DURALKOTE TOP NCDOT

Epoxy Protective Coating

EUCLID CHEMICAL

Description

DURALKOTE TOP NCDOT is a two-component, 100% solids, high-build epoxy coating for concrete that provides protection from abrasion, impact, and mild chemical attack.

Primary Applications

PROTECTIVE COATING - Use DURALKOTE TOP NCDOT as a high-build waterproofing and chemical resistant coating for concrete, masonry, steel, and other construction materials; floors and walls, interior and exterior. It can also be used for waterproofing of bridge pedestals, piers, abutments, highway dividers, etc.

NON-SKID COATING - When DURALKOTE TOP NCDOT is used as a binder with suitable aggregate (20/40 mesh sand) broadcast on it, it provides non-skid overlays for sidewalks, factory, warehouse, and other floors, protecting them from traffic and mild chemical attack.

Technical Information

Material Properties @ 75°F (24°C)

Mixing Ratio (A:B by volume)	1:1
Solids Content	100%
Mixed Viscosity (cps) (Brookfield RVT 5/20 rpm)	3,500 to 4,500
Pot Life (minutes)	45
Initial Cure (tack free to touch)	3 to 6 hours
Shore D Hardness (24 hours)	80
Tensile Strength	7,000 psi
Tensile Elongation	2 to 4%
Color Fastness (exposure in weatherometer)	Passes

Component A	
Viscosity (cps) (Brookfield RVT 5/20 rpm)	9,000 to 12,000
Density	12.3 ± 0.1 lbs/gal
Ash Content	38.8%
Component B	
Viscosity (cps) (Brookfield RVT 1/20 rpm)	2,000 to 3,000
Density	10.7 ± 0.1 lbs/gal

DURALKOTE TOP NCDOT meets the requirements for North Carolina DOT, New York State DOT, and New Jersey DOT.

Appearance: The color of DURALKOTE TOP NCDOT is Light Gray.

Packaging

DURALKOTE TOP NCDOT is packaged in 4 gal (15.1 L) cases.

Shelf Life

2 years in original, unopened containers

Coverage

As a protective coating, apply two coats of DURALKOTE TOP NCDOT at approximately 100 ft^2/gal (2.45 m^2/L) (15 mils) per coat on smooth surfaces.

As a non-skid coating, apply DURALKOTE TOP NCDOT at approximately 100 ft^2/gal (2.45 m^2/L) (15 mils) per coat, and follow epoxy application with a broadcast of 20/40 mesh sand at a rate of 0.25 to 0.50 lbs/ft^2 (1.2 to 2.4 kg/m^2). When the first coat has cured, sweep off excess aggregate and apply a seal coat of DURALKOTE TOP NCDOT at a rate of 100 to 150 ft^2/gal (2.45 to 3.68 m^2/L).

Note: Coverage rates are approximate. Actual coverage depends on temperature, texture, and substrate porosity.

Directions for Use

Surface Preparation: The surface must be structurally sound, clean and free of grease, oil, curing compounds, soil, dust and other contaminants. See note in "Precautions/Limitations" section if coating is to be placed over old/existing epoxy or urethane coatings. New concrete and masonry must be at least 28 days old. Surface laitance must be removed. Concrete surfaces must be roughened and made absorptive, preferably by mechanical means, and then thoroughly cleaned of all dust and debris. If the surface was prepared by chemical means (acid etching), a water/baking soda or water/ammonia mixture, followed by a clean water rinse, must be used for cleaning, in order to neutralize the substrate. The Concrete Surface Profile (CSP) should be equal to CSP 2-3 in accordance with Guideline 310.2R-2013, published by the International Concrete Repair Institute (ICRI). Allow substrate to dry before coating application. Following surface preparation, the strength of the surface can be tested if quantitative results are required by project specifications. An elcometer or similar tensile pull tester may be used in accordance with ASTM C1583, and the tensile pull-off strength should be at least 250 psi (1.7 MPa).

