

PRODUCT DATA

7 07 18 00 Traffic Coatings

TRAFFICGUARD® EP35

Rapid-setting, skid-resistant epoxy-based concrete overlay system

Description

TrafficGuard® EP35 is a rapid-curing, skid-resistant, epoxy-based concrete overlay system. When mixed with aggregate it can be used as a repair mortar.

Yield

115 – 130 ft² per 10 gallon (11 – 12 m² per 38 L) kit, depending on porosity and profile of substrate

1,300 – 1,450 ft² per 110 gallon (121 – 135 m² per 416 L) kit, depending on porosity and profile of substrate

80 ft²/gallon (1.96 m²/L) as a primer for epoxy binder

Binder yield varies depending on mix ratio (aggregate to epoxy) and aggregate size and gradation. A 3 to 1 ratio will yield approximately 650 in³.

Packaging

10 gallon (38 L) kits
110 gallon (412 L) kits

Color

Dark amber

Shelf Life

2 years when properly stored

Storage

Store in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions.

Features

• Rapid strength development	Minimizes traffic disruption
• Waterproof	Prevents chloride ion contamination, freeze-thaw damage, and salt scaling
• Low modulus	Accommodates thermal movement in the substrate
• 90% lighter than typical concrete overlays	Limits dead load in suspended structures
• Withstands vehicular traffic	Extends the service life of decks
• Skid-resistant	Increased safety for vehicles and pedestrians
• 1 to 1 mix ratio by volume	Simplifies application
• Produces a durable surface	Increased service life
• No primer required	Faster installation
• 100% solids	VOC-compliant system meets all federal regulations

Benefits

Where to Use

APPLICATION

- New and existing bridge deck overlays and paving dams
- As a lightweight alternative to concrete and asphalt overlays
- When rapid overlay installation and quick turnaround times are required
- As a skid-resistant coating
- Parking decks and ramps
- Steel decks
- Warehouse floors
- Airport runways

LOCATION

- Horizontal surfaces
- Interior or exterior

SUBSTRATE

- Concrete

How to Apply

Surface Preparation

STEEL

Shotblast steel substrates and clean to meet the requirements of SSPC-SP10, with a minimum 4 mil (0.2 mm) profile. If flash rust appears, the surface must be reblasted.

Concrete

1. The concrete surface should be clean, dry, and free of oil, contaminants, laitance, and debris, and fully cured for 28 days.
2. Patch or repair deck delaminations and spalls and cracks with the appropriate MBT® repair product and allow to cure.
3. Mechanically prepare the surface to expose coarse aggregate and remove all loose materials. Meet the requirements of ICRI Guideline No. 03732 Standard CSP 6. To ensure proper surface preparation, perform “direct tension” testing (in accordance with ACI 503 Appendix A) every 4,500 ft² (414 m²).

Technical Data

Composition

TrafficGuard® EP35 is an epoxy-based polymer concrete.

Compliances

- ASTM C 881, Type III, Grade I, Class B and C

Test Data

PROPERTY	RESULTS	TEST METHODS
Mix ratio , by volume	1 to 1	
Viscosity , poise, at 75° F (24° C); #3 spindle at 20 rpm	10 – 25	Brookfield
Gel time , min, at 72° F (22° C); 60 g	15 – 25	ASTM C 881
Compressive strength , psi (MPa)		ASTM C 579 Method B, modified ¹
3 hrs	1,000	
24 hrs	5,000	
7 days	6,000	
Compressive strength , psi (MPa), at 7 days	6,500 (51.7)	ASTM D 695
Compressive modulus , psi (MPa)	6.5 x 10 ⁴ (448)	ASTM D 695
Tensile strength , psi (MPa), at 7 days	2,500 (17.2)	ASTM D 638
Tensile elongation , %, at 7 days	30	ASTM D 638
Bond strength , psi (MPa), moist, at 14 days	2,500 (17.2)	ASTM C882
Water absorption , %; 14 day cure, 24 hr immersion	0.4	ASTM D 570
Thermal compatibility , 7 day cure	No delaminations or horizontal cracks	ASTM C 884
Permeability of chloride ions , coulombs; 28 day cure	73 (negligible)	AASHTO T 277

¹Plastic insert used

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

All tests were performed at 75° F (24° C).

