INSTALLATION SPECIFICATION PENNTROWEL™ 250 SB/SBR PENNTROWEL NOVOLAC SB/SBR SURFACERS

1. SCOPE

1.1 This specification governs the installation of two systems; CE-294 Penntrowel 250 SB/SBR Surfacer and CE-294A Penntrowel Novolac SB/SBR Surfacer as manufactured by Armor. The 250 SB Surfacer System offers very good thermal shock resistance, and the Novolac SB Surfacer System offers improved chemical resistance to stronger acid service. If in doubt as to which System to select, contact Armor.

1.2 SB designates “Slurry Broadcast” and SBR designates “Slurry Broadcast Reinforced”. When the term “Surfacer” is used below, it can refer to either System, as the outlined steps are the same for both Systems.

1.3 This specification shall be used in conjunction with information presented on product data sheets CE-294 Penntrowel 250 SB/SBR Surfacer, CE-294a Penntrowel Novolac SB/Novolac SBR Surfacer, CE-139 Penntrowel Epoxy Primer, Novocoat™ SC1100 Primer and any associated specifications referenced therein.

2. MATERIAL, ENVIRONMENTAL, AND SUBSTRATE CONDITIONS

2.1 The product and substrate temperatures are important. The product storage and construction areas shall be conditioned to achieve and maintain the temperatures outlined below.

2.2 At the time of mixing and application, the temperature of the components and substrate should ideally be 70˚F (21˚C) and in all cases between 50°F (10°C) and 90°F (32°C).

2.3 The temperature of the prepared surface shall be at least 5°F (3°C) above the moisture dew point and between 50°F (10°C) and 90°F (32°C) at the time the materials are applied.

2.4 An optional Cold Room Hardener is available. Consult Armor for applications where temperatures will be between 35°F (2°C) and 50°F (10°C).

2.5 The work site must be protected from precipitation until the Surfacer has achieved dry-to-touch stage and is not damaged by light traffic.

3 SUBSTRATE PREPARATION ON CONCRETE

3.1 A concrete surface to which the Surfacer is to be applied shall be prepared by abrading the concrete and have a resultant surface like a medium grit of sandpaper. The surface shall have a non-glazed appearance. Remove enough material to achieve a sound concrete surface free of laitance, glaze, efflorescence and incompatible concrete curing agents or form release agents.

3.2 A single pass troweled finish shall be given to new concrete floors with care being taken to avoid bringing laitance to the surface. New concrete shall be cured in accordance with good practice as outlined in ACI-308 "Recommended Practice for Curing Concrete". Do not use liquid curing compounds as they may impede the bond of the lining system.

3.3 Consult SSPC-SP 13/NACE No. 6 for detailed recommended surface preparation procedures.

4. PRIMER APPLICATION AND APPLICATION OF SBR REINFORCING LAYER

4.1 Penntrowel Epoxy Primer or Novocoat SC 1100 are the recommended primers for all concrete surfaces. Primer seals the substrate surface and promotes adhesion of Surfacers. Consult Primer Product Data Sheets for additional details.

4.2 Open proportioned cans of Part A Primer Resin and Part B Primer Hardener. Blend thoroughly together in mixing vessel. Use a slow speed electric drill to mix the liquids to avoid whipping air into the mix.

4.3 Mix thoroughly for at least one minute minimum and until mix is homogeneous.

4.4 Apply mixed Primer onto prepared substrate by using a roller or brush. On damp concrete surfaces the Primer can be scrubbed into the surface with a stiff brush. This will emulsify any residual wetness at the concrete surface and help the Primer penetrate the concrete. The presence of residual moisture will be observed if present as the Primer will turn a milky-white color.

4.5 For SBR Systems only, a 1 oz. mat reinforcement is laid into the wet Primer. The mat will help minimize cracking of the concrete from projecting into the Surfacer layer. Proceed by laying 1 oz. chopped strand glass mat into wet Primer as applied above in section 4.4, being sure to smooth out all wrinkles as work proceeds. Wet the cloth thoroughly by flooding cloth with catalyzed Primer, ensuring no dry spots remain.

