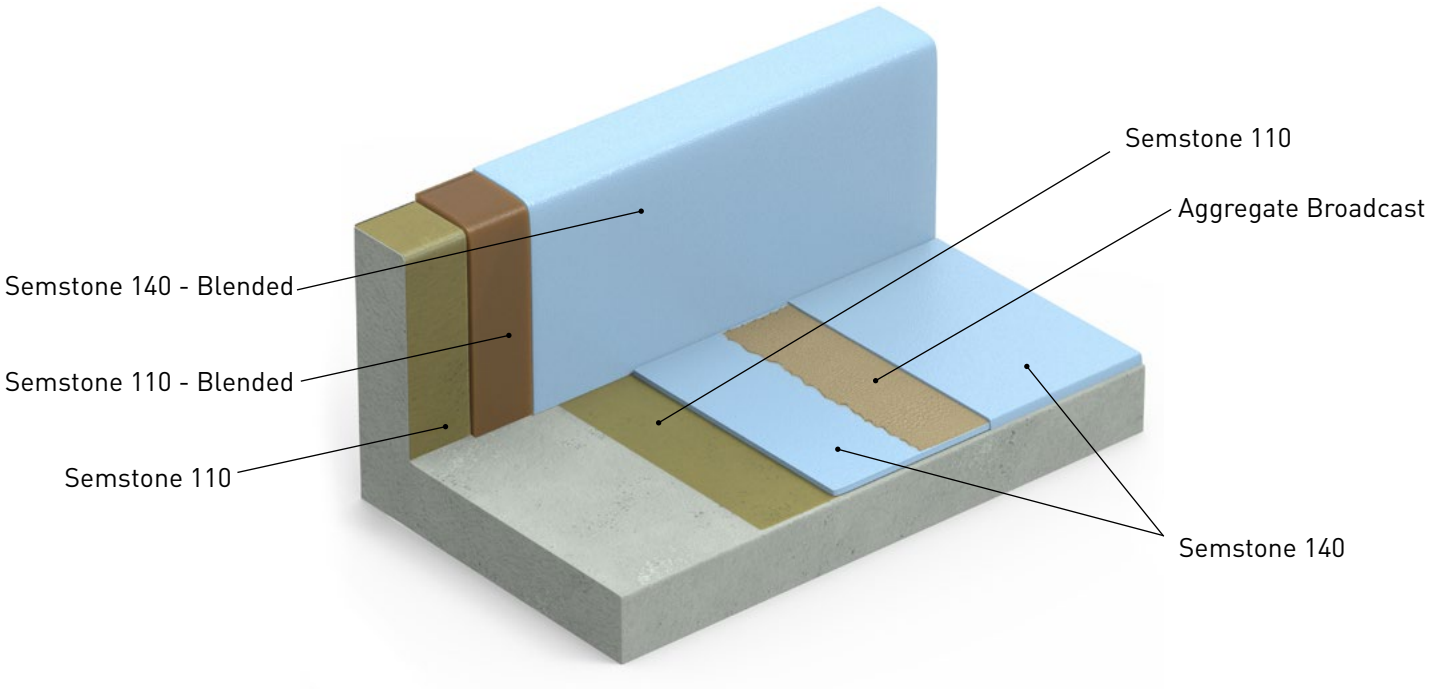
Semstone® 140 AFC

SYSTEM INFORMATION SHEET



- **Broadcast aggregate filled coating system design for ultimate concrete protection in secondary containment areas.**
- **Demonstrates excellent resistance to chemical attack.**
- **Typical uses include:**
  - **Process Slabs**
  - **Tank farm floors**
  - **Chemical loading and unloading areas**
  - **Spill containment areas**

TEST METHOD	RESULTS
Hardness, Shore D (ASTM D2240)	75 (Semstone 140 neat)
Adhesion (ASTM D4541)	100% concrete failure
Compressive Strength (ASTM C579)	14,000 psi
Flexural Strength (ASTM C580)	6,100 psi
Flexural Modulus of Elasticity (ASTM D790)	11.0 x10^5 psi

