

09 66 23

**RESINOUS MATIRX TERRAZZO FLOORING**

**PART 1 – GENERAL**

**1.1 PURPOSE**

- A. This guideline is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. PSP is to apply the principles of this section such that the University of Texas at Arlington (UTA) may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be approved by UTA and may require justification through Life Cycle Cost (LCC) analysis and submitted to UTA for approval.

**1.2 LESSONS LEARNED AND DESIGN CONSIDERATIONS**

- A. Refer to **PART 3 – EXECUTION, 3.4 CLEANING** for specific UTA sealing process.
- B. Refer to **Owner’s Control Samples** for actual UTA colors and **Part 4 – Appendix** for color representations.

**1.3 SECTION INCLUDES**

- A. Epoxy matrix terrazzo with ground/polished finish.
- B. Pre-cast stair treads.

**1.4 RELATED REQUIREMENTS**

- A. Volatile Organic Compound (VOC) Content Restrictions section in Division 01.

**1.5 REFERENCE STANDARDS**

- A. NTMA (GRAD) - Aggregate Gradation Standards; The National Terrazzo and Mosaic Association, Inc; current edition.
- B. NTMA (EPOXY) - Epoxy Terrazzo Specifications; The National Terrazzo and Mosaic Association, Inc; Current Edition located at [www.ntma.com](http://www.ntma.com).

**1.6 SUBMITTALS**

- A. See Division 01 for submittal procedures.
- B. Product Data: Provide data for sealer and anchors; include printed copy of current NTMA recommendations for type of terrazzo involved.
- C. Shop Drawings: Submit plan, section, elevation, anchors and perspective drawings as necessary to determine the required dimensions and placement location for each product specified as well as clarify the manufacturer's recommended installation, joinery and termination techniques.
- D. Samples: Submit two samples, 12 inch by 12 inch in size illustrating color, chip size and variation, chip gradation, matrix color, and typical divider strip.
- E. Cleaning and Maintenance Data: Include procedures for stain removal, stripping, and sealing.

**1.7 QUALITY ASSURANCE**

- A. Perform work in accordance with NTMA recommendations as posted at their web site at [www.ntma.com](http://www.ntma.com).
- B. Installer Qualifications: Company specializing in performing the type of work specified in this section.
  - 1. Minimum ten years of documented experience.

**1.8 DELIVERY, STORAGE, AND HANDLING**

- A. Transport, store and handle precast concrete stair treads in accordance with manufacturers written instructions.
- B. Store precast terrazzo stair treads on pallets clear of mud and water. Stack precast terrazzo concrete stair treads to allow air to circulate freely and keep treads dry.
- C. Do not allow cast in anchor bolts to be damaged during handling or to rust during storage.
- D. Transport and store stair treads so that edges and corners of treads are not damaged.

**PART 2 – PRODUCTS**

2.1 EPOXY MATRIX TERRAZZO APPLICATIONS

- A. Stair Treads and Landings:
  - 1. Tread Dimensions: Refer to Drawings.
  - 2. Tread Profile/Edge: Refer to Drawings.
  - 3. Color: See Owner's control sample.
  - 4. Finish: See Owner's control sample.
  - 5. Aggregate Type and Size: See Owner's control sample.

2.2 MATERIALS

- A. Epoxy Matrix Terrazzo Topping: Aggregate and matrix mix applied to substrate, leveled, and ground smooth.
  - 1). Mix Proportions: As required to achieve appearance specified.
- B. Epoxy Matrix: Two component resin and epoxy hardener with mineral filler and color pigment, non-volatile, thermo-setting.
- C. Aggregate: Type as indicated; sized in accordance with NTMA Aggregate Gradation Standards; color(s) as indicated, uniform in color.
- D. Finishing Grout: Epoxy, color to match terrazzo matrix.
- E. Reinforcing Bars: ASTM A615, Grade 40, #3 - 3/8 inch deformed rebar.
- F. Embedded Stair Tread Anchor Bolts: ASTM F 1554, Grade 36.
  - 1. Hot-dip or mechanically deposited, zinc-coated anchor bolts with nuts for attaching and securing stair treads to stair framing.
  - 2. Shoulder Nut: Manufacturer's anchor bolt design to resist damage due to excessive torque stress on anchor bolt nut, or normal stair movement.