4.6 Allow Primer to dry to touch before proceeding with application of Surfacer. Primer must remain clean and dry before proceeding with Surfacer application.

5. *MIXING PENNTROWEL SURFACER (BOTH SYSTEMS)*

5.1 Remove the lid from the Penntrowel 250 or 6710 Resin Part A and pour into mixing vessel. The mixer can be a KOL-type rotary mixer or equivalent. Use of an electric drill to mix the liquids is discouraged as it tends to whip air into the mix. If an electric drill mixer is used to mix the Resin: Hardener components, it should be a slow speed drill.

5.2 Slowly add contents of matching Penntrowel 250 Hardener or 6711 Part B Hardener into the Part A Resin and mix thoroughly for at least one minute or until mix is homogeneous and of uniform color.

5.3 Slowly add proportioned Tufchem Grout Filler into mixed Resin/Hardener in the ratio as outlined on the data sheet CE-294 or 294A. Mix thoroughly for at least one minute and until there are no visible dry spots in the Filler.

5.4 Never add water, Portland cement additives, or other adulterants to the mix.

6. INSTALLATION OF MIXED SURFACER

6.1 Penntrowel SB Surfacers are applied at thicknesses of a nominal 1/4” (6 mm). The mixed Surfacer is first slurry applied to a nominal 3/16” (4.75 mm) and then the wet surface is seeded to excess with fine aggregate to achieve the full 1/4” (6 mm) thickness.

6.2 A pin (gauge) rake is the preferred tool to install and finish the surface of the Penntrowel SB Surfacer. Use a flat trowel to push and assist in moving the wet material into place as needed. The mix is quite loose and will tend to slowly self-level. Use appropriately sized screed strips as a guide for applied thickness.

6.3 Use a spiked “porcupine” roller to remove trowel marks or other surface imperfections. Periodic cleaning of the roller with solvent (xylol, xylene or toluene) may be required to remove buildup on the roller.

6.4 After completion of step 6.3, wait approximately 10-15 minutes and uniformly broadcast to excess a clean quartz sand with approximate sieve gradation of 80-120 mesh onto the wet surface. Sweep away excess sand after Surfacer has set hard to touch.

6.5 Topcoat the Surfacer with a catalyzed mixture of Penntrowel 250 Resin/250 Hardener or 6710 Resin/6711 Hardner mixture prepared as in 6.1 above.

7. SET TIME OF SURFACER

7.1 Penntrowel 250 SB Surfacer will exhibit a work life of 40-60 minutes at 70˚F (21˚C). Penntrowel Novolac SB Surfacer will exhibit a work life of 30-40 minutes at 70˚F (21˚C). The applied Surfacer can support foot traffic in 6-8 hours. Full cure is 24 hours.

8. CLEANUP

8.1 Clean tools with xylene and rags. Dispose of rags in accordance with good practice and in compliance with local regulations.

9. SAFETY PRECAUTIONS DISCLAIMER CONTACT INFORMATION

9.1 Consult current Safety Data Sheets (SDS's) before commencement of work.

9.2 While statements, technical information and recommendations contained herein are based on information our company believes to be reliable, nothing contained herein shall constitute any warranty, express or implied, with respect to the products and/or services described herein, and any such warranties are expressly disclaimed. We recommend that the prospective purchaser or user independently determine the suitability of our product(s) for their intended use. No statement, information, or recommendation with respect to our products, whether contained herein or otherwise communicated, shall be legally binding upon us unless expressly set forth in a written agreement between us and the purchaser/user. For all Terms and Conditions of Sale see armor-inc.com.

9.3 Please contact Armor for further information at +1-877-98ARMOR (982-7667) or customerservice@armor-inc.com.

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