

MasterSeal[®] 350

Rapid-setting, epoxy-based concrete overlay system

FORMERLY TRAFICGUARD[®] EP35

PACKAGING

- 10 gallon (38 L) kits
- 110 gallon (412 L) kits
- 530 gallon (2006 L) kits

YIELD

Parking Decks: 40 - 60 ft²/gallon
(1.0 - 1.5 m²/L), depending on porosity
and profile of substrate

Bridge Decks: 20 - 40 ft²/gallon
(0.5 - 1.0 m²/L), 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.

Mortar Mix Yield: A ratio of
3 GAL Sand + 1 GAL mixed
MasterSeal 350 = 2.8 GAL
mortar mix (650 in³)

STORAGE

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

SHELF LIFE

2 years when properly stored

VOC CONTENT

0 g/L less water and exempt solvents
when components are mixed and
applied per Master Builders Solutions
instructions

DESCRIPTION

MasterSeal 350 is a rapid-curing, skid-resistant, epoxy-based concrete overlay system. When mixed with aggregate it can be used as a repair mortar.

PRODUCT HIGHLIGHTS

- MasterSeal 940 DR aggregate is free of respirable crystalline silica
- Rapid strength development helps minimize traffic disruption
- Waterproof to prevent chloride ion contamination, freeze-thaw damage and salt scaling
- 90% lighter than typical concrete overlays to limit dead load in suspended structures
- Excellent adhesion to the substrate to prevent delamination and extend surface life
- Skid resistant increasing safety for vehicles and pedestrians
- One to one mix ratio by volume simplifies application
- Durable surface extends service life
- No primer required for faster installation
- 100% solids

APPLICATIONS

- Horizontal surfaces
- Interior and exterior
- Bridge decks
- Steel decks
- Warehouse floors
- Elevated airport runways
- Balconies
- Concrete
- Steel

INDUSTRIES/SECTORS

- Parking structures

HOW TO APPLY

SURFACE PREPARATION

UNCOATED METAL SURFACES
Remove dust, debris and any other
contaminants from vent, drain pipe and post
penetrations, reglets and other metal surfaces.
Clean surfaces to near white per SSPC-NACE2.

CONCRETE

1. Concrete must be fully cured (28 days), structurally sound, clean and dry (ASTM D 4263). All concrete surfaces (new and old) must be shot blasted to remove previous coatings, laitance and all miscellaneous surface contamination and to provide profile for proper adhesion. Abrasive shot blasting must occur after concrete repair has taken place. Acid-etching is not permitted. Proper profile should be a minimum of ICRI CSP-5 (as described in ICRI document 03732.)
2. Repair voids and delaminated areas with Master Builders Solutions branded cementitious and epoxy patching materials. For application when fast-turn repairs are required, MasterSeal 350 can be used to repair patches up to 1.5" in depth when used in aggregate slurry mix. Please refer to the MasterSeal 350 Technical Data Guide for proper application techniques.
3. All units must be applied within the specified pot life.

Technical Data

Composition

MasterSeal 350 is a two component epoxy-based binder.

Compliances

- ASTM C 881

Test Data

PROPERTY	RESULTS	TEST METHOD
Mix ratio , by volume	1 to 1	
Viscosity, poise , at 75 °F (24 °C); #3 spindle at 20 rpm	20–25	ASTM D 2393
Gel time , min, at 72 °F (22 °C); (Modified to test 70 g sample)	15–20	ASTM C 881
Compressive strength , psi (MPa) 24 hrs 7 days	4,000–4,500 6,500–7,000	ASTM D 695
Compressive strength , psi (MPa) Mixed with aggregate 3 hrs 24 hrs	3,000–3,500 5,000–5,500	ASTM C 579
Modulus of Elasticity in Compression , psi (MPa)	1.21 x 10 ⁶ (834)	ASTM C 695
Tensile strength , psi (MPa), at 7 days	6,525	ASTM D 638
Tensile elongation , %, at 7 days	>30	ASTM D 638
Adhesion Pull Test 24 hrs	>536 psi (break in concrete)	ASTM D 7234 (ACI 503 Appendix A)
Hardness Shore D @ 7 days	62	ASTM D 2240
Abrasion - Taber 1000 cycles - CS 17 wheel	70 mg (neat) 77 mg (with aggregate)	ASTM D 4060
Thermal compatibility , 5 cycles Modified: 8 hours @ 60 °C plus 16 Hours @ -21 °C	Pass	ASTM C 884
Water absorption , % 24 hrs	0.02	ASTM D 570
Rapid Chloride Permeability Chloride ion penetration @ 28 days	0 negligible	ASTM C1202 (AASHTO T277)

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

MIXING

1. Thoroughly mix each separate component for 2–3 minutes.
2. Mix Part A (resin) and Part B (hardener) in the proper ratio (1:1 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 than can be applied 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. The maximum recoat window for additional coats of MasterSeal 350 is 24 hours.

BROADCAST-AGGREGATE METHOD PARKING DECKS

1. Spread the mixed MasterSeal 350 onto the substrate with a notched squeegee at a rate of 60 ft²/gallon (1.0 m²/L). Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.
2. Begin the aggregate broadcast immediately, but stop to maintain a wet edge. Broadcast MasterSeal 940 Aggregate #9 or 940 DR Aggregate 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 reestablished.
3. Apply the second coat in the same manner described above at a rate of 40–60 ft²/gal. The maximum recoat window is 24 hours.

BRIDGE DECKS

1. Spread the mixed MasterSeal 350 onto the substrate with a notched squeegee at a rate of 40 ft²/gal (1.0 m²/L) or 2.5 gallons per 100 ft². Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.
2. Begin the aggregate broadcast immediately, but stop to maintain a wet edge. Broadcast MasterSeal 940 Aggregate #9 or 940 DR Aggregate 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 reestablished.
3. Apply the second coat in the same matter but at a rate of 20 ft²/gal (.05 m²/L) or 80 mils. The maximum recoat window is 24 hours.

EPOXY MORTAR

1. Mix the two components of MasterSeal 350 using the recommended procedures under the Mixing section.
2. Slowly add up to five parts by volume of oven-dried sand to one 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. 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.
5. 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.
6. Allow time for sufficient curing before removing forms, if applicable.
7. When using the MasterSeal 350 as a binder in this method, the mortar should be placed at no more than 1½" maximum depth.
8. Allow a minimum cure time of 6 hrs at 70°F (21°C). for MasterSeal 350 before allowing vehicular traffic.

AGGREGATE

MasterSeal 940/940 DR Aggregate is recommended with MasterSeal 350 polymer concrete overlay. MasterSeal 940/940 DR Aggregate is a hard-wearing, angular, dark-gray aggregate.

MasterSeal 940 Aggregate #9 is a coarse aggregate.

Alternatively, an angular shaped silica or basalt aggregate may be used. The aggregate shall be an angular-shaped silica with Mohs scale hardness of 7 or greater or basalt with a hardness of 6 or greater. 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	30–75	0–5	0–1

CLEANUP

Cleanup tools with xylene immediately after use.

FOR BEST PERFORMANCE

- Minimum application temperature is 50 °F (10 °C) and rising. Contact Technical Service when temperatures are above 90 °F (32 °C)
- Precondition all components to 70 °F (21 °C) for 24 hours before using.
- 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).
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.
- The MasterSeal 350 topcoat is a rigid epoxy material and may crack due to substrate flex and movement under the membrane system. Do not install it over moving joints.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.com/en-us, e-mailing your request to mbsbscst@mbcc-group.com or calling 1(800)433-9517. Use only as directed.

IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

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