ZeraDur™ N300CR

High Chemical Resistance Epoxy Novolac Coating

DESCRIPTION

ZeraDur™ N300CR is 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 attacks. 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, and 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)	1,000 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)	25 mins
Foot Traffic	16 hours
Vehicular Traffic	48 hours
Full Service	7 days

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

Tensile Elongation (ASTM D638-86)	9.6% @ break
Tensile Strength (ASTM D638-86)	30 Mpa (4,350 psi)
Hardness (Shore D) (ASTM D2240-86)	81
Abrasion Resistance (ASTM D4060)	84 mg loss
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 of 28 days old or have 3% or less moisture content. Moisture content can be determined using the 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: Zera Dur™ N300CR 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 the blistering of materials due to the 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 topcoat. The first coat is applied at 5 mils whereas the second coat is applied at 10 mils.

- Pre-mix component "A" of **Zera**Dur™ 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 coatings onto the edges of the 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 **Zera**Dur™ N300CR while it is wet and back-roll to encapsulate; alternatively, the primer (first coat) may be seeded in the same manner.
- Allow curing 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 **Zera**Dur™ 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 **Zera**Dur™ 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 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 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.
- **Zera**Dur™ 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 m²/litre (325 f²/U.S. gallon)
Second Coat (10 mils): 4 m²/litre (160 f²/U.S. gallon)

Broadcast: 2 mm (3/32") in thickness:
Prime Coat: (5 mils): 8 m²/litre (325 f²/U.S. gallon)
Second Coat: (20 mils): 2 m²/litre (80 f²/U.S. gallon)
Aggregate: (31 mesh silica): 5 kg/m² (1 lb/f²)
Topcoat: (10 mils): 4 m²/litre (160 f²/U.S. gallon)

PACKAGING

9.5 Litre/2.5 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 instructions.

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 the 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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