

SELECTION & SPECIFICATION DATA

Generic Type	Glass flake-filled epoxy novolac vinyl ester.
Description	Semstone 5301HT is a highly versatile epoxy novolac vinyl ester coating and lining system with a unique combination of toughness and resistance to mechanical abuse along with excellent resistance to a wide range of chemical exposures. Its high build characteristics make it an excellent choice for coating structural steel and as an exterior coating. Semstone 5301HT has enhanced resistance to solvents, both organic and inorganic acids, and dry heat exposure.
Features	<ul style="list-style-type: none"> • Epoxy novolac vinyl ester system • Highly versatile coating and lining solution • Exceptional toughness and durability • Resists mechanical abuse • Excellent chemical resistance • High build application capability • Ideal for structural steel coating • Suitable for exterior use • Enhanced resistance to solvents • Resists both organic and inorganic acids • Withstands dry heat exposure
Color	Light Grey & White
Primer	None required. Apply directly to properly prepared steel.
Typical Uses	Designed for application over steel or concrete, the product may be used as a lining for steel tanks and pipes, as a chemical resistant coating for structural steel, and as a containment coating. Semstone 5301HT is resistant to a wide variety of chemicals, including organic and inorganic acids, alkalies and many solvents making it highly suitable for immersion services, as well as resisting splash, spill and fume exposure. It can also be used to protect concrete from chemical exposure. Not recommended for: Strong alkali or solvent exposure.
Recommended Thickness	2 Coats at 500µm per coat by spray
Solid(s) Content	By volume 100%
Theoretical Coverage Rates	2m ² /litre at 500µm
Coverage Rate	<p>1,4m²/litre at 500µm</p> <p>Note: Since a volatile monomer is used, losses during field applications are affected by the following:</p> <ol style="list-style-type: none"> 1. Monomer evaporation during application and cure may result in up to a 20% lower coverage rate compared to theoretical usage. 2. Application of the product when material and surface temperatures are above normal will result in greater monomer loss, causing lower coverage rates. 3. With the recommended blast profile, up to 10% additional material will be required to fill the blast profile. 4. Due to these factors and the glass flake in Semstone 5301HT, measurement of the wet film thickness is difficult. Film thickness readings should be made after the product has dried to touch, using a properly calibrated magnetic gauge. 5. Material losses during mixing and application should be taken into consideration when estimating job requirements. These losses are in addition to factors affecting coverage referenced above.

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Dry Temp. Resistance	Continuous: 93°C (199°F) Non-Continuous: 121°C (250°F) Note: Immersion temperature resistance depends on exposure. Consult StonCor Africa Technical Service Department for specific recommendations. Metal tanks operating above 60°C must normally be insulated.
Substrates & Compatible Coatings	Steel and other surfaces as recommended.
Flexibility	Fair
Abrasion Resistance	Excellent

SUBSTRATES & SURFACE PREPARATION

General	Steel and other surfaces as recommended. Remove any oil or grease from surface to be coated prior to abrasive blast cleaning.
Steel	Dry abrasive blast to a White Metal finish, in accordance with ISO 8501 Sa3 to obtain a 50 to 75µm blast profile.

MIXING & THINNING

Mixing	Power mix the Semstone 5301HT Part A separately, then add the Part B and power mix. DO NOT MIX PART KITS
Pot Life	The times will vary due to job site conditions and/or volume mass of mixed material. Pot life ends when coating starts to thicken. 18°C: 90 to 100 minutes 24°C: 30 to 40 minutes 32°C: 15 to 20 minutes

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application	Use sufficient air volume for correct operation of equipment. Use a 50% overlap with each pass of the gun. On irregular surfaces coat the edge first, making an extra pass later.
Conventional Spray	Use a bottom outlet pressure pot. Use a 12mm minimum I.D. nylon-lined material hose. Do not exceed 6m hose length. Hold gun approximately 300 to 350mm from the surface and at a right angle to the surface. When using equipment as above, contact StonCor Africa Technical Service. Manufacturer & Gun: ISS Airpro Fluid Tip: 1.8mm to 2.0mm Nozzle Air Cap: As per manufacturer gun

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Airless Spray

Use a 12mm minimum I.D. nylon-lined material hose. Hold gun approximately 450 to 500mm from the surface and at a right angle to the surface.

