

# ZeraDur™ N300CR

## High Chemical Resistance Epoxy Novolac Coating



### DESCRIPTION

ZeraDur™ N300CR is a 100% solids, medium viscosity, two-component, highly chemical-resistant, epoxy novolac floor coating. It is a multi-functional epoxy system designed to give outstanding resistance to a broad range of chemicals including 98% sulfuric acid and most solvents.

### WHERE TO USE

It is designed for areas subjected to severe chemical attack. It is suitable for use in direct exposure or secondary containment areas in manufacturing facilities and storage of harsh chemicals and solvents. Recommended for laboratories, dairies, breweries, chemical plants, paper mills, food processing and pharmaceutical plants, refineries, battery storage, waste treatment facilities, circuit board manufacturing, pulp and paper plants, operating rooms.

### CHEMICAL RESISTANCE

For specific chemical resistance, refer to Zeraus' Chemical Resistance Chart.

### BENEFITS

- Low odor, 100% solids, zero VOC's
- Easily applied in a two-coat application
- Excellent chemical resistance (immersion as well as splash/spills)
- Resistant to concentrated acids and harsh chemicals (98% sulfuric, 40% nitric, 85% phosphoric)
- Excellent bond to concrete
- Fast setting; ideal for quick turn-around projects
- Resistance to traffic abrasion
- Versatile; offers either self-leveling or broadcast finishes
- Resistant to water immersion
- Easily cleaned and maintained
- Available in grey and tile red

### HANDLING & CURING PROPERTIES

#### Wet Properties @ 23°C (74°F):

Mix Ratio, by volume .....	A/B 1.5 to 1
Viscosity (Mixed) .....	1,200 cps
Solids Content.....	100 %
Application Temperature .....	10°C-30°C (50°F-86°F)
Mixed Weight (Density) .....	1.15 kg/litre (9.6 lb./US gal)
Pot Life (Working time) .....	20 mins
Foot Traffic .....	16 hours
Vehicular Traffic .....	48 hours
Full Service .....	7 days

#### Cured Properties (7days cure/50% RH):

Tensile Elongation .....	9.6% @ break (ASTM D638-86)
Tensile Strength .....	30 Mpa (4,350 psi) (ASTM D638-86)
Hardness (Shore D) .....	81 (ASTM D2240-86)
Abrasion Resistance .....	84 mg loss (ASTM D4060)
Taber Abrasion, C-17 Wheel, 1000 cycles	

### SURFACE PREPARATION

ZeraDur™ N300CR should be applied over clean, sound, dust free surfaces. For best results, the surface should be prepared as follows:

#### Concrete (New):

Shot blasting or equivalent to remove surface laitance, curing compounds or form oils. Concrete should be minimum 28 days old or have 3% or less moisture content. Moisture content can be determined using test method ASTM D4263.

#### Concrete (Old):

Remove oil, grease, dirt and any unsound concrete using a combination of commercial degreasers, alkaline wash and shot blasting. Cracks and surface defects should be repaired prior to the application of coating.

**NOTE:** ZeraDur™ 300 is a self-primed product that requires no primer when the concrete substrate is dry.

**Steel:**

Remove greases, oils and contaminants from surfaces and sandblast to white metals.

**AREA PREPARATION**

For optimal performance, both the coating and substrate should be maintained at 18 to 28°C (68 to 85°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 for 24 hours prior to application and remain shaded until after the initial set.

**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.

Two coats are recommended: one prime coat and one top coat. The first coat is applied at 5 mils whereas the second coat is applied at 10 mils.

- Pre-mix component “A” of ZeraDur™ N300CR 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 two minutes (minimum) until the color is uniform.
- Immediately pour all of the mixed coating onto the edges of prepared floor and spread the material evenly with a flat squeegee. Using a lint free 6 mm nap roller back-roll the applied material to provide an even coat. Care should be taken not to over-roll the material as air may become entrapped in the coating.

- Apply the second coat in the same manner as the first coat (a notched squeegee may be used in the second coat to produce a thicker film)
- To obtain a slip resistant finish, sprinkle dry #31 mesh clean silica (or alumina) into ZeraDur™ N300CR while it is wet and back-roll to encapsulate; alternatively, the primer (first coat) may be seeded in the same manner.
- Allow to cure thoroughly overnight (12-16 hours) before exposing to foot or light duty traffic. It requires 48 hours for light vehicular traffic and 7 days for full service.

**Textured Fully Seeded:**

ZeraDur™ N300CR may be used to produce a full broadcast flooring system for areas requiring a heavier duty floor over a conventional coating such as loading dock areas, etc.

Follow the normal procedure of ZeraDur™ N300CR but apply the second coat at an application thickness of 20 mils and broadcast with #32 mesh silica to saturation (until no wet spots are observed). Allow to dry and sweep off excess aggregate. Topcoat with 10 mils of ZeraDur™ N300CR

**LIMITATIONS**

- Do not apply the ZeraDur™ N300CR if the substrate and ambient temperatures are below 10°C (50°F).
- Maximum relative humidity during application and cure is 85%.
- The application at a low temperature and a high humidity present during the curing period, may cause a loss in gloss and/or staining.
- Do not apply to porous surfaces where moisture vapor transmission will occur during the application.
- Do not use on exterior slab-on-grade concrete substrates without a vapor barrier.
- Protect from dampness, condensation and water contact during the initial 24-48-hour cure period.
- Do not apply the topcoat less than 10 mils as an orange peel finish may appear or bubbling may occur due to insufficient material to self-level.
- Do not thin the topcoat with a solvent or thinner. The

primer coat can be extended in certain situations with xylene or acetone up to 5% based on volume. Ensure the solvent has exit before applying the second coat.

- Do not leave the mixed material (Part A & B together) in the container for an extended amount of time as it will harden, warm up and smoke.
- **ZeraDur™ N300CR** is not recommended for areas subjected to steam cleaning or heavy impact.
- May discolor under direct constant exposure to UV or to some chemicals.

### **THEORETICAL COVERAGE**

Neat: 15 mils dry film thickness:

Prime Coat: (5 mils): 8 m<sup>2</sup>/litre (325 f<sup>2</sup>/U.S. gallon)

Second Coat (10 mils): 4 m<sup>2</sup>/litre (160 f<sup>2</sup>/U.S. gallon)

Broadcast: 2 mm (3/32") in thickness:

Prime Coat: (5 mils): 8 m<sup>2</sup>/litre (325 f<sup>2</sup>/U.S. gallon)

Second Coat: (20 mils): 2 m<sup>2</sup>/litre (80 f<sup>2</sup>/U.S. gallon)

Aggregate: (31 mesh silica): 5 kg/m<sup>2</sup> (1 lb/f<sup>2</sup>)

Topcoat: (10 mils): 4 m<sup>2</sup>/litre (160 f<sup>2</sup>/U.S. gallon)

### **PACKAGING**

3.79 Litre/1 U.S. gal. kit units

### **CLEAN UP**

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

### **SAFETY PRECAUTION**

Uncured epoxy resins and hardeners represent some hazards. Avoid contact with skin and ensure adequate ventilation. Consult Material Safety Data Sheet (MSDS) for specific instruction.

### **STORAGE**

Store in a heated warehouse. Do not freeze.

### **SHELF LIFE**

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

### **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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