Do not apply epoxy or urethane coatings if there is excessive moisture in the concrete or if the moisture vapor emission rate (MVER) is high. Before application of the coating, perform the "Visqueen test" (ASTM D4263) to check if there is moisture present. If moisture is found to be present during the "Visqueen test", perform the "calcium chloride test" (ASTM F1869) as a follow-up to determine the MVER. Contact Euclid Chemical if results indicate a MVER greater than 3.0 lbs. per 1,000 square feet per 24 hours. After surface preparation and moisture testing, a test section application of the coating system is recommended to confirm good adhesion and compatibility of the coating with the surface, and also to confirm appearance and aesthetics.

When coating steel, all contamination should be removed and the steel surface prepared to a "near white" finish (SSPC SP10) using clean, dry blasting media.

Mixing: Mix DURALKOTE TOP NCDOT using a low-speed drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 3 minutes each. Combine Part A and Part B in a 1 to 1 ratio by volume, then mix thoroughly for 3 to 5 minutes. Scrape the bottom and sides of the containers at least once during mixing. Do not scrape bottom or sides of the container once mixing operations have ceased; doing so may result in unmixed resin or hardener being applied to the substrate. Unmixed resin or hardener will not cure properly. Do not aerate the material during mixing. To keep aeration to a minimum, the recommended mixing paddles are #P1 or #P2 as found in ICRI Guideline 320.5R-2014.

Application: Surface and ambient temperatures should be between 50 and 90°F (10 to 32°C). Apply properly mixed DURALKOTE TOP NCDOT by brush, short nap roller, notched squeegee, or spray to the prepared surface. Apply at a rate of 10 to 15 wet mils (100 to 150 ft^2/gal; 2.45 to 3.68 m^2/L). Air bubbles and voids can be minimized by using a spiked roller immediately after application. Allow to cure a minimum of 5 to 6 hours at 75°F (24°C), and for no longer than 24 hours. Apply a second coat of DURALKOTE TOP NCDOT at a rate of 10 to 15 wet mils (100 to 150 ft^2/gal; 2.45 to 3.68 m^2/L). In most cases, a penetrating, low-viscosity epoxy primer will minimize outgassing and help improve surface appearance of DURALKOTE TOP NCDOT. Where an anti-skid surface is desired, broadcast approximately 0.25 to 0.50 lbs/ft^2 (1.2 to 2.4 kg/m^2) of clean, dry, 20/40 mesh aggregate into the first coat. When the first coat has cured, sweep off excess aggregate, then apply a seal coat of DURALKOTE TOP NCDOT at a coverage rate of 100 to 150 ft^2/gal (2.45 to 3.68 m^2/L).

Clean-Up

Clean tools and application equipment immediately with acetone, xylene, or MEK. Clean spills or drips with the same solvents while still wet. Hardened DURALKOTE TOP NCDOT will require mechanical abrasion for removal.

Precautions/Limitations

- Store DURALKOTE TOP NCDOT indoors, protected from moisture, at temperatures between 50°F and 90°F (10°C and 32°C)
- Surface and ambient temperature during coating applications should be between 50°F and 90°F (10°C and 32°C)
- Material temperatures should be at least 50°F (10°C) and rising
- Do not apply DURALKOTE TOP NCDOT if surface temperature is within 5°F (3°C) of the dew point in the work area
- Working time and cure time will decrease as the temperature increases, and will increase as the temperature decreases
- Do not thin DURALKOTE TOP NCDOT
- Do not apply DURALKOTE TOP NCDOT to slabs on grade unless an uninterrupted vapor barrier has been installed under the slab
- Do not apply DURALKOTE TOP NCDOT if the substrate is subject to excessive moisture vapor drive or hydrostatic pressure
- Be sure that work area is well-ventilated
- DURALKOTE TOP NCDOT may discolor upon prolonged exposure to ultraviolet light and high-intensity artificial lighting.
- Depending on the condition of the substrate, minor surface defects can appear in the coating when applied. Proper surface prep, patching of substrate imperfections, and priming will ensure a better overall finish.
- If coating over old/existing epoxy or urethane coatings, or if more than 24 hours elapses between coats: sand the previous coat, wipe clean, and proceed with coating operations. If old/existing coatings are peeling, flaking, etc., all unsound material must be removed prior to new coating applications.
- Application of a test area is recommended to confirm final appearance and texture of the system with the end user
- In all cases, consult the product Safety Data Sheet before use

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