Mixing

1. Thoroughly mix each separate component for 2 – 3 minutes.
2. Mix Part A (resin) and Part B (hardener) in the proper ratio (1 to 1 by volume), using a slow-speed drill (500 rpm) and paddle for 2 – 3 minutes.
3. Because of the quick cure rate of this product, do not mix more material usable within the pot life of 15 – 25 minutes at 75° F (24° C). Elevated temperatures decrease pot life, and reduced temperatures increase pot life.
4. If a plural-component spray system will be used, preheat the two components to 110° F (43° C).

BROADCAST-AGGREGATE METHOD

PARKING DECKS

1. Spread the mixed TrafficGuard® EP35 onto the substrate with a notched squeegee at a rate of 40 ft²/gallon (1.0 m²/L) or 2.5 gallons/100 ft². Place the epoxy to permit a continuous operation. Apply the second mix immediately behind the first mix.
2. Begin the aggregate broadcast immediately, but stop to maintain a wet edge. Broadcast Dynagrip Aggregate # 9 to complete saturation (approximately 1.1 lb/ft² (5.4 kg/m²). If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.
3. Apply the second coat in the same manner described above. The maximum recoat window is 24 hours.

BRIDGE DECKS

1. If the application takes place early in the evening, the deck may be opened to traffic early the next morning.
2. Spread the mixed TrafficGuard® EP35 onto the substrate with a notched squeegee at a rate of 40 ft²/gallon (1.0 m²/L) or 2.5 gallons/100 ft². Place the epoxy to permit a continuous operation. Apply the second mix immediately behind the first mix.
3. Begin the aggregate broadcast immediately, but stop to maintain a wet edge. Broadcast Dynagrip Aggregate # 8 to complete saturation (approximately 1.1 lb/ft² (5.4 kg/m²). If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.

4. Apply the second coat in the same matter but at a rate of 20 ft²/gallon (2 m²/L) or 80 mils. The maximum recoat window is 24 hours.

SLURRY METHOD

1. Mix the two components of Trafficguard® EP35 using the recommended procedures described in the Mixing section.

2. After the 2 components of the epoxy have been thoroughly mixed, add 2-1/2 parts Dynagrip Aggregate for every 1 part of mixed epoxy by volume. Depending upon jobsite conditions, this ratio may be increased or decreased by 1-1/2 parts to gain the desired consistency and workability.

3. Use self- or hand-advanced vibrating screed or gauge rake to apply the overlay. Adjust the screed to the desired depth of the overlay. Apply the epoxy at a minimum thickness of 1/4" (6 mm) or 4 ft²/gallon (0.2 m²/L).

4. Allow a minimum waiting period for the resin to bleed to the top of the slurry.

5. Broadcast the aggregate to complete saturation (2 – 4 lbs/ft² [9 – 10 kg/m²]). For parking decks and light industrial applications, use Dynagrip Aggregate #9. For bridge decks and heavy industrial applications use Dynagrip Aggregate #8.

6. If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established; this must be accomplished before the epoxy becomes tack free. Leave no wet spots exposed.

EPOXY BINDER

1. Mix the 2 components of Trafficguard® EP35 using the recommended procedures under the Mixing section.

2. Slowly add up to 5 parts by volume of oven-dried sand to 1 part of mixed epoxy.

3. For larger applications, a paddle-type (mortar) mixer may be used. However, the A and B components must first be mixed together using a slow-speed drill as outlined previously.

