away™?
- Does the customer want to coat over existing seal? This is possible if the seal has good adhesion and is compatible with New Generation 100. The only safe way to tell this is to do the duct tape test<sup>1</sup>. Most acrylics and water-based urethanes are not compatible; most epoxies and moisture-cured (solvent) urethanes are. Watch for

poor adhesion of old moisture-cured urethanes on unprimed concrete. Screen the old coating to improve intercoat adhesion. Check compatibility with a test patch.

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<sup>1</sup>The Duct Tape Test -- Use a 12" strip of high quality duct tape. Press down about 8" of the strip on the area to be tested. Rub with very firm finger pressure 10 times in both directions. Pull off rapidly as close to an angle of 180° as possible. Coating on the tape indicates poor adhesion. Do not top coat. Refer to ASTM D-3359 for full description of standard test method.

- Is the upper layer of concrete sound?
- Is the aggregate sound?
- Should the building (job) be abandoned? Your success depends upon reaching sound concrete or sound concrete/aggregate, if that is not possible, **WALK AWAY**.

### STEP 2: DETERMINE AMOUNT OF MATERIAL REQUIRED:

- Obtain the number of square feet to be coated and then obtain from customer's spec (or estimate) the required mil thickness<sup>2</sup>. Many architects and building designers have a coating specification in mind. Specs of 16 mils (100 sq. ft./gal.), 20 mils (80 sq. ft./gal.) or more in a heavy industrial setting are normal.

$$\text{mils} = \frac{1604 \times \text{solids}}{\text{coverage in sq. ft./gal.}} \quad \text{OR} \quad \text{coverage} = \frac{1604 \times \text{solids}}{\text{mils}}$$

- A badly worn floor may need 40 mils (40 sq. ft./gal.) to get a smooth, even floor.
- A shot-blasted floor will generally require more material than an etched floor.
- A primed floor will take less New Generation 100 than an unprimed floor. Normally one coat of New Generation 40 or New Generation 50 is recommended as a primer.
- Calculate the cost of the materials: SC-200 (for cleaning and degreasing), Concrete Prep (if not shot blasting), equipment rental (if self-shot blasting), contractor (if hiring a shot blaster), application tools, Xylene (for spot cleaning), New Generation 40 or 50 (if priming) and New Generation 100.

### STEP 3: WORK OUT TIME FRAME FOR JOB:

- Some shot-blasters can do 1000 sq. ft./hour; most will do less. The New Generation 100 application can directly follow.
- If etching, allow for that operation, plus dry time. Floor must be completely dry before applying New Generation 100.
- If priming, allow time for that, plus dry time. Primer must be completely dry before applying New Generation 100.

<sup>2</sup>A "mil" is one one-thousandth (1/1000) of an inch. It is used by coating specialists and architects to measure specific thicknesses. Refer to the coverage table near the end of this bulletin, or use the formula.

- In the application of New Generation 100, three people with squeegees and one with a mixer can easily get down 1000 sq. ft./hr. To this add the dry time of the New Generation 100. Remember that thin coats will take slightly longer to dry than thicker coats. Also remember that cooler temperatures will slow the cures.

**DIRECTIONS FOR USE:****Prepare Floor:**

Test for moisture by ASTM D-4263 (Plastic Sheet Method) at 30 days. On new floors, begin testing at 30 days. **DO NOT COAT UNTIL ALL MOISTURE IS GONE.**

1. Remove loose crumbling concrete, oil, grease, wax, curing membranes, laitance and incompatible seals. Clean and degrease floor with Spartan SC-200. Rinse well.
2. Following directions, prep floor with Spartan Concrete Prep or shot blast to a texture at least as rough as 100 grit sandpaper.
3. Allow floor to dry completely.
4. Unremoved, compatible coatings in good condition, including freshly applied New Generation 40 or 50, should be abraded with a 100 grit screen if allowed to cure more than 24 hours.

