

SECTION 09781**HARD SURFACE FLOOR, BASE AND WALL – SEALING, COLOR ENHANCEMENT, & FINISH**

Note to specifier: Use this section to specify the proper sealing, color enhancement and finish products for hard surfaces. Historically, you may have simply requested floor care maintenance manuals and warranties as a submittal requirement to be turned over to your client. Increasingly sophisticated clients require the floor you specified to look as beautiful as the sample, and be durable and maintenance friendly for years to come. The maintenance products a janitorial service selects could ultimately determine the aesthetics of the floor you designed, particularly on natural stones. Your involvement in the selection of advanced systems for finishing, protection and maintenance is critical to satisfying your client. Miracle Sealants would enjoy being a part of your successful project.

All tile, stone, grout and masonry surfaces benefit by having a natural look impregnator / penetrating sealer. Impregnators penetrate into the substrate creating a barrier resistant to water penetration, oil penetration, stains, decrease surface absorption, reduce wear, allow 100% vapor transmission, increase static coefficient of friction, without altering the natural look. Stone has many variables and because stone care is not an exact science, test every situation should to assure expected results.

This specification can be used as a stand-alone supplement cross-referenced by your hard surfaces specification sections or you may elect to cut and paste these articles into the appropriate specification section.

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Sealing, Color Enhancing and Finishing of Honed, Textured, Unpolished Natural and Cast Stones
- B. Sealing, Color Enhancing and Finishing of Polished Stone.
- C. Sealing, Color Enhancing and Finishing of Brick and Masonry Surfaces.
- D. Sealing, Color Enhancing and Finishing of Terre Cotta, Saltillo, Cataluna & Other Clay Type Pavers
- E. Sealing, Color Enhancing and Finishing of Quarry, Ceramic, Mosaic, & Porcelain Tile.
- F. Sealing, Color Enhancing and Finishing of Limestone.

1.02 RELATED SECTIONS

- A. 02515 Stone Pavers
- B. 04200 Unit Masonry
- C. 04400 Stone
- D. 07180 Water Repellents
- E. 09300 Tile
- F. 09450 Stone Facing
- G. 09600 Stone Flooring
- H. 09630 Unit Masonry Flooring
- I. 09790 Slip Resistant Finishes

1.03 REFERENCES

- A. TCA (Tile Council of America) – Handbook for Ceramic Tile Installation.
- B. Marble Institute of America handbook
- C. Limestone Institute Handbook
- D. Ceramic Tile Institute Stain Test (CTI-T-72)
- E. American National Standards Institute (ANSI Z 124.3 Para 5.2 Stain Resistance)
- F. American Society of Testing Methods ASTM C373 and ASTM C 501 Surface Water Absorption Tests and Tabor Abrasion
- G. American Society of Testing Methods ASTM C97 (modified) Surface Water Absorption
- H. American Society of Testing Methods ASTM E 96-92 Water Vapor Transmission
- I. American Society of Testing Methods ASTM C 1028-89 Static Coefficient of Friction (American Disabilities Act - Slip Resistance)

1.04 QUALITY ASSURANCE

- A. Conform to ANSI/TCA A137.1
- B. Conform to TCA Handbook for Ceramic Tile Installation.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Handle and store all materials in a manner to avoid damage or contamination to materials and products by water, moisture, freezing, excessive heat, foreign matter.
- B. Store Penetrating Sealers at 77 deg F.

1.06 MOCK-UPS

- A. Perform four test areas for each substrate.

1.07 TOLERANCES

- A. Polished marbles should achieve a gloss of 90 dynes minimum as measured by a Miracle Sealants Gloss meter.

1.08 ENVIRONMENTAL REQUIRMENTS

- A. Install adhesives, grout releases, tile sealer or grout sealer in an open ventilated environment.
- B. Maintain environmental condition and protect work during installation. Comply with trade standards and manufacturer's printed recommendations.
- C. Maintain temperature in tiled areas of no less than +50 degrees Fahrenheit and no more than 104 degrees Fahrenheit for 7 days after installation.