4. For epoxy concrete applications, consult your local BASF representative.

5. Prime the area to receive the epoxy mortar using neat resin (parts A and B mixed but with no aggregate). Some applications, e.g., paving dams, will require forming to prevent the material from slumping into the joint.

6. Place the epoxy mortar into the repair area and level with a trowel or float. Excess working of the surface will bring resin to the top, which will create a slick finish when cured. To prevent this, broadcast aggregate to refusal onto leveled surface.

7. Allow time for sufficient curing before removing forms, if applicable.

HOT-WEATHER APPLICATION

1. In hot weather, precondition materials to 65 to 70° F before mixing and applying.

2. Continuous mixes of 30 gallons can be mixed every 3 minutes but must be dumped within 6 minutes, be spread within 10 minutes of placement, and broadcast within 20 minutes.

COOL-WEATHER APPLICATION

1. Application can proceed in temperatures as low as 50° F (10° C). Condition all components to 80 to 100° F (27 to 38° C) before mixing and applying.

2. At 50° F (10° C), a hand-operated roller may become necessary to ensure the aggregate penetrates the cool resin.

Drying Time

PRODUCT AND SUBSTRATE

TEMPERATURE, ° F (° C)	OPEN TO TRAFFIC, MIN
60 (16)	150
65 (18)	135
70 (21)	120
80 (27)	90
90 (32)	75
100 (38)	60

Aggregate

Dynagrip Aggregate is recommended with Trafficguard® EP35 polymer concrete overlay. Dynagrip Aggregate is a hard-wearing, angular, dark-gray aggregate.

- Dynagrip Aggregate #8 is a coarser aggregate suitable for bridge decks and other exterior surfaces.
- Dynagrip Aggregate #9 is a less coarse aggregate that allows easier cleaning of the overlay and is therefore more suitable for interior surfaces.

Alternatively, an angular-shaped silica or basalt aggregate with a minimum Mohs scale hardness of 7 may be used. The alternate aggregate must be clean, dry (less than 0.2% moisture), and conform to the following gradation.

PERCENT, BY WEIGHT, PASSING IN INDICATED U.S. STANDARD-SIEVE SERIES

COARSE AGGREGATE				
Sieve #	4	8	16	30
% Passing	100	25 – 75	0 – 5	0 – 1

Clean Up

Clean tools and equipment with xylene immediately after using. Wash hands and skin with soap or industrial hand cleaner, not with solvent. Cured material must be removed mechanically.

For Best Performance

- Precondition all components to 70° F (21° C) for 24 hours before using.
- Minimum ambient, surface, aggregate and epoxy temperature should be 50° F (10° C) and rising at the time of application.
- Do not apply when rain is expected within 12 hours.
- Finished product is a vapor barrier and should not be applied to on-grade slabs subject to exterior service conditions or other structures where moisture-vapor transmission is a concern.
- Do not use neat (without aggregate).
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

TRAFFICGUARD EP35 PART A

Warning

Trafficguard EP35 Part A contains bisphenol A – diglycidyl ether polymer, and alkyl (C8 - C10), glycidyl ether.

Risks

May cause skin, eye and respiratory irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Wash thoroughly after handling. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/ MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents

TRAFFICGUARD EP35 PART B

Danger—Corrosive

Trafficguard EP35 Part B contains bis(hexamethylene) triamine, 1,2-cyclohexanediamine, 4-nonylphenol, and 2,4,6- (dimethylaminomethyl) phenol.

Risks

Contact with skin or eyes may cause burns. Ingestion may cause irritation and burns of mouth, throat and stomach. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. DO NOT get in eyes, on skin or on clothing. Wash thoroughly after handling. Keep container closed. DO NOT take internally. Use only with adequate ventilation. DO NOT breathe vapors. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists, or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product does not knowingly contain materials listed by the state of California as known as to cause cancer, birth defects, or other reproductive harm.

VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents

**For medical emergencies only,
call ChemTrec (1-800-424-9300).**

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