Manufacturer & Gun: XTR 500/700

Pump: NXT 60 to 1

* Teflon packings are essential and are available from the manufacturer. Use a .027" tip with 2200-2500 psi (152-172 Bar). Reversible Tips are recommended.

Do not use a line filter. Wet lines with Carboline Thinner # 76 prior to spraying.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	10°C (50°F)	10°C (50°F)	10°C (50°F)	0%
Maximum	43°C (109°F)	43°C (109°F)	43°C (109°F)	90%
Optimum	23°C (73°F)	23°C (73°F)	23°C (73°F)	55%

Do not apply when the surface temperature is less than 2% above the dew point. Special thinning and application techniques may be required above or below normal conditions.

When applying at low temperature (10 to 16°C), Semstone 5301HT Part C must be added to the Part A prior to adding the Part B. Site trials should be performed prior to final application to determine the need of Part C. Addition of Part C reduces gel time of product at standard temperatures.

CURING SCHEDULE

Surface Temp.	Between Coats
13°C (55°F)	10 Hours
24°C (75°F)	4 Hours
32°C (90°F)	2 Hours

Between coats: The above is a chart showing typical cure to recoat times * for a 500µm dry film thickness.

Times will vary ± 10% if Semstone 5301HT is cured in direct sunlight or temperatures above 49°C, maximum recoat time is 8 hours.

Take adequate precaution to prevent surface contamination between coats.

If more time has elapsed after application, the surface must be wiped with Xylol or other suitable aromatic solvent prior to recoating. Because the glass flake is abrasive, it is recommended that a stiff bristle scrub brush be used to solvent wipe the surface. If solvent wiping is not practical, it is also acceptable to thoroughly sweep blast the surface prior to recoating.

NOTE: Failure to properly treat the surface when recoating will result in poor adhesion between coats.

Final Cure:

Before placing in service at 25°C:

Chemical Service (Splash & Spillage): 24 Hours

Chemical Service (Immersion): 48 Hours

Repair Procedure:

In areas where the coating has been damaged or removed to the substrate, the following procedure must be used:

1. Clean and roughen substrate in the manner specified for original application, or in cases where the substrate is not exposed, remove loose or damaged material to sound, tightly adhered material.
2. Grind to feather edge existing sound, tightly adhering material.
3. Solvent wipe edges with Xylol and apply repair material in one or two coats as specified.

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CLEANUP & SAFETY

Cleanup | Use Carboline Thinner # 76.

Ventilation | Thorough air circulation must be provided during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapour concentration from reaching the lower explosion limit for the solvents used. In addition to proper ventilation, fresh air respirators or fresh air hoods must be used by all application personnel. Where flammable solvents exist, explosion proof lighting equipment must be used. Hypersensitive persons should wear protective clothing, gloves and/or protective cream on face, hands and all exposed areas.

PACKAGING, HANDLING & STORAGE

Shelf Life | 3 Months when stored at 10-24°C. High shipping and storage temperatures may reduce shelf life. Semstone 5301HT Part B is a strong oxidising agent and should be stored separately. In cases where storage temperatures are consistently over 25°C, it may be desirable to refrigerate the product to preserve its reactivity. Store and ship at temperatures below 24°C. Due to their limited shelf lives, StonCor Africa will not accept returns of vinyl ester products. Please order carefully.

Shipping Weight (Approximate) | **20 Litre Kit:**
Part A: 26,84kg
Part B: 0,38kg

Storage Temperature & Humidity | The shelf life of Semstone 5301HT Part A and Semstone 5301HT Part B is affected by temperature. Store and ship at temperatures below 24°C.

Flash Point (Pensky Martens Closed Cup) | Part A: 30°C
Part B: >60°C

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