**PART 3 – EXECUTION**

3.1 PREPARATION

- A. Clean substrate of foreign matter.
- B. Apply primer in accordance with manufacturer's instructions.

3.2 INSTALLATION

- A. Cutting, Fitting, and Installation: Perform cutting, drilling, and fitting required for installing precast concrete stair treads. Set units accurately in location, alignment, and elevation, measured from established lines and levels.

3.3 TOLERANCES

- A. Maximum Variation from Flat Surface: 1/8 inch in 10 feet.
- B. Maximum Variation from Level: 1/8 inch.

3.4 CLEANING

- A. Scrub and clean terrazzo surfaces with cleaner.
  - 1. Mask all material adjacent to terrazzo with protective covering where necessary.
  - 2. Remove all existing floor finish with low odor stripper.
  - 3. Rinse, vacuum/squeegee.
  - 4. Make six (6) passes with 3M™ Trizact™ Red Diamond HX Discs.
  - 5. Clean-up slurry created during Red Disc Phase with a wet vac.
  - 6. Make six (6) passes with 3M™ Trizact™ Blue Diamond HX Discs.
  - 7. Clean-up slurry created during Blue Disc Phase with a wet vac.
  - 8. Clean the floor with an auto-scrubber, a clean Red Buffer Pad 5100, and 3M Neutral Cleaner until no residue remains on the floor.
  - 9. Rinse, vacuum/squeegee, and let dry.
- B. Seal and polish surfaces
  - 1. Using a high speed (1500 rpm or higher) burnisher, make four (4) to six (6) passes using the 3M Scotch-Brite Purple Diamond Pad.
  - 2. Dust the area using the 3M Easy Trap Duster.
  - 3. Apply a thin, uniform coat of Scotchgard Stone Floor Protector with Wet Easy Shine Applicator Pad.
  - 4. Allow at least fifteen (15) minutes to dry.
  - 5. Burnish with the Scotch-Brite Purple Diamond Floor Pad Plus. Make two (2) passes.

## GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION DOCUMENTS

6. Apply a second, uniform coat of Scotchgard Stone Floor Protector with Wet Easy Shine Applicator Pad.
  7. Allow at least fifteen (15) minutes to dry.
  8. Burnish with the Scotch-Brite Purple Diamond Floor Pad Plus. Make two (2) passes.
  9. Dust the area using the 3M Easy Trap Duster.
- C. Upon completion of work, clean all debris accumulated during refinishing process.

### 3.5 PROTECTION

- A. Protect finished terrazzo from damage due to subsequent construction until Date of Substantial Completion.
- B. Do not permit construction traffic over finished terrazzo surfaces.

## **PART 4 – APPENDIX**

### 4.1 PRODUCT DATA / CUT SHEETS

- A. UTA Control Sample 1, Blue – Plate #8
- B. UTA Control Sample 2, Orange – Plate #10
- C. UTA Control Sample 3, White – Plate #6
- D. Terrazzo Floor Plan submittal from the Career Development Center project
- E. 3M, Stone Floor Protection System