PART 2 PRODUCTS

2.01 CLEANERS, SEALERS, COLOR AND GLOSS ENHANCEMENT

- A. Manufactured by Miracle Sealants Company. 1 (800) 350-1901 as represented by:

Note to Specifier: List the appropriate rep for both your office location and the job site location. This will ensure continued excellent service of your account.

2.02 CEMENTITIOUS GROUT REPAIR FOR SHADED MOTTLED OR BLEACHED OUT GROUT

- A. Epoxy Grout Colorant as manufactured by Miracle Sealants Company.
- B. For uniformly bleached out grout use Mira Matte Color Enhancement

2.03 CLEANING

- A. Cementitious grout haze removal: "GCFR" Grout & Concrete Film Remover manufactured by Miracle Sealants Company.
- B. Epoxy grout haze removal: "Epoxy Grout Film Remover" manufactured by Miracle Sealants Company.

2.04 WATER, STAIN AND SLIP PROTECTION

Note to Specifier: Test results vary from stone to stone. Please request test reports from Miracle Sealants for your application if your desire is to write a performance specification. Fill in the following data as is appropriate for your project. We appreciate you using Miracle Sealants test data as your benchmark.

- 1. Stain Test :
- 2. Static Coefficient of Friction Test :
- 3. Tabor Abrasion Test, Surface Absorption Test :
- 4. Freeze/Thaw Test :
- 5. Vapor Transmission :

2.05 COLOR ENHANCEMENT

- A. Textured Non-Polished Surfaces Mira Matte
- B. Porous Type Pavers Saltillo & Terre Cotta Paste & Liquid Wax

2.06 GROUT RELEASE, GROUT AND TILE SEALING

- A. Grout Release & Tile Sealer: 511 Impregnator manufactured by Miracle Sealants Company. Grout Sealer: 511 Porous Plus manufactured by Miracle Sealants Company.

PART 3 EXECUTION

3.01 PREPARATION

- A. Floor Surface to be dry and free of contaminants, including previously applied sealers, dirt, lime and hard water deposits, efflorescence, and rust.
- B. Remove existing coatings and waxes using Mira Strip or H2O Strip.
- C. Remove lime and hard water deposits, efflorescence, rust and other heavy dirt and grime using Miracle Sealants “GCFR” Grout and Concrete Film Remover. Not for acid sensitive materials including but not limited to marble.
- D. Deep Cleaning non-acid use Miracle Sealants Liquid Poultice.
- E. Thoroughly rinse with clean water and allow to dry.

3.02 INSTALLATION

- A. Keep expansion and control joints free of .
- B. Protect all adjacent surfaces and finishes.

3.03 GROUTING

- A. Allow tile to set for a minimum of 24 hours before treating with 511 Impregnator as a grout release.
- B. Remove all paper and glue from the face of the mounted tile. Remove all spacers, strings, ropes and pegs.
- C. Apply 511 Impregnator per manufacturer’s printed instructions and allow curing 12 to 24 hrs before grouting. Keep sealer out of open joints.
- D. Mix and install grout materials to requirements of TCA Handbook, ANSI 108.10 and manufacturer’s printed instructions.
- E. Force grout into joint to fill joint flush, leaving no voids.
- F. Promptly remove excess grout from tile surfaces with damp sponge or cloth and polish tile surface with a clean cloth to avoid heavy duty clean up.
- G. Allow grout to cure minimum 72 hours minimum and as required by grout manufacturer prior to application of additional sealers or finishes.

3.04 CLEANING

- A. Clean tile surfaces and adjoining surfaces of any residue of setting adhesive or grout. Grout residue may be cleanable with clean sponges and clean water.
- B. Any excess grout haze or residue must be removed using Miracle Sealants Company “GCFR”, diluted according to the manufacturer’s printed instructions.
- C. Any excess grout haze or residue must be removed using Miracle Sealants Company Liquid Poultice, diluted according to the manufacturer’s printed instructions

3.05 SEALING

- A. Apply 511 Porous Plus to the grout joints using a brush or clean cloth. Allow to dwell a minimum of 3-5 minutes before wiping away any excess sealer from adjacent tile surfaces.
- B. Use Miracle Sealants 511 Impregnator, 511 H2O, 511 Porous Plus as indicated in schedule.

