STRONGWALL INDUSTRIES, INC.

INSTALLATION

STRONGCOTE SC-113

Installation Procedures

Breathable Vehicular Grade Traffic Deck System

STRONGCOTE SC-113 is an extremely durable traffic deck system designed to restore and protect concrete structures. Installations include parking decks,ramps, loading docks and concourses with concentrated pedestrian traffic. STRONGCOTE is breathable and formulated to transmit moisture vapor while maintaining excellent adhesion to the substrate. The two-coat system is easily applied using a magic trowel, flexible notched squeegee or spray equipment to achieve the desired texture. SC-113 is installed on both interior and exterior heavy-duty traffic areas. STRONGCOTE SC-113 is water based, zero VOC and odorless making it ideal for interior parking enclosures and while working within close proximity to the general public. After installation of the standard 90 mil system, the facility may be opened up to vehicular traffic after a 24 hour cure.

JOB SITE SURVEY:

- Evaluate the existing substrate for signs of efflorescence.
- For on or below grade, exterior and non-controlled environments perform multiple adhesion tests.
- Testing may be required for moisture content, chlorides content, depth of carbonation, ASR, AAR and to determine if there are any deleterious aggregate or unacceptably high levels of potassium, sulfate, alkali or other aggressive agents within the concrete substrate.

ENVIRONMENTAL CONDITIONS:

All materials are mixed, installed and cured at the job site. These environmental conditions are required to facilitate proper curing and performance of the products and systems. Do not proceed if outside of these environmental conditions.

Ambient	Minimum	Maximum
Temperature	45°F and rising	90°F
Relative Humidity	20% rh	85% rh
Wind	N/A	30 mph
Substrate: Not frost laden		
Temperature	50°and rising	85°F
Relative Humidity	N/A	75% rh
MVER	N/A	6 lbs.

Measure and record these temperatures daily.
Do not install materials if rain or freezing conditions are anticipated.
Substrate temperature must be at least 5°F above measured dew point.

SUBSTRATE PREPARATION GUIDELINES:

- Inspect the concrete substrate to determine its general condition including previously applied products, concrete defects, soundness, chemical damage, presence of contaminants and excess moisture.
- Determine the best method or combination of methods of mechanical surface preparation: sandblast, scarify, shot blast, scabble or diamond grind to open the concrete pore structure and achieve a surface profile of 3-5.
- Restore all non-durable, unsound, damaged, deteriorated, delaminated, cracked, weak, loose, spalled and rust stained concrete. Excavate all areas cracking due to corrosion of reinforcing steel. Perform all structural repairs using the STRONGCRETE and STRONGPATCH repair mortars. Mechanically profile all repairs.
- Remove or replace areas with penetrating and migrating contaminants, silicone coated surfaces, concrete curing compounds and form release agents, sealers, dirt, adhesives, oil, grease, wax, fatty acids, hydraulic fluid, cutting oils, paint, films, existing coating, laitance, glaze, efflorescence and all contaminants that will inhibit or prevent formation of a penetrating bond within the substrate.
- Mechanically profile the substrate to a concrete surface profile as required depending upon the substrate condition, bonding requirements, coating or system installation. Refer to the ICRI Technical Guideline # 310.2R-2013 for “Selecting and Specifying Concrete Surface Preparation.”
- For assessment of decontamination, surface preparation and profile, perform a Tensile Adhesion Test per ASTM-C1583.

INSTALLATION:

The proper installation of the STRONGCOTE SC-113 System is the sole responsibility of the end user.
The supervision and quality control of the project is the sole responsibility of the user.
Job site visits by SWI representatives are only for the purpose of making recommendations.

- Conduct a pre-installation conference on site with all parties in attendance to review the surface preparation, structural repair procedures, details regarding joints, crack isolation, transitions, flashing and any other conditions prior to commencing work.
- For best results, install a field mock-up using the same equipment as in the construction procedures, for owner, architect and engineer approval of the following: surface preparation, adhesion, functionality, installation procedures and technique, coverage rates, finish, texture and color.
- Honor all joints:. Expansion, pour and control joints are continued through the system.
- A dedicated power wash at a minimum of 4,000 psi is required prior to crack treatment.
- All crack treatment details are required to be fully embedded and to not translate through the 90 mils system.
- New and restored concrete are required to be thoroughly cured, flat in line and grade and slope to drain. No ponding water conditions.
- Maintain dust free conditions throughout the installation as all contaminants will inhibit bond formation.
- Precondition the properly stored material to 65°F - 75°F prior to mixing.
- Work according to the approved field mock-up.
- Provide sufficient ventilation to achieve optimal performance and a full and continuous cure.
- Follow all environmental conditions.

MIXING:

For large scope installations use a paddle type mortar mixer to install multiple units.
For natural color selection there is no pigment pint required.
Always pre-mix the liquid prior to each batch.
Mix only what can be installed in 20 minutes.
Follow unit mix ratio.

