



## **INSTALLATION SPECIFICATION PENNTROWEL™ 250 AND N13 SURFACERS**

### **1. SCOPE**

- 1.1 This specification governs the installation of Penntrowel 250, and N13 Surfacers as manufactured by Armor. It shall be used in conjunction with information presented on product data sheets CE-247 Penntrowel 250 Surfacers, CE-272 Penntrowel N13 Surfacers, 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 Surfacers has achieved dry-to-touch stage and is not damaged by light traffic.

### **3. SURFACE PREPARATION**

- 3.1 The surface condition of new and/or existing concrete can vary greatly. The surface should be thoroughly inspected to identify the condition and suitability of the surface to accept the Surfacers. An assessment and evaluation of the suitability of the surface should precede quotations, procurement, or mobilization of installation crews.
- 3.2 New concrete shall reach a minimum compressive strength of 3000 psi (20 MPa) and a surface tensile strength of 300 PSI (2.0 MPa) before the Surfacers is applied.
- 3.3 All cavities, stone pockets, honeycombing, and bug holes greater than 1/4" (6 mm) depth shall be filled by repairing with appropriate polymer-modified cementitious materials.

### **4. SUBSTRATE PREPARATION ON CONCRETE**

- 4.1 A concrete surface to which the Surfacers 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.

- 4.2 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.
- 4.3 Consult SSPC-SP 13/NACE No. 6 for recommended surface preparation procedures.
- 4.4 Remove all form marks and protrusions such as prominent aggregate exposure, tie wires, reinforcing wires. All cavities, stone pockets, honeycombing, and bug holes shall also be filled.

## **5. PRIMER APPLICATION**

- 5.1 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 Product Data Sheets for additional details.
- 5.2 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.
- 5.3 Mix thoroughly for at least one minute minimum and until mix is homogeneous.
- 5.4 Apply mixed primer onto prepared substrate by using 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 penetrate the concrete. The presence of residual moisture will be observed if present as the primer will turn a milky-white color.
- 5.5 Allow primer to dry to touch before proceeding with application of Surfacers. Primer must remain clean and dry before proceeding with Surfacers application.

## **6. MIXING PENNTROWEL 250 SURFACER AND PENNTROWEL™ N13 SURFACER**

- 6.1 Remove the lid from the Part A Resin 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.
- 6.2 Slowly add contents of 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.
- 6.3 Slowly add proportioned Surfacers Filler into mixed Resin/Hardener and mix thoroughly for at least one minute and until there are no visible dry spots in the Filler.
- 6.4 Never add water, Portland cement additives, or other adulterants to the mix.

## **7. INSTALLATION OF MIXED SURFACER**

- 7.1 Penntrowel 250 and N13 Surfacers are applied at thicknesses of 3/16" (4.8 mm) for floors subject to light traffic, 1/4" (6 mm) in areas subject to average traffic and wet/dry exposure, and 3/8" (9 mm) in areas subject to heavy traffic, repeated thermal shock, or continuous spillage of a corrosive liquid. Consult the project specification to determine required thickness.
- 7.2 A steel trowel is the preferred tool to finish the surface of Penntrowel Surfacers. Apply moderate pressure with the edge of the towel to impart a uniform finish. A smooth uniform surface can be obtained with two to three trowel passes. Avoid excess troweling as a dark discoloration (burnishing) may occur. Use of a

magnesium trowel is recommended if available as they minimize discoloration. Use appropriately sized screed strips as a guide for applied thickness.

- 7.3 The Surfacers are designed to be used with an as-troweled finish. Finishing the freshly troweled Surfacers with a dry short nap roller is suggested to help close the surface. Periodic cleaning of the roller with solvent (xylol, xylene or toluene) may be required to remove buildup on the roller.
- 7.4 There is no need to topcoat with a finish coating although it is permitted if desired.
- 7.5 Penntrowel Surfacers may be power trowelled. Contractors familiar with the specialty techniques required for this installation method are required.
- 7.6 For vertical surfaces substitute Penntrowel LF Silica Filler into the catalyzed Resin:Hardener mix and apply with a flat steel to a nominal thickness of 1/8" (3 mm).

#### **8. SET TIME OF SURFACERS**

- 8.1 Penntrowel 250 Surfacers will exhibit a work life of 45-60 minutes at 70°F (21°C). The applied Surfacers can support foot traffic in 4-5 hours, and light vehicle traffic in 18 hours. Full cure is 24 hours.
- 8.2 Penntrowel N13 Surfacers will exhibit a work life of 30-45 minutes at 70°F (21°C). The applied Surfacers can support foot traffic in 4-5 hours, and light vehicle traffic in 18 hours. Full cure is 24 hours.

#### **9. CLEANUP**

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

#### **10. SAFETY PRECAUTIONS DISCLAIMER CONTACT INFORMATION**

- 10.1 Consult current Safety Data Sheets (SDS's) before commencement of work.
- 10.2 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.
- 10.3 Please contact Armor for further information at +1-877-98ARMOR (982-7667) or customerservice@armor-inc.com.

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