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HORIZONTAL SYSTEM					
SYSTEM STEPS	**PRODUCT**	**THICKNESS**	**THEORETICAL COVERAGE RATE**	**RATIO**	**APPLICATION EQUIPMENT**
A. Primer	**Semstone 110**	**5 - 6 mils**	**400 - 480 ft² per 1.5 gallon kit**	**2:1 A:B**	**Medium nap roller**
The mixed product can be poured out directly to the floor. Spread to the desired thickness with a medium nap roller. An optional light aggregate broadcast can be employed to protect the primer and extend maximum recoat times. Allow primer to cure to tack-free prior to continuing.					
B. Body coat	**Semstone 140**	**25 - 30 mils**	**53 - 64 ft² per gallon**	**4:1 A:B**	**Notched squeegee Medium nap roller**
The mixed product can be poured out directly to the floor. Spread to the desired thickness with a notched squeegee, finish by backrolling with a medium nap roller.					
C. Aggregate fill	**20/40 mesh aggregate**		**1.5 lbs per ft²**	**N/A**	**N/A**
Aggregate to be clean and dry. Broadcast aggregate evenly and achieve a dry beach sand appearance. Allow to cure until the system can support weight without disrupting the basecoat. Once cured, remove all excess aggregate.					
D. Top Coat	**Semstone 140**	**15 - 20 mils**	**80-100 ft² per gallon**	**4:1 A:B**	**Flat squeegee Medium nap roller**
Apply Semstone topcoat with flat squeegee and back-roll with a medium nap roller. Allow to cure a minimum of 48 hours @ 75°F prior to putting the area in service. **NOTE: The topcoat thickness can be adjusted to reflect more of an aggressive non-skid effect or a more cleanable effect.** @ 15 mils, the surface would result in an aggressive non-skid. @ 20 mils, the surface would result in a good non-skid surface and easily cleanable. @ 25 mils, the surface will lose it's non-skid and be very cleanable					

CHEMICAL RESISTANCE

Semstone 140 has demonstrated excellent resistance to the following chemicals.*

Aluminum Chloride	Castor Oil	Fuel Oil	Phosphoric Acid <50%
Aluminum Hydroxide	Chlorinated water	Gasoline	Pine Oil
Aluminum Nitrate	Citric Acid	Glycerine	Seawater
Ammonium Chloride	Crude Oil	Heptane	Skydrol
Beer	Deionized Water	Hexane	Sodium Hydroxide <50%
Benzene	Dextrose	Hydrogen Sulfide Gas	Sodium Phosphate
Black Liquor	Diesel Fuel	Jet Fuel	Sulfuric Acid <50%
Boric Acid	Ethyl Alcohol	Kerosene	Tall Oil
Brine	Ethylene Glycol	Lard	Tap water
Calcium Chloride	Fatty Acids	Lithium Chloride	White Liquor
Calcium Hydroxide	Ferric Nitrate	Mineral Oil	Vegetable Oil
Calcium Nitrate	Ferric Sulfate	Naphtha	Water

*The chemical resistance of Semstone 140 is not limited to the above list. For more details contact Carboline Technical Service.

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VERTICAL APPLICATION					
SYSTEM STEPS	**PRODUCT**	**THICKNESS**	**THEORETICAL COVERAGE RATE**	**RATIO**	**APPLICATION EQUIPMENT**
1. Primer	**Semstone 110**	**5-6 mils**	**400- 480 ft² per 1.5 gallon kit**	**2:1 A:B**	**Medium nap roller**
The mixed product can be rolled directly onto the wall. Allow to cure to a tacky state (6-8 hours) prior to topcoating.					
2. Form void filler	**Semstone 110 - Blended***	**up to 1/8 inch**	**64 ft² per 1.5 gallon kit @1/16 inch**	**2:1 A:B**	**Flat trowel**
Blend Semstone 110 with a fine silica (80/120 mesh) and Semstone Thixotrope"D" (Cab-O-Sil TS-720) at a ratio of 1:1:1 by Volume. Use a flat trowel to work into the voids as a scratch coat. Provide a (1" – 1-1/2") - 45º Chamfer at all inside and outside corners. Additional silica will be required to form the chamfer. *Carboguard 510 is an acceptable substitute. Refer to Carboguard 510 system information sheets for installation instructions.					
3. Topcoat	**Semstone 140 - Blended**	**25-32 mils**	**40 ft² per gallon @25 mils**** **51 ft² per gallon @32 mils****	**4:1 A:B**	**Flat trowel**
Blend Semstone 140 with a fine aggregate (80-120 mesh) and Semstone Thixotrope"D" (Cab-O-Sil TS-720) at a ratio of 1 part Semstone 140 to 1 part fine aggregate to .5 part Thixatrope "D" by volume. If necessary, add Semstone Thixotrope Part "D" until the mixture hangs on a stir stick. Trowel apply @ 25 - 32 mils. Remove trowel marks with odorless mineral spirits on a clean trowel. **Coverage per blended gallon. For Chemical Service, allow to cure 48 hours @ 75ºF prior to putting the area in service.					

INSTALL

This document is meant as a guideline for the installation of the Semstone 140 AFC system. Contact Carboline Technical service for further assistance prior to the installation of a Semstone system.

SURFACE PREPARATION

Follow NACE 6/SSPC 13 guidelines. Concrete or screed substrate should be sound, free from laitance, dust, and other contamination with a minimum of 3,625 PSI compressive strength. The substrate should be dry and free from excess rising moisture. Abrade the surface to achieve an ICRI CSP 2-7 surface profile.

All control joints must be honored. Welded joints and cracks in the concrete may be coated, but if movement occurs the coating will also crack. All residues must be removed to provide a dry, dust free open textured surface. Contact Carboline Technical Service for further information.

MIXING

All mixing should follow the mixing instructions on the specific Semstone Product Data pages.

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