**Patch and Repair:**

Prefill static cracks, holes, badly spalled areas and anchor bolt installations with New Generation Epoxy Patch & Repair Kit **OR** with patching mortar made from New Generation 100 and sand or other filler material. Refer to "Concrete Repair: Making Mortar" Informative Bulletin. Do not fill in expansion joints.

**APPLY NEW GENERATION 100:**

1. Put on gloves and eye protection before opening container.
2. Use a lid puller or cut slots to open.
3. Cut crosswise through bottom of top liner with long knife. Slowly withdraw liner as Part B, (tan curing agent) drains into Part A (base pail). Use a spatula to scrape all curing agent into pail.
4. Using a Jiffy® Mixer or larger propeller-type mixer, mix at medium speed for 5 minutes. Use a timer. Move mixer from upper portion to bottom and around sides to insure a complete mix. Under-mixing will result in soft spots which may never cure. AVOID mixing in air bubbles.
5. Add filler (such as sand, decorative chips, etc.) if desired and mix until all filler is completely wetted (2-3 minutes). Transfer contents to clean dry pail to check for complete mixing. To improve skid-resistance, broadcast #12-16 alumina at 2-5 lbs./100 sq. ft. Backroll until uniform. Refer to informative bulletin: "Skid-Resistant Surfaces Using New Generation 100".
6. **IMMEDIATELY** pour mixture in uniformly spaced, continuous ribbons over entire area to be covered. **Material left in pail will harden within minutes.** The warmer the temperature, the faster the set-up. Clean-up will require a solvent such as Xylene.
7. Spread out ribbons with gauge rake (serrated squeegee). Coating can be further smoothed, leveled and thinned with a roller. Wear spiked shoes such as golf shoes in areas where it will be necessary to walk in wet coating.
8. If surface bubbles develop and remain after about 30 minutes, roll out with spiked (porcupine) roller. Use lightest possible pressure. Spikes of roller should not be wetted by coating.

<b>DRY TIME*</b> <b>20 mil coating</b>	
Tack Free Time	4-5 hours at 75°F 8-10 hours at 55°F
Light Traffic	18-24 hours at 75°F
Heavy Traffic Chemical Spillage	48-72 hours
Full Cure	7 days

\*Dry time is not affected by humidity.

**COVERAGE:**

16 mil Coating:	100 ft <sup>2</sup> /gal.
20 mil Coating:	80 ft <sup>2</sup> /gal.
1/8" Coating:	12.8 ft <sup>2</sup> /gal.

Coverage will vary depending on surface preparation and porosity of floor.

**SPECIFICATION DATA:**

Non-Volatile Solids - 100%

VOC - 0%

Stability in unopened container @ 24°C/75°F - One Year

Freeze/Thaw - Freezes and thaws 3 times

Pot Life After Mixing - Hardens within minutes; spread out immediately

Induction Time - None required

**STORAGE:**

Store in a cool, dry place. The unmixed components have a shelf life of one year if unopened. Part A (liquid epoxy) strongly absorbs moisture. Keep container tightly closed. Transfer unused, unmixed portions to smaller containers having minimum head space.

**PACKAGING:**

Clear, Grey and Off White New Generation 100 is packaged in HDPE 5-gallon pails. For error-free job site mixing, each pail contains 2 parts: Part A Liquid Epoxy in Base Pail and Part B Reactive Curing Agent in Top Liner. Net Contents 4 gallons. New Generation 100 is also available in 80 oz. Intro Kits, 50 sq. ft. coverage at 20 mils.

**Be sure to read all Directions, Precautionary and First Aid Statements on product labels before use of this or any Spartan product. If questions remain, consult your employer or a physician. Material Safety Data Sheets for all Spartan products are available from your authorized Spartan distributor or by visiting [www.spartanchemical.com](http://www.spartanchemical.com).**

**GUARANTEE:**

Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture.