MasterSeal® 350
Rapid-setting, epoxy-based concrete overlay system
FORMERLY TRAFICGUARD® EP35

**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 BASF branded cementious 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.

**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 BASF instructions

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**Technical Data**

**Composition**

MasterSeal 350 is a two component epoxy-based binder.

**Compliances**

- ASTM C 881

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### Test Data

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>RESULTS</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix ratio, by volume</td>
<td>1 to 1</td>
<td></td>
</tr>
<tr>
<td>Viscosity, poise, at 75 °F (24 °C); #3 spindle at 20 rpm</td>
<td>20–25</td>
<td>ASTM D 2393</td>
</tr>
<tr>
<td>Gel time, min, at 72 °F (22 °C); (Modified to test 70 g sample)</td>
<td>15–20</td>
<td>ASTM C 881</td>
</tr>
<tr>
<td>Compressive strength, psi (MPa)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 hrs</td>
<td>4,000–4,500</td>
<td>ASTM D 695</td>
</tr>
<tr>
<td>7 days</td>
<td>6,500–7,000</td>
<td></td>
</tr>
<tr>
<td>Compressive strength, psi (MPa)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed with aggregate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 hrs</td>
<td>3,000–3,500</td>
<td>ASTM C 579</td>
</tr>
<tr>
<td>24 hrs</td>
<td>5,000–5,500</td>
<td></td>
</tr>
<tr>
<td>Modulus of Elasticity in Compression, psi (MPa)</td>
<td>1.21 x 10⁶ (834)</td>
<td>ASTM C 695</td>
</tr>
<tr>
<td>Tensile strength, psi (MPa), at 7 days</td>
<td>6,525</td>
<td>ASTM D 638</td>
</tr>
<tr>
<td>Tensile elongation, %, at 7 days</td>
<td>&gt;30</td>
<td>ASTM D 638</td>
</tr>
<tr>
<td>Adhesion Pull Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 hrs</td>
<td>&gt;536 psi (break in concrete)</td>
<td>ASTM D 7234 (ACI 503 Appendix A)</td>
</tr>
<tr>
<td>Hardness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shore D @ 7 days</td>
<td>62</td>
<td>ASTM D 2240</td>
</tr>
<tr>
<td>Abrasion - Taber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000 cycles - CS 17 wheel</td>
<td>70 mg (neat)</td>
<td>ASTM D 4060</td>
</tr>
<tr>
<td>77 mg (with aggregate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal compatibility,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 cycles</td>
<td>Pass</td>
<td>ASTM C 884</td>
</tr>
<tr>
<td>Modified: 8 hours @ 60 °C plus 16 Hours @ -21 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water absorption, %</td>
<td>0.02</td>
<td>ASTM D 570</td>
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<tr>
<td>24 hrs</td>
<td></td>
<td></td>
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<tr>
<td>Rapid Chloride Permeability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride ion penetration @ 28 days</td>
<td>0</td>
<td>ASTM C1202</td>
</tr>
<tr>
<td></td>
<td>negligible</td>
<td>(AASHTO T277)</td>
</tr>
</tbody>
</table>

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.
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 1 1/2” 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 Mohe’s 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

<table>
<thead>
<tr>
<th>COARSE AGGREGATE</th>
<th>Sieve #</th>
<th>4</th>
<th>8</th>
<th>16</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Passing</td>
<td></td>
<td>100</td>
<td>30–75</td>
<td>0–5</td>
<td>0–1</td>
</tr>
</tbody>
</table>

CLEANUP
Clean up 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 BASF 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.basf.us, e-mailing your request to basfbscst@basf.com or calling 1(800)433-9517. Use only as directed. For medical emergencies only, call ChemTrec® 1(800)424-9300.

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