3.06 PROTECTION

- A. Protect finished installation from construction traffic until protection products and setting and grouting materials are fully cured.
- B. Do not permit traffic over finished floor surface. If traffic is necessary, protect the floor with a layer of _ “ plywood for full length of traffic pattern; tape joints; use large rubber tired dollies for moving heavy items or equipment.
- C. Protect neighboring surfaces including but not limited to wood, carpet, metal, landscaping, and other non-masonry surfaces.

3.07 SCHEDULE

Material	Stain & Slip Resistance	Color Enhancement	Wax Finish
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Marble - Polished	511 Impregnator	Stone Polish Preserver (floor) Marble Conditioner, Mira Dust Mira Pad	Stone Polish
Marble - Honed	511 Porous Plus, Mira Soap	Stone Polish	Not Recommended
Marble - Textured	511 Impregnator, 511 H2O	Mira Matte	Saltillo & Terre Cotta Paste & Liquid Wax
Granite - Polished	511 Impregnator, 511 Porous Plus	Stone Polish Preserver (floor) Stone Polish	Stone Polish
Granite - Honed	511 Porous Plus, 511 H2O	Mira Matte	Not Recommended
Granite - Textured	511 Porous Plus, 511 H2O	Mira Matte	Saltillo & Terre Cotta Paste & Liquid Wax
Limestone - Polished	511 Porous Plus	Stone Polish Preserver, Stone Polish	Stone Polish
Limestone - Honed	511 Porous Plus, 511 H2O	Not Recommended	Not Recommended
Limestone - Textured	511 Porous Plus, 511 H2O	Mira Matte	Saltillo & Terre Cotta Paste & Liquid Wax
Travertine - Polished	511 Impregnator	Stone Polish Preserver, Marble Conditioner, Mira Dust, Mira Pad	Stone Polish
Travertine - Honed, Unfilled	511 Impregnator, 511 H2O	Mira Matte	Not Recommended
Slate	511 Impregnator, 511 Porous Plus, 511 H2O	Mira Matte	Not Recommended
Sandstone	511 Porous Plus, 511 H2O	Mira Matte	Not Recommended
Flagstone	511 Porous Plus, 511 H2O	Mira Matte	Not Recommended
Cantera	511 Porous Plus, 511 H2O	Saltillo & Terra Cotta Paste Wax, Mira Shine	Saltillo & Terre Cotta Liquid Wax
Terre Cotta	511 Porous Plus, 511 H2O	Saltillo & Terra Cotta Paste Wax, Mira Shine	Saltillo & Terra Cotta Liquid Wax
Mexican Saltillo Tile	511 Porous Plus, 511 H2O	Saltillo & Terra Cotta Paste Wax, Mira Shine	Saltillo & Terre Cotta Liquid Wax
Ceramic Tile	511 Impregnator	Not Recommended	Not Recommended
Quarry Tile	511 Impregnator, 511 H2O	Not Recommended	Not Recommended
Porcelain Tile	511 Impregnator	Not Recommended	Not Recommended
Brick	511 Impregnator, 511 Porous Plus, CST, 511 H2O	Not Recommended	Not Recommended
Concrete	511 Impregnator, 511 Porous Plus, CST, 511 H2O	Saltillo & Terra Cotta Paste Wax, Mira Shine	Saltillo & Terra Cotta Liquid Wax
Cementitious Grout	511 Porous Plus, 511 Impregnator, Grout Sealer, 511 H2O	Grout Color Kit	Not Recommended
Epoxy Grout	511 Impregnator, Grout Sealer	Grout Color Kit	Not Recommended