



STRONGWALL SWS-213

Installation Procedures

High Build Wall Reconstruction System

STRONGWALL SWS-213 System is a 90 mil wall reconstruction and restoration system for interior and exterior service conditions. SWS-213 is designed to overlay C.M.U., concrete and various masonry substrates. The high build system is composed of a bond coat, base coat and finishing coat.

JOB SITE SURVEY:

- Evaluate the existing substrate for signs of efflorescence.
- For exterior and non-controlled environments, perform an adhesion test.
- Testing may be required for MVER, 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:		
Temperature	50°F and rising	85°F
Relative Humidity	N/A	75% rh
MVER	N/A	6 lbs.
Measure and record these temperatures daily. Do not apply materials if rain or freezing conditions are anticipated. Substrate is not frost laden. 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 to obtain an exposed aggregate profile and open the concrete pore structure. Variations in surface conditions seen in walls and ceilings versus those in horizontal substrates should be considered when choosing surface preparation methods and techniques.
- Carefully sound out the structure. Minimize damage to existing concrete and its bond to embedded reinforcing steel.
- All reinforcing steel must have 2" of bar free of rust, be mechanically white metal cleaned, coated or primed and fully dry.
- Restore all non-durable, unsound, damaged, deteriorated, delaminated, cracked, weak, loose, spalled and rust stained concrete. Perform all structural repairs using the Strongwall repair mortars.
- 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 C-1583.

INSTALLATION:

The proper installation of the STRONGWALL SWS-213 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, discuss all details regarding joints, crack isolation and repair, and any other conditions before 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, actual coverage rates, finish, texture and color.
- Honor all joints. Expansion, pour and control joints are continued through the system.
- Power wash substrate at recommended psi to remove all contaminants.
- Maintain dust free conditions throughout the installation as all contaminants will inhibit bond formation.
- Precondition 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:

Always pre-mix the liquid prior to each batch.

Mix only what can be placed in 20 minutes.

One pigment pint per 5 gallon pail.

Bond Coat:

Mix ratio: One 5-gallon pail of SC #3 Liquid
Two 55-lb bags of SC #3 White Powder
One pigment pint

Base Coat:

Mix ratio: Two 5-gallon pail of SC #3 Liquid
Five 55-lb bags of SC #3 White Powder
Two pigment pints

- Pre-mix the SC# 3 Liquid 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 container with liquid from the pail.
- Repeat this process until all colorant is added.
- Make sure none has settled at the bottom prior to discarding.
- Pre-measure pigmented liquid (hold back ½ gallon) into a clean mixing container.
- Gradually add the powder to the liquid.
- Never reverse this step.
- Scrape sides of container until no powder is visible.
- Mix for 3 minutes until mixture is lump-free.
- Add in the remaining ½ gallon of pigmented liquid.
- Mix for 1 minute.

Finish Coat:

- Pre-mix for 2 minutes.
- Do not create a vortex or aerate the material.

PROCEDURES:

Substrate is devoid of all surface irregularities, air voids, fins, honeycombs, bug holes, spalls, cracks and deteriorated joints.

Leave no voids.

Application method is substrate dependent.

Bond Coat:

Substrate is SSD.

Achieve a dull concrete finish.

Maintain this status during installation of the prime coat.

- Scrub in the bond coat to achieve optimal adhesion and fill all surface imperfections.
- Spread evenly.
- Keep a wet edge.
- Knock down the finish with a trowel.
- Finish with damp sponge as required.
- Allow to fully cure.

Base Coat:

Do not dampen the bond coat.

- Apply the base coat by trowel.
- Finish as per approved field mock-up.
- Allow to fully cure.

Finish Coat:

Base coat must be fully cured and completely dry.

Mix material prior to each application to eliminate settling and ensure color uniformity.

Ensure good, intimate contact with previously installed material.

Do not thin.

- Pour into paint tray.
- Dip and roll using short nap high-density roller.
- Thoroughly scrub the first coat.
- Keep a wet edge.
- Apply each coat in a uniform direction.
- Back roll each coat.
- Allow to fully cure.
- Apply second 5 mil coat.
- Finish as per approved field mock-up.
- Allow to fully cure

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.

- **Bond Coat:** 400 ft² @ 30 mils
- **Base Coat:** 350 ft² @ 50 mils
- **Finish Coat:** 450 ft² @10 mils

EQUIPMENT AND TOOLS:

Clean all tools with water while still wet immediately after use. If cured, mechanical means will be necessary.

- Mechanical surface preparation
- Power washer
- Air blower
- Mister
- Mil gauge
- Grinder
- Mixing pails
- Graduated measuring buckets
- Variable speed industrial drill
- Jiffy mixer Model PS-1
- Spray equipment
- Hard nap rollers

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.

- Discard any material that starts to set up in the container.
- If the substrate does not absorb water, re-profile to open the concrete pore structure.
- Millage build-up and cure times are affected by wind, wall and air temperatures, level of sun, shade, and moisture.
- Apply to shaded areas of the structure. Avoid direct sun.
- 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.
- May reflect working cracks within the substrate.
- All details are required to be fully embedded in the 90 mil system.
- 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.

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 components 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.