

# **Adsil MicroGuard® Advanced Siloxane Technology**

## **TERRAZZO - CLEAR TREATMENT SYSTEM SPECIFICATION**

### **DOCUMENT NUMBER AD1120-01**

### **SECTION 09800 - SPECIAL PROTECTIVE TREATMENT**

#### **PART 1, GENERAL**

**1.01 General requirements of the Project Manual shall apply to all work specified in this section.**

#### **1.02 Quality Assurance**

- A. Installer shall be proficient in concrete and epoxy terrazzo floor clear protective systems.
  - 1. Installer shall be trained & certified, by Adsil or its appointed agents, using Specification #AD1120-01 procedure, established in accordance with Adsil methods and standards for terrazzo floor system protective treatment.
  - 2. Installer shall ensure that all technicians utilized for work in this section are –
    - a. trained and certified journeymen in the Adsil MicroGuard® terrazzo clear protective treatment system.
    - b. shall have demonstrated a proficiency, in this area, by citing past projects.
  - 3. Installer shall ensure that any specialized equipment, as required by the manufacturer, will be used for work in this section.

#### **1.03 Submittals**

- A. Product Data: Submit manufacturer's technical information, including Product Technical Data Sheets, Material Safety Data Sheets, detailing job site and personal safety instructions, product mixing instructions and application instructions for each material specified. Identify by manufacturer's catalog number and general classification.
  - 1. Technical Data Sheet TS-45; MicroKleen™ Industrial Cleaner & Degreaser PLC-1
  - 2. Technical Data Sheet TS-54; MicroKleen™ Phosphoric Acid Etch & Clean PLC-35
  - 3. Technical Data Sheet TS-43; MicroKleen™ Retarder Solvent AD1-103
  - 4. Technical Data Sheet TS-44; MicroKleen™ Equipment Cleaner AD1-919
  - 5. Technical Data Sheet TS-22; MicroGuard® Concrete Clear Gloss Treatment AD703
  - 6. Technical Data Sheet TS-33; MicroGuard® Hard Tile Clear Gloss Treatment AD708
- B. Third Party Data: Submit any relevant test studies, relative to floor treatment systems, when using MicroGuard® Clear Treatments on new or in use terrazzo floor surfaces.

#### **1.04 Delivery and Storage**

- A. Deliver materials in sealed containers with manufacturer's labels intact.
- B. Store materials in a protected area at a temperature range between 50° and 85° F.

#### **1.05 Job Conditions**

- A. Apply MicroGuard® protective treatment only under the following prevailing conditions:
  - 1. Air, surface and material temperatures are not below 60° F. or above 100° F.
  - 2. Prevent wide temperature variations, which might result in condensation forming on the freshly treated surfaces or could affect hydrolyzing or curing of the treatment.
  - 3. Avoid product mixing or installation when rain, heavy dew or fog conditions are imminent or could occur within 8 hours of treatment installation (caution for exterior use only).
- B. Mask or drop cloth adjacent surfaces not to receive protective treatment.

## **PART 2, PRODUCTS**

### **2.01 Manufacturers**

- A. Products of Adsil, Inc., Daytona Beach, Florida 32117 USA. (Phone: 386-274-1382)

### **2.02 Materials**

- A. Cleaners and Conditioners
  - 1. Adsil MicroKleen™ PLC-1 Industrial Cleaner & Degreaser

2. Adsil MicroKleen™ PLC-35 Phosphoric Acid Etch & Clean
  3. Adsil MicroKleen™ AD1-103 Retarder Solvent (Solvent Blend)
  4. Adsil MicroKleen™ AD1-919 Equipment Cleaner (99% Isopropanol)
- B. Protective Terrazzo Floor Surface Treatments
1. Adsil MicroGuard® AD702 Concrete Clear Sealer
  2. Adsil MicroGuard® AD703 Concrete Clear Gloss Treatment
  3. Adsil MicroGuard® AD708 Hard Tile Clear Gloss Treatment

## 2.03 Product Requirements

- A. Surface Cleaners
1. Cleaners shall be free from any known carcinogen or teratogen materials.
  2. Cleaners shall be phosphorous free.
  3. Cleaners shall be chlorine free.
  4. Cleaners shall be d'limonene free.
- B. Surface Conditioners
1. Rinses shall be free from any known teratogens, mutagens, sensitizers or reproductive toxins.
- C. Terrazzo Protective Surface Treatments
1. Surface Treatments shall be clear inorganic film structures.
  2. Surface Treatments shall adhere to substrate by London Force bonding methods.
  3. Surface Treatments shall produce a dry film thickness no greater than 12 microns, on average (1 mil = 25.4 microns).
  4. Surface Treatments shall have passed ASTM G-21, with a zero (0) microbial spore growth development rating\*.
  5. Surface Treatments shall not lose more than 25 mg of film, when tested according to ASTM D 4060 Taber Abrasion; using the CS-17 wheel\*.

