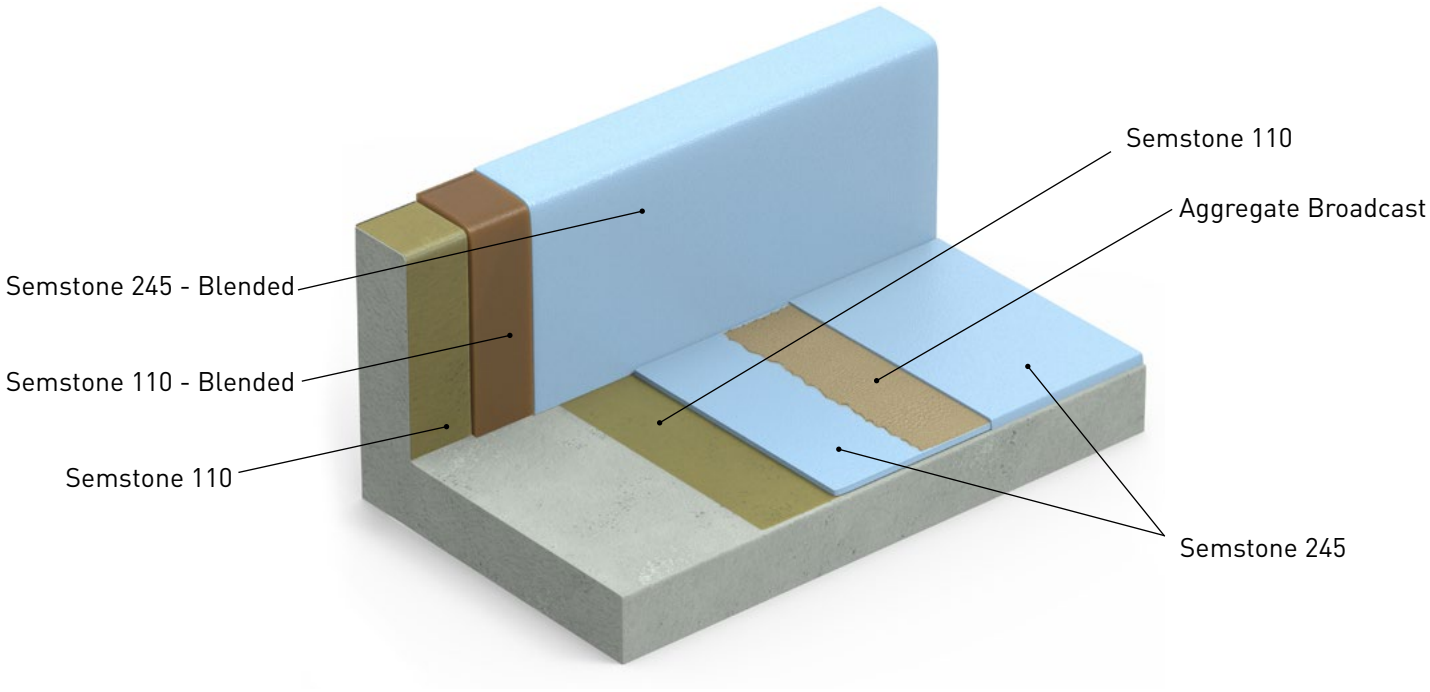
Semstone® 245 AFC

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)	80 (Semstone 245 neat)
Adhesion (ASTM D4541)	100% concrete failure
Compressive Strength (ASTM C579)	18,000 psi
Flexural Strength (ASTM C580)	6,000 psi
Flexural Modulus of Elasticity (ASTM D790)	14.9×10^5 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 245**	**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. Topcoat	**Semstone 245**	**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 @ 75ºF 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 245 has demonstrated excellent resistance to the following chemicals for splash and spill service.*

Acetic Acid<30%	Calcium Nitrate	Ethyl Bromide	Isopropyl Acetate	Phosphoric Acid <85%
Acetone	Carbon Disulfide	Ethyl Chloride	Linseed Oil	Seawater
Aluminum Nitrate	Carbon Tetrachloride	Ethylene Glycol	Lithium Chloride	Skydrol
Ammonium Chloride	Chlorinated water	Glycerine	Maleic Acid	Sodium Hydroxide<50%
Amyl Acetate	Chlorobenzene	Glycolic Acid	Methanol	Sodium Phosphate
Amyl Alcohol	Citric Acid	Heptane	Methylene Chloride	Sulfuric Acid <98%
Benzene	Deionized Water	Hexane	Methyl Ethyl Ketone	Tall Oil
Benzaldehyde	Dichlorobenzene	Hydriodic Acid<20%	Mineral Oil	Tap water
Boric Acid	Diethylbenzene	Hydrobromic Acid<20%	Mineral Spirits	White Liquor
Butanol	Epichlorohydrin	Hydrochloric Acid<37%	Naphtha	Vegetable Oil
Butyl Ether	Ethyl Alcohol	Hydrofluoric Acid<48%	Oleic Acid	Water
Calcium Hydroxide	Ethyl Benzene	Hydrogen Sulfide Gas	Phenol<85%	

*The chemical resistance of Semstone 245 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 245 - Blended**	**25-32 mils**	**40 ft² per gallon @25 mils** 51 ft² per gallon @32 mils****	**4:1 A:B**	**Flat trowel**
Blend Semstone 245 with a fine aggregate (80-120 mesh) and Semstone Thixotrope"D" (Cab-O-Sil TS-720) at a ratio of 1 part Semstone 245 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 245 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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