END OF SECTION



**PROJECT:** UTA - Main Library  
Arlington, TX

**FORMULA:** Plate #8  
Blue

6-23-14

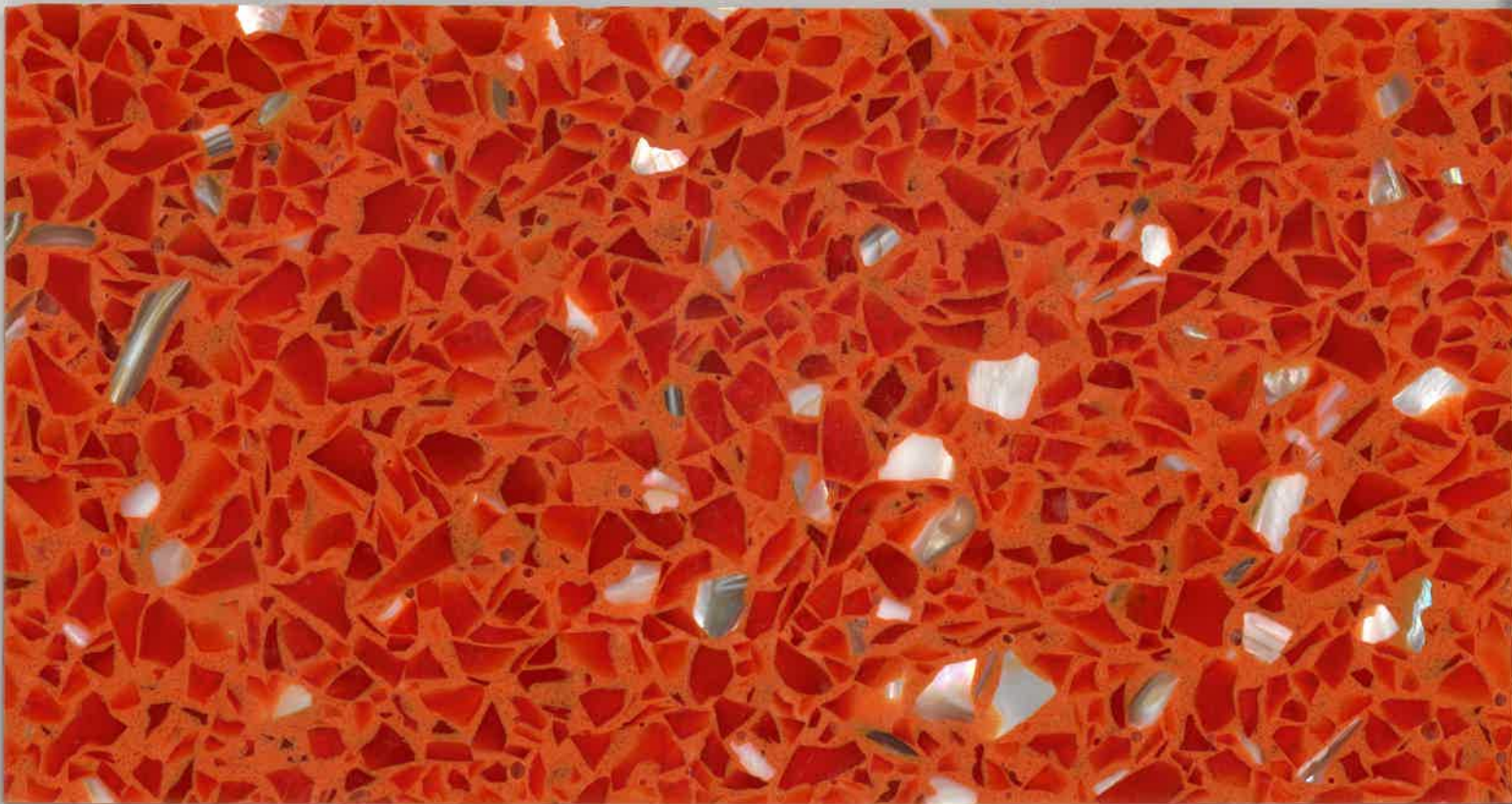


Terrazzo is a combination of various colored marble chips, cement, and mortar color, (if required). Marble chips vary in shade and veining as quarry operations progress. Cements will vary in shade in different localities. This sample represents marble chips being supplied at the present time, together with cement obtained locally, and may be expected to vary somewhat from any printed colored reproductions.