\*Standard ASTM testing must have been conducted and validated by an accredited, third party, independent laboratory.

## 2.04 Material Preparation

- A. Catalyze and/or mix above referenced materials strictly in accordance with manufacturer's most current published technical literature, which can be found on the company web site ([www.adsil.com](http://www.adsil.com)).
- B. Thinning: MicroGuard® Clear Protective Treatments should be thinned with MicroKleen™ AD1-103 Retarder Solvent, only. Thin as needed, up to 15% by volume.

## **PART 3, EXECUTION**

### 3.01 Pre-work Inspection

- A. Examine terrazzo floors to be treated and report any conditions that would adversely affect the appearance or performance of the protective treatment system and which cannot be put into an acceptable condition by specified surface preparation methods.
- B. Do not proceed with the mixing or installation of the specified protective treatment until the terrazzo floor can be placed in an acceptable condition or unless authorization to proceed with work is granted.

### 3.02 Equipment Requirements

- A. Spray Equipment (for spray & back roll/pad installation method)
1. Air compressor, which can deliver 3 CFM @ 90 PSI.
  2. Adsil Stainless Steel Pressure Pot (2 gallon tank)
  3. Adsil Spray Wand with 45° Connector and #5 Cone Tip
  4. Adsil Chemical Resistant Hoses with quick connect couplers
  5. Adsil Regulator assemblies & safety valves
  6. Adsil Product Mixer with Timer
  7. Clean, white HDPE plastic bucket (5 gallon) with lids.
  8. Roller Frame, extension handle, short nap mohair roller cover or pad.
  9. Assorted tools, extension cords, water hose & nozzle, squeegee, clean buckets, clean rags, etc;

- B. Surface Preparation Equipment
  - 1. 175 RPM Swing Machine.
  - 2. Assortment of pads, screens and nylon brush attachments.
  - 3. Doodle Pads.
  - 4. Rinse & Reclaim Equipment (portable or truck mount).
  - 5. Assorted cleaning paraphernalia associated with the trade.

### 3.03 Surface Preparation

#### A. General

- 1. Prior to all surface preparation and installation operations, completely mask, remove or other wise adequately protect all fixtures or surfaces not to receive protective treatments.
- 2. Place drop cloths, tarps, plastic sheathing or other protection over any adjacent areas that should be protected from the cleaning chemicals and protective treatment installation.

#### B. Specific Cleaning – Concrete Terrazzo

- 1. Any wax or other temporary treatments must be stripped from the floor using commercially available strippers. Follow all label instructions.
- 2. Liberally flush the terrazzo floor area with MicroKleen™ Industrial Cleaner & Degreaser PLC-1. Pre-dilute the PLC-1 Cleaner, 1 part cleaner to 1 part hot water. Avoid contact with wall or column surfaces. Allow the PLC-1 Cleaner to soak on the surface for approximately 5 minutes, but do not allow the cleaning solution to dry. If drying in an area occurs, lightly refresh that area with more PLC-1 Cleaner or a very light spray of tap water to keep the PLC-1 Cleaner functioning in a moist environment. Mechanically agitate using a Swing Machine and black pad or nylon scrub brushes.
- 3. Pick up cleaning residues using Rinse & Reclaim equipment. A second and even a third cleaning may be required in order to remove all surface contaminates. Continue the cleaning process, as specified above, until the surface is clean and free from contaminates.
- 4. In some jurisdictions, the use and collection of cleaning materials may be regulated. It is the responsibility of the installer to be aware of any such regulations and to take appropriate steps to collect and dispose of cleaning materials, in accordance with any such regulations.
  - a. In these instances, the installer must control the cleaning material waste stream.
  - b. To provide means of containment of material and collection of material for neutralizing and proper disposal, according to regulations.

