

# APPLICATION GUIDELINES FOR: ZeraDur™ 99SC Garage Floor Coating

*Non-Slip Epoxy Garage Floor Coating*

## DESCRIPTION

ZeraDur™ 99SC is an attractive, 100% solids, non-slip, low viscosity two component epoxy garage floor coating. It is designed for “do it yourself” applications. The non-slip additive (provided in the kit) is added directly to the can and blended with the coating before use, allowing for a faster application, better appearance and a more uniform finish. It contains no nonyl phenol.

<b>Handling Properties @ 23°C (74°F)</b>	
Mixing Ratio, by volume	4 parts A: 1 part B
Application Temperature	10°C- 30°C (50°F-86°F)
Thin Film Set Time	24 hours
Foot Traffic (re-coat)	24 hours
Vehicular/ Forklift Traffic	48 hours
Full Cure and Maximum Resistance	7 days

## APPLICATION

We recommend two- coat application of our garage floor coating system: ZeraPrime™ 95SC and ZeraDur™ 99SC. The primer is enhance the adhesion to concrete substrate (dry or damp) as well as to seal the concrete from outgassing (to be applied very thin) whereas the top coat od ZeraDur 99SC is to produce the durable non-slip finish.

### Preparation:

ZeraDur™ should be applied over clean, sound, dust free surfaces.

- Remove all items from the garage and thoroughly sweep all dirt and dust.
- Ideally before you start, the outside temperature should be between 18°C to 26°C, relative humidity is below 80% and the garage floor should be protected from wind-blown debris.
- You must precondition the material @23C for 24 hours prior to the application to prevent problems of

higher viscosity (thicker material) and slow curing during the winter or very fast setting during the summer.

- Tape off walls, any baseboard trims, posts, floor draining plates and door thresholds as well as the area directly underneath the garage door with masking or duct tape, allowing you to shut the door overnight. This is intended to keep out dust. Tape across the doorway leading to the garage from the house.
- When you start applying ZeraDur™ 99SC , use a trim pad to cut coating along the edges.

### For best results, surface should be prepared as follows:

#### Concrete Slab Preparation:

- Concrete should be minimum 28 days old. Regardless of the concrete is new or old, it has to be prepared properly for a successful installation. The most effective way for preparation of the garage floor is to use a shot-blasting technique, or another means of mechanical abrasion to ensure a thorough and deep profile for adhesion.
- Alternatively, an acid-etching technique can be used providing care is taken regarding the safe handling of the acid and avoiding contamination of the adjacent surfaces such as walls, doors, driveways, etc. A combination of acid-etching and power wash can also be used.
- Remove oil, grease, dirt and any unsound concrete using a combination of commercial degreasers, alkaline wash, waterblasting, shot blasting or wet sandblasting.
- For severely damaged concrete, use ZeraFloor (3-part system) epoxy patching and leveling material. (see data sheet for details)

#### Removing Oil & Grease:

- Pour a quality commercial de-greaser or Trisodium

Phosphate (TSP) on the stain. Let the detergent sit for 45 minutes, then pour boiling water on the area and vigorously scrub the stain section with the broom.

- Conduct the “water test”; mist water over the stain and if the water beads, repeat the same treatment again.

#### **Old Painted Concrete:**

- If previous epoxy coating is well bonded, scuff sand the surface after cleaning to ensure a tight bond between the two coatings. Rinse thoroughly.
- Latex paints, oil-based paints or sealers must be removed using grinding or other mechanical means. Over a sound old epoxy coating, the surface must be sanded to ensure good adhesion.

#### **Moisture in the Concrete:**

Apply 2'x2' sheet of plastic to the area of the garage floor. Tape down the edges with duct tape and allow to set for 24 hours. If water droplets appear on the inside of the plastic or if the concrete appears wet, moisture is trapped in the concrete and the floor should not be painted.

#### **Acid Etching the Concrete:**

This method is only acceptable for new or never painted concrete flooring. It is never recommended for concrete flooring that was cured with a concrete curing compound or has old paint or sealer unless you remove entirely the old paint or sealer by other means first.