- Pre-mix for 2 minutes.
- Use a 400 rpm drill with a mounted Jiffy mixer.
- Place at ¾ depth of the pail.
- Do not create a vortex or aerate the material.
- Gently shake 1 pigment pint. Decant into pail.
- Rinse the pint with liquid from the pail.
- Repeat this process until all colorant is added.
- Make sure no settlement remains at the bottom prior to discarding.
- Pre-measure pigmented liquid (hold back ½ gallon) into a clean mixing container.
- Gradually add the HD Powder to the liquid.
- Never reverse this step.
- Scrape sides of container until no powder is visible.
- Mix for 3 minutes until mixture is free of pockets of dry powder.
- Add in the remaining ½ gallon of pigmented liquid.
- Mix for 1 minute.

PROCEDURES:

Substrate is SSD.
Achieve a dull concrete finish.
Maintain this status during installation of the first coat.
Ensure good, intimate contact with the substrate while it remains damp.
Install with spray equipment, flexible notched squeegee or magic trowel.
If spray-applied, do not thin the product and filter prior to use.

- Apply each coat in a continuous and uniform direction.
- Regularly check wet mil thickness and coverage rates.
- Apply evenly, keep a wet edge and finish.
- Avoid causing shadows or squeegee, roller and broom marks.
- Scrub in to achieve optimal adhesion and fill all surface imperfections.
- Allow first coat to cure.
- Do not dampen between coats.
- Apply the second 45 mil coat.
- Do not let mix settle, remix during use.
- Discard mix once it begins to set up.
- Clean all tools and equipment with water while still wet immediately after use. If cured, mechanical means will be necessary.
- Finish as per approved field mock-up.
- Allow to fully cure and remain dry between coats.
- Apply topping of RESICOLOR.
- Open to the public 24 hours after the topping is fully cured.

LOADING DOCKS AND HELIPADS:
Consult SWI**:** Optional aggregate blend
Total system is 3 coats @ 120 mils.

- Two 45 mils coats of SC-113.
- One 30 mils coat of SC-113 AO.

COVERAGE:
Many factors contribute to coverage rates such as, but not limited to: substrate texture and porosity, disparities in applied thickness, methods of application, individual installation techniques and typical allowance for waste. Two coats are required; some specifications may require three coats.

180 ft^2 @ 90 mils

EQUIPMENT AND TOOLS:
Mechanical surface preparation
Power washer
Air blower
Mister
Mil gauge
Grinder
Large batching mixers
Mixing pails
Variable speed industrial drill
Jiffy mixer model PS-1
Spray equipment
Hard nap rollers
Flexible notched squeegee
Magic trowel
Finishing broom

PRECAUTIONS AND LIMITATIONS:
Refer to corresponding Product Data Sheets, Installation Procedures and Safety Data Sheets of all products and systems prior to installation. Refer to www.strongwall.com for the most recent information and updates.

- Prevent any contact with aluminum, as with all Portland cement based products, to prevent adverse chemical reactions and possible product failure. Follow specifications to insulate potential areas of contact by coating aluminum bars, rails and posts with an appropriate epoxy.
- Minor shade variations, staining, streaking or efflorescence may occur due to cure rate and site conditions or when a fresh material is exposed to water, heavy dew or excess moisture.
- Natural colored cement by its organic nature will have slight to significant color variations in the final color.
- Mix each unit consistently to maintain color uniformity.
- May reflect working cracks within the substrate.
- All crack treatment details are required to be fully embedded in the 90 mil system.
- If the substrate does not absorb water, re-profile to open the concrete pore structure.

NEW CONCRETE:
New concrete pours, as an industry standard, are required to cure for 28 days. Mechanical surface preparation may begin at 21 days or if the concrete has achieved at least 80% of its design strength. The surface preparation will open the pores and eliminate the excess moisture within the slab that is not part of the hydration process. Concrete, unless at approximately 8% moisture via a moisture meter, if coated too soon, may have elements of their internal chemistry migrate to the surface, which acts as a de-bonder. ASTM F-2170 is an In situ Relative Humidity (RH) Test and is the most accurate as it provides, not only the surface, but also a picture of the overall moisture condition of the slab. This test is affected by the dew point, outside elements and is dependent upon the surface temperature of the concrete. New concrete is required to have attained enough strength to support itself and has to be dried sufficiently.

SITE, STORAGE AND TRANSPORTATION CONDITIONS:
Materials should be delivered in their original packaging in containers with seals unbroken and bearing the manufacturers' labels indicating brand name, directions for storage and mixing with other components. Check materials upon receipt to make sure all is accounted for and has arrived in good condition. Store materials indoors, off the ground and in a dry location at temperatures not exceeding 80°F or lower than 65°F. Always keep the material out of direct sunlight and freezing temperatures in a protected environment. The liquid component must not freeze.

FIRST AID, HEALTH AND SAFETY:
In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. For respiratory problems, remove person to fresh air. Contact a physician.

Users must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300. For further information and advice regarding transportation, handling, storage and disposal of chemical products, the user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data.