#### C. Specific Conditioning – Concrete Terrazzo

- 1. Once the surface has been cleaned and is free from contaminants, condition the concrete terrazzo by applying MicroKleen™ PLC-35 Phosphoric Acid Etch & Clean. Pre-dilute the PLC-35 using 1 part acid to 6 parts water. Always add acid to water and not water to acid. Apply to the surface and allow the acid to work for 15 minutes.
- 2. Pick up spend acid residues with Rinse & Reclaim Equipment.
- 3. Allow the surface to dry completely. Use a standard probe moisture meter to determine the concrete terrazzo has retained moisture content at 10% or below.

#### D. Specific Cleaning – Epoxy Terrazzo

- 1. Any wax or other temporary treatments must be stripped from the floor using commercially available strippers. Follow all label instructions.
- 2. Sand the epoxy terrazzo lightly using 200 grit sandpaper or sanding screen to break the surface tension and provide sufficient anchor profile.
- 3. Liberally flush the terrazzo floor area with MicroKleen™ Industrial Cleaner & Degreaser PLC-1. Pre-dilute the PLC-1 Cleaner, 1 part cleaner to 1 part hot water. Avoid contact with wall or column surfaces. Allow the PLC-1 Cleaner to soak on the surface for approximately 5 minutes, but do not allow the cleaning solution to dry. If drying in an area occurs, lightly refresh that area with more PLC-1 Cleaner or a very light spray of tap water to keep the PLC-1 Cleaner functioning in a moist environment. Mechanically agitate using a Swing Machine and black pad or nylon scrub brushes.

4. Pick up cleaning residues using Rinse & Reclaim equipment. A second and even a third cleaning may be required in order to remove all surface contaminants. Continue the cleaning process, as specified above, until the surface is clean and free from contaminants.
5. In some jurisdictions, the use and collection of cleaning materials may be regulated. It is the responsibility of the installer to be aware of any such regulations and to take appropriate steps to collect and dispose of cleaning materials, in accordance with any such regulations.
  - a. In these instances, the installer must control the cleaning material waste stream.
  - b. To provide means of containment of material and collection of material for neutralizing and proper disposal, according to regulations.

### **3.04 Mixing and Catalyzing Protective Treatments**

- A. MicroGuard® AD702 Concrete Clear Sealer, AD703 Concrete Clear Gloss Treatment and AD708 Hard Tile Clear Gloss Treatment are all three-component, cross-link cured products and must be properly catalyzed and chemically inducted before use. For proper mixing instructions, refer to Adsil's published Technical Sheets for each product. To access the most current Technical Sheet revisions access the 'Document Section' of the Adsil Web Site by going to [www.adsil.com](http://www.adsil.com).

### **3.05 Installation of Protective Treatments**

- A. Concrete Terrazzo – MicroGuard AD702 & MicroGuard AD703
  1. Spray & Back Roll/Pad Installation of AD702 Clear Sealer – This method is best accomplished using a two-person team. One person for spraying and one person for back rolling/padding. Spray the MicroGuard® AD702 Sealer onto the specified concrete terrazzo using the spray equipment detailed in Section 3.02. Set the fluid pressure gauge at 80 - 85 psi and the air pressure gauge at 0 psi. No hose or air atomization is needed to the gun/wand. Using the #5 cone tip, over lap each spray pass by 50%. Fully wet the surface with the sealer at about 650 ft<sup>2</sup> per gallon kit. If necessary, back roll using a short nap roller cover or pad mounted on a frame with extension handle to produce a thin, uniform film deposit. It is important to achieve complete wetting of all surface areas to be protected, while maintaining a thin and even film deposit. Take care to minimize skips or holidays. Avoid over working the product. Avoid excess lapping into previously coated areas. Maintain a working wet line. Allow sealer to dry a minimum of 4 hours before proceeding to installation of the MicroGuard® AD703 Clear Treatment.
  2. Spray Installation of AD703 Clear Treatment - Spray the MicroGuard® AD703 Treatment onto the sealed concrete terrazzo using the spray equipment detailed in Section 3.02. Set the fluid pressure gauge at 85 psi and the air pressure gauge at 0 psi. As before, over lap each spray pass by 50%. Fully wet the surface with the treatment at about 600 to 650 ft<sup>2</sup> per gallon kit. It is generally not necessary to back roll/pad the AD703 Clear Treatment. However, if necessary, back roll using a short nap roller cover or pad mounted on a frame with extension handle to produce a thin, uniform film deposit. It is important to achieve complete wetting of all surface areas to be protected, while maintaining a thin and even film deposit. Take care to minimize skips or holidays. Avoid over working the product. Avoid excess lapping into previously coated areas. Maintain a working wet line.
  3. Allow 8 to 12 hours drying for light foot traffic and 24 to 36 hours for heavy traffic.
    - a. When applying MicroGuard® AD702 Clear Sealer or AD703 Clear Gloss Treatment onto larger surface areas, or when the ambient air or surface temperatures are above 85° F., post add MicroKleen™ AD1-103 Retarder Solvent into both the clear sealer and clear treatment. Following proper induction, post add a minimum of 4 ounces and up to 16 ounces of AD1-103 Retarder Solvent into each gallon kit equivalent. Using a variable speed drill and mixing paddle, at low speed, blend the AD1-103 Retarder Solvent into the MicroGuard® AD702/AD703 until uniformly dispersed. MicroGuard® AD708 should yield up to 650 square feet per gallon.