AMERICAN  TERRAZZO

309 GOLD STREET - GARLAND, TEXAS 75042 - (972) 272-8084 - FAX (972) 276-4736

**MEMBER:** National Terrazzo & Mosaic Association  
Southwest Terrazzo Association, Inc.



**PROJECT:** UTA - Library  
Arlington, TX

**FORMULA:** Plate #10  
Orange

7-21-14



Terrazzo is a combination of various colored marble chips, cement, and mortar color, (if required). Marble chips vary in shade and veining as quarry operations progress. Cements will vary in shade in different localities. This sample represents marble chips being supplied at the present time, together with cement obtained locally, and may be expected to vary somewhat from any printed colored reproductions.

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Southwest Terrazzo Association, Inc.



AMERICAN  TERRAZZO

**PROJECT:** UTA - Library  
Arlington, TX

**FORMULA:** Plate #6

2-10-16

T-1

Terrazzo is a combination of various colored marble chips, cement, and mortar color, (if required). Marble chips vary in shade and veining as quarry operations progress. Cements will vary in shade in different localities. This sample represents marble chips being supplied at the present time, together with cement obtained locally, and may be expected to vary somewhat from any printed colored reproductions.

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[WWW.AMERICANTERRAZZO.COM](http://WWW.AMERICANTERRAZZO.COM)

# 3M™ Stone Floor Protection System



**Restore. Protect. Maintain.**

*A complete floor care system for porous stone surfaces.  
Create a shine that makes you say "Wow!"*

**3M**

# Long-lasting strength and shine

Experience the benefits of 3M innovation with the 3M™ Stone Floor Protection System—a complete floor care process that restores the natural beauty of your porous stone and produces a remarkable, long-lasting shine. The system has everything you look for in floor care. It's easy to use, features environmentally preferable\* components for greener cleaning, needs no stripping or deep scrubbing, and creates a high traction gloss that can help reduce slips and falls.

3M scientists have spent countless hours in test environments formulating and validating the performance properties of the 3M™ Stone Floor Protection System. And more than five decades of experience in floor protection and maintenance stand behind our products. That's 3M at work for you.

## Protection that Shines

- **RESTORE** with precise, fast-cutting **3M™ Trizact™ Diamond HX Discs**.
- **PROTECT** from staining, scratching and black marks with **Scotchgard™ Stone Floor Protector**.
- **MAINTAIN** the brilliant shine with **Scotch-Brite™ Purple Diamond Floor Pad Plus** and **3M™ Neutral Cleaner Concentrate**.

**\*3M™ Stone Floor Protection System Products are Environmentally Preferable.** The Instructions for Implementing Executive Order 13423 titled, "Strengthening Federal Environmental, Energy and Transportation Management" defines Environmentally Preferable as products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. The comparison may consider raw materials acquisition, product manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.



