Sure-Tough ST 4100

Applied Polymer Solutions, LLC

PRODUCT PROFILE

GENERIC DESCRIPTION **ST 4100 - ULTRA PREMIUM EPOXY TOPCOAT -** ST 4100 is a two component 97% solids epoxy colored coating designed for applications where a high build chemical resistant floor is needed. The excellent mar and abrasion resistance limits topcoating this product, although intercoat adhesion for multiple coats of this product are suitable.

RECOMMENDED USAGE Recommended where a premium topcoat appearance on concrete or masonry are desired. Product is suitable in many chemical exposure environments.

COLORS Light gray, medium gray, tile red, and beige. Non-Standard and Special Colors Available

CHARACTERISTS/FINISHES

SURFACE Smooth. Non-skid media may be used to provide additional texture.

PRIMERS We recommend the use of RR3015/3245 to eliminate air release defects.

TOPCOATS/FINISHES Though unnecessary, all Sure-Tough epoxies and urethanes are compatible. Contact your sales representative for proper topcoat system selections. Multiple coats may be required when topcoating over mortar.

TECHNICAL SPECIFICATIONS

SOLIDS BY WEIGHT 97% (+/- 1%)

THICKNESS 15-30 mils

VOLITALE ORGANICS Mixed: Less than .5 lbs per gallon

MIX RATIO Part A: 1 gallon (9.5 lbs) / Part B: .5 gallon (4.2 lbs.) volumes & weights approximate)

APPLICATION TEMP 55°F - 90°F (12°C - 32C°)

CURE SCHEDULE

Cure State	70°F (21°C)
Pot Life	25-35 minutes
Light Traffic/Recoat	8-10 hours
Full Cure/Heavy Traffic	24 hours

STORAGE TEMP 65°F - 85F° (18°C - 30°C) in a dry area. Avoid excessive heat and freezing.

SHELF LIFE 1 years in an unopened container

PACKAGING All kits are premeasured, ready for blending and application

Size	Part A	Part B	Coverage (1,604/DFT) x gallons
3 gallon kit	2 gallon (5 gal pail)	1 gallon	150 –320 sq. ft.
15 gallon kit	10 gallon (2-5 gal pails)	5 gallon pail	750 – 1,600 sq. ft.
Drum Kits	—	—	—

Published technical data and instructions may be modified at any time without prior notice. Please contact your Applied Polymer Solutions representative with any questions.

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TECHNICAL SPECIFICATIONS (continued)

COMPRESSIVE STRENGTH	13,600 psi @ ASTM D695
FLEXURAL STRENGTH	11,700 psi @ ASTM D790
TENSILE STRENGTH	7,900 psi @ ASTM D638
BOND STRENGTH	420 psi (concrete failure)
GARDNER VARIABLE IMPATOR	50 in/lbs direct - Passed
ABRASION RESISTANCE	CS-17 wheel with 1000 gm/500 cycles = 19 mg loss (neat)
ULTIMATE ELONGATION	1.7%
HARDNESS	Shore D = 90
VISCOSITY	1,500-2,200 cps (mixed)
WEATHERING	Excellent

CHEMICAL RESISTANCE

Ammonia	D	**Sodium Hydroxide 50%**	E
Citric Acid	C	**Sulfuric Acid 10%**	C
Corn Oil	C	**HCl (aq) 36%**	B
Lactic Acid	C	**Nitric Acid 30%**	B
Salt Brine	D	**Phosphoric Acid 40%**	B
Gasoline	C	**Sodium Hypochlorite 3-5%**	B
Motor Oil	C	**MEK**	A
Skydrol	B	**Mineral Spirits**	B

Rating key: A - not recommended, B - 2 hour term splash spill, C - 8 hour term splash spill, D - 72 hour immersion, E - long term immersion. NOTE: extensive chemical resistance information is available through your sales representative.

SURFACE PREPARATION

SURFACE All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble free bond to the substrate.

MOISTURE Allow concrete to cure for 28 to 45 days. Verify dryness by testing for moisture with a "plastic film" test; this can be done at room temperature by placing a 4' x 4' plastic sheet on the substrate and taping down the edges. If after 24 hours, the substrate is still dry below the plastic sheet, then the substrate is dry enough to start coating. Should moisture be present, perform Moisture Vapor Emission Rate testing using Anhydrous Calcium Chloride (ASTM F1869). Moisture content should not be in excess of 3 lbs. per 1,000 sq. ft. for coatings (5 lbs. for resurfacers) in a 24 hour period.

MOST SURFACES Aggressively shot-blast or mechanically prepare the substrate to properly profile the substrate and remove hardeners, curing compounds, sealers, laitance and other contaminants. All edges and around columns or beams should be mechanically scarified. All termination points should not be feather edged, but should be saw cut with the termination ending at the sawcut.

FILLING & PATCHING Voids, cavities, nail and bug holes should be filled with a recommended epoxy filler. All large cracks should be V cut and filled with an appropriate semi-rigid epoxy crack filler.

JOINTS All expansion joints should be filled with an appropriate joint filler. When overlaying an expansion joint, a single saw cut through the epoxy overlay will prevent random fracturing.

APPLICATION

MIXING This product has a mix ratio of 9.5# part A to 4.2# part B for standard colors. Standard packages are in premeasured kits and should be mixed as supplied in the kit. We highly recommend that the kits not be broken down unless suitable weighing equipment is available. After the two parts are combined, mix well with slow speed mixing equipment such as a jiffy mixer until the material is thoroughly mixed and streak free. After mixing, transfer the mixed material to another pail (the transfer pail) and again remix. The material in the transfer pail is now ready to be applied on the primed substrate.

THICKNESS 15-30 mils. The mixed material can be applied by brush or roller. However the material can also be applied by a suitable serrated squeegee and then back rolled as long as the appropriate thickness recommendations are maintained. Maintain temperatures and relative humidity within the recommended ranges during the application and curing process. If concrete conditions or over aggressive mixing causes air entrapment, then an air release roller tool should be used prior to the coating tacking off to remove the air entrapped in the coating.

APPLICATION (CONTINUED)

RECOAT/TOPCOAT If you opt to recoat this product, you must first be sure that the coating has tacked off before recoating. However, all previous coats should be deglossed to insure a trouble free bond prior to application of recoats. Always remember that colder temperatures will require more cure time for the product before recoating can commence. Before recoating, check the coating to insure no epoxy blushes were developed (a whitish, greasy film or deglossing). If a blush is present, it must be removed prior to recoating. A standard type detergent cleaner can be used to remove any blush. If you plan to topcoat this product with another epoxy or urethane, always check compatibility and adhesion characteristics prior to topcoating. Multiple coats of this product are compatible.

CLEAN UP Citrus based cleaners or solvents such as Alcohol or Xylene.

**Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured (see technical data under full cure). It is best to let the floor remain dry for the full cure cycle.*

LIMITATIONS

FLOOR CLEANING Caution! Some cleaners may affect the color of the floor installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.

*Color stability may be affected by environmental conditions such as high humidity or chemical exposure.
* Product is not UV color stable and may discolor if exposed to lighting such as sodium vapor lights.
* Colors may vary from batch to batch due to variations in the silica filler.
* Mortar colors are not from our standard color chart.
* Substrate temperature must be 5 degrees F above dew point.
* For chemical exposure areas, we recommend a suitable topcoat to reduce porosity and chemical migration.
* Test data based on neat resin.
*This product is not intended for use as a decorative coating or where color stability or visual appearance is of any significant importance. Its sole purpose is as a protective coating.
*If a topcoat of a different color is to be used, multiple coats will be necessary to prevent bleed-through (discoloration)

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