- B. Epoxy Terrazzo – MicroGuard® AD708
1. Spray Installation of AD708 Clear Treatment - Spray the MicroGuard® AD708 Treatment onto the epoxy terrazzo using the spray equipment detailed in Section 3.02. Set the fluid pressure gauge at 85 psi and the air pressure gauge at 0 psi. No hose or air atomization to the gun/wand is needed. As before, using a #5 cone tip, over lap each spray pass by 50%. Fully wet the surface with the treatment at about 600 to 650 ft<sup>2</sup> per gallon kit. It is generally not necessary to back roll/pad the AD708 Clear Treatment. However, if necessary, back roll using a short nap roller cover or pad mounted on a frame with extension handle to produce a thin, uniform film deposit. It is important to achieve complete wetting of all surface areas to be protected, while maintaining a thin and even film deposit. Take care to minimize skips or holidays. Avoid over working the product. Avoid excess lapping into previously coated areas. Maintain a working wet line.
  2. Allow 8 to 12 hours drying for light foot traffic and 48 to 60 hours for heavy traffic.
    - a. When applying MicroGuard® AD708 Clear Gloss Treatment onto larger surface areas, or when the ambient air or surface temperatures are above 85<sup>o</sup> F., post add MicroKleen™ AD1-103 Retarder Solvent into the clear treatment. Following proper induction, post add a minimum of 4 ounces and up to 16 ounces of AD1-103 Retarder Solvent into each gallon kit equivalent. Using a variable speed drill and mixing paddle, at low speed, blend the AD1-103 Retarder Solvent into the MicroGuard® AD708 until uniformly dispersed. MicroGuard® AD708 should yield up to 650 square feet per gallon.
- C. Strictly follow Adsil's recommendations and instructions regarding product material and mixing, so as to provide the best quality work.
- D. All materials shall be applied under adequate illumination, evenly distributed and properly applied, free from skips, holidays or pinholes.

### 3.06 Clean Up

- A. Thorough cleaning of the spray equipment is essential to ensure its continued operational efficiency.
1. Purge all remaining MicroGuard® Clear Treatment from the pressure pot and fluid hose. Pour one pint of MicroKleen™ AD1-919 into the pot reservoir. Make sure that all interior surfaces of the pot have been cleaned free from the treatment residue.
  2. Next, pressurize the pot reservoir to about 10 psi and evacuate the AD1-919 through the gun, wand and nozzle, until the entire pint has been evacuated.
  3. Add one more pint of MicroKleen™ AD1-919 and evacuate through the gun, wand and nozzle. This will remove all latent material from the equipment.
  4. Remove the nozzle/tip from the gun/wand assembly and immerse into the MicroKleen™ AD1-919. Clean the nozzle thoroughly to prevent future clogging. Dispose of the cleaning material according to current local standards.
- B. Any drips, spills or over spray, of the Protective Treatment, can be cleaned using a cloth saturated with MicroKleen™ AD1-919 before the Protective Treatment dries to touch.
- C. Remove any masking and other debris from job site and leave storage area clean.

### 3.07 Final Inspection

- A. Repair any work that is not acceptable to the Specifier and request the final acceptance.

### 3.08 Protective Surface Treatment Schedule

- A. As indicated on schedules
1. Concrete Terrazzo Flooring
    - a. Apply one coat of Adsil MicroGuard® AD702 Concrete Clear Sealer onto cleaned and properly prepared surfaces.
    - b. Apply one coat of Adsil MicroGuard® AD703 Concrete Clear Gloss Treatment over the AD702 Sealer.
  2. Epoxy Terrazzo Flooring
    - a. Apply one coat of Adsil MicroGuard® AD708 Hard Tile Clear Gloss Treatment onto cleaned and properly prepared surfaces.

**END OF SECTION – 09880**

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