#### Please adhere tightly to the following instructions:

- Dilute the commercial muriatic acid with water at one volume acid and two volumes of water.
- The application rate required (of the diluted acid) is about 500 ml/m<sup>2</sup> (1 pint/10 ft<sup>2</sup>); do not allow acid solution to form pools on the floor.
- Use a plastic watering can to evenly distribute solution or spread the solution evenly using a broom over the entire floor.
- The acid solution should be worked onto the surface by hard-bristled brooms until complete wetting and coverage is obtained. The acid will react with the concrete surface (for 5 minutes) and bubble vigorously for a few minutes. During this time, brushing should continue.
- Before rinsing look for areas where bubbling did not occur. These areas may require further application of acid solution.

- After 10-15 minutes, the bubbling will have subsided (acid solution has stopped foaming) and slurry will be left on the surface. Power wash the floor area (or use a garden hose) with clean water.
- Do not allow the floor to dry prior to rinsing as salts formed by the acid reacting with the concrete will cause adhesion problems.
- It is essential to neutralize the acid-etched surface to prevent poor adhesion. While the floor is still wet, apply a solution of baking soda (2 lb per 5 gallon of water) or (3% TSP in water) at approximately 100 ft<sup>2</sup>/US gallon (2.4 m<sup>3</sup>/l). Scrub into floor; allow to stand for 5 minutes and powerwash with clean water
- The finished surface should have a “medium sandpaper-like” texture.
- Finally squeegee and mop floor of all free standing water.
- Allow the concrete to dry completely for 2 days before using epoxy primer/coating over etched concrete.
- It is preferable to combine acid etching technique with power washing to ensure complete removal of residues and dirt.

#### **Repairing the Cracks (if applicable):**

- First thing in the morning, after the floor has dried out, fill 1/4 in. cracks and larger holes or spalled areas with **ZeraBond™ Type 4R** (epoxy crack filler). Use a plastic putty knife or triangle wide spatula to scrape the surface level and smooth. Let this dry for 8-12 hours before you begin applying the coating.
- Most large area concrete floors have joints and seams, which allow for movement and expansion. Do not fill these cracks with epoxy garage floor coating, but rather with an epoxy gel, **ZeraBond™ Type 4R**.

### **APPLICATION**

#### **AREA PREPARATION**

For optimal performance, both the coating and substrate should be maintained at 18° to 30° C (68 to 86° F) for 24 hours prior to beginning work. The same temperature range should be maintained during mixing, application, and cure.

Application in direct sunlight and rising surface temperatures may result in blistering of materials due to expansion of entrapped air or moisture in the substrate. Concrete that has been in direct sunlight must be shaded 24 hours prior to application and remain shaded until after the initial set. Avoid the application during high humidity above 90%

## OUTGASSING

To minimize outgassing (formation of large bubbles and craters) you must apply the first coat thin using flat squeegee then roller to level the coating and pushing it into the voids of the concrete floor. You must keep the garage door closed to prevent the sun from warming the floor which could worsen the outgassing. Apply the first coat early in the morning or late afternoon.

### Primer Application:

Pour all liquid of component “B” of ZeraPrime™ 95SC into component “A” container and mix thoroughly for one minute. Apply the primer evenly **very thin** using flat squeegee and backroll with 6mm roller. Allow the primer to stand overnight before applying the topcoat (refer to the product data sheet for further information).

### Topcoat Application:

The mixing equipment used to mix the coating must be clean and free of any contaminants that may be present in the equipment from previously used products:

- Premix component “A” of **ZeraDur™ 99SC** first to eliminate the possibility of settlement. Pour all of the liquid from Part B into a Part A container.
- Mix thoroughly using a slow speed drill equipped with a mixing blade for one minute until the color is uniform. If a non-slip finish is required, add the non-slip additive (provided inside the one gallon kit) into the mixed material and disperse for at least another two minutes. Make sure to scrape the sides of the can into the coating and mix it well to prevent the formation of tacky (gummy) patches in the coating, which will never firmly dry.
- Immediately pour some of the mixed material onto the edges of prepared floor and spread the material using a lint free 6 mm nap roller to provide an even coat.
- Allow the topcoat to cure thoroughly for 24 hours for foot traffic. Colder temperature will take longer to set and warmer temperature will shorten the time to cure. It takes 7 days to achieve a full cure (full service). **Keep water, cleaners and other liquid spillage away from the coating for at least one week.**

**CAUTION:** Avoid the application of ZeraPrime™ 95SC or **ZeraDur™ 99SC** under direct sunlight to minimize the occurrence of bubbling (from outgassing).

**Disclaimer:** Although **ZeraDur** can be made non-slip using the above described technique, floors may become slippery under certain conditions. Therefore, it is your own responsibility to determine the level and type of slip resistance that suits your specific needs. We recommend the use of additional slip-resistant aggregates in your floor if it will be exposed to wet, icy or oily conditions.

## **LIMITATIONS**

- Do not apply on untreated floors; the concrete must be prepared by shot-blasting or an equivalent technique, or acid etched for proper adhesion.
- Do not apply **ZeraDur™ 99SC** on tacky primer; the primer coat must be dry and firm.
- Do not apply if the level of moisture in concrete is high.
- Do not apply over poorly-bonded previous paint.
- Not recommended for exterior applications.
- Do not hand-mix the coating.
- Do not leave the mixed materials in the can for long time (particularly during the summer time) otherwise the coating will harden in the can.
- Slow curing product; requires 3 days for vehicular traffic.
- Do not subject the coating to water, cleaners or chemicals for 7 days after the application.
- For a non-slip finish, do not apply the coating heavily otherwise the finish will not be non-slip.
- Outgassing may occur from time to time due to poor quality of concrete; apply at least two thin coats of **ZeraDur™** to seal the concrete from outgassing; a third coat may be necessary in some cases to produce the desired smooth finish.
- The product has a slight “orange peel” finish if applied in a thin film.

## **COVERAGE**

250-325 ft<sup>2</sup>/U.S. gallon per coat if used as a primer, or 200-225 ft<sup>2</sup>/U.S gallon as non-slip (in conjunction with Zeraus Non-Slip Additive).

## **PACKAGING**

3.79 litre/ 1 U.S. gal. units

## **CLEAN UP**

Clean all equipment and installation tools immediately with acetone or xylene.

## **SAFETY PRECAUTION**

Consult the Material Safety Data Sheet (MSDS) for specific instructions.

## **STORAGE**

Store in a heated warehouse.

## **SHELF LIFE**

Two years from the date of manufacture if kept in original unopened containers under normal heated warehouse conditions.

## **MAINTENANCE**

Please follow the following guidelines:

- 1) Where possible use only warm water for floor cleaning. Do not use hot water or steam.
- 2) If oils, grease or hydraulic fluids/emulsions are present, clean the floor using warm water containing a detergent such as ordinary powdered laundry detergent or a dish washing liquid soap.
- 3) For spillage of battery acid or alcoholic beverage, dilute immediately with water and rinse it thoroughly.
- 4) Avoid using any solvent, pine-sol type products or cleaning detergents containing water soluble solvents, as these compounds may dull the finish.

## **SAFETY PRECAUTIONS**

**PART A: COMBUSTIBLE. HARMFUL IF SWALLOWED OR INHALED. SKIN AND EYE IRRITANT.**

**PART B: CORROSIVE MATERIAL.**

**Keep container closed**

**Keep away from children**

**Use only with adequate ventilation**

**Wash thoroughly after handling**

**Avoid breathing vapours**

**Avoid contact with eyes, skin and clothing**

## **Do not dispose down the drains**

When handling product wear long sleeves, latex gloves and safety glasses (during mixing).

## **Emergency procedures:**

**INHALATION:** In the case of overexposure, remove to fresh air. Get medical attention if the victim is in respiratory distress.

**EYE CONTACT:** Flush eyes immediately with large amounts of running water for at least 15 minutes while holding eyelids open until irritation subsides. Obtain medical attention immediately.

**SKIN CONTACT:** Wash immediately with plenty of soap and water. Remove and clean all contaminated clothing and launder before reuse.

**INGESTION:** If swallowed, drink two glasses of water. Do not induce vomiting. Do not give anything to mouth to an unconscious person. Get prompt medical attention

## **WARRANTY**

“The recommendations made and the information herein is the result of accurate laboratory and field tests under controlled conditions. We guarantee that the quality and properties of the materials supplied conform to our standards. Zeraus Products Inc. makes no warranties, expressed or implied, as uses and applications are beyond our control. Zeraus Products Inc. shall not be liable for any injury, loss, or damage (direct or consequential) arising from use or inability to use the products. Before using, the user is urged to pre-test the products in his/her own environment to determine the suitability of the products for their intended use, and the user assumes all risk and liability whatsoever in connection therewith.

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