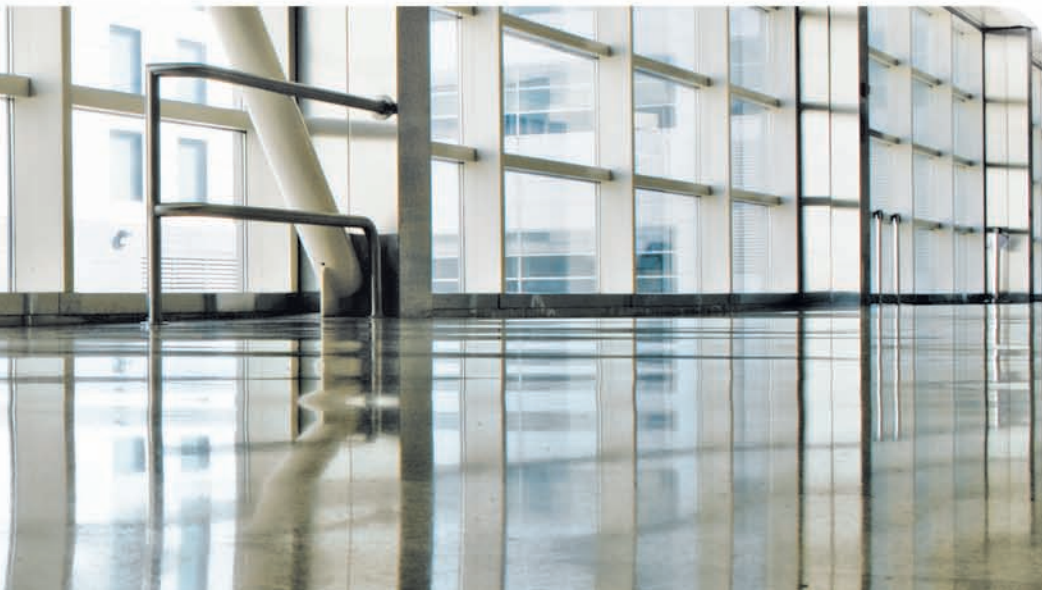


# Restore.

## Bring back the natural beauty of your floors with 3M™ Trizact™ Diamond HX Discs

Give marble, terrazzo, polished concrete and other porous stone floors new life with 3M™ Trizact™ Diamond HX Discs. Featuring proprietary 3M technologies and manufacturing techniques, these advanced abrasives leave exceptionally consistent scratch patterns, maximizing efficiency and reducing the number of steps in the restoration process.

- Uniform cutting surface stays sharp and effective through the life of the discs
- Wet process does not create dust
- Compatible with standard floor cleaning equipment (low speed rotary and automatic scrubber)
- Can also be used with the 3M™ Electric Variable Speed Polisher to easily access stairs, corners and other tight areas



*“With Scotchgard™ Stone Floor Protector, both our experienced and beginner polishing contractors have realized the ease of use, cost effectiveness, durability and beautiful finished result of this product that is sure to be the future of polishing.”*

Aray Anderson, President  
Concrete Solutions and Supply, Fullerton, CA

# Protect.

## Create a high traction shine with Scotchgard™ Stone Floor Protector

Every year, poorly maintained floors are responsible for more than two million customer and employee fall injuries. The result is billions of dollars in medical, insurance and litigation costs.<sup>1</sup> In just two coats, Scotchgard™ Stone Floor Protector creates an NFSI-Certified “high traction” surface that can help prevent slips and falls. What’s more, you get a long-lasting, glossy, natural-looking floor that is less susceptible to scuffs, black marks, stains and scratches.

- No stripping or deep scrubbing required, eliminating operator exposure to and environmental release of potentially hazardous stripping chemicals
- Easy to spot repair damaged areas
- Unique hybrid technology that densifies, increases hardness and improves wear

<sup>1</sup>Consumer Product Safety Commission



Scotchgard™ Stone Floor Protector has been certified by the National Floor Safety Institute as providing “high traction.” A wet static coefficient of friction (SCOF) of greater than 0.60 was chosen by NFSI as the criteria for “high traction” because according to NFSI, floor surfaces maintaining this level of slip resistance when wet have proven to reduce slip-and-fall claims by between 50% and 90%.



BEFORE

# Maintain.

## Take the guesswork out of maintenance with Scotch-Brite™ Purple Diamond Floor Pad Plus and 3M™ Neutral Cleaner Concentrate

Floor maintenance is about finding the right tools and supplies to give you the best possible results. Designed to work together, Scotch-Brite™ Purple Diamond Floor Pad Plus and 3M™ Neutral Cleaner help you easily maintain the premium, shiny appearance you've created with the 3M™ Stone Floor Protection System.

- Proven compatibility; no-residue formula will not cloud or dull the floor
- Pads are available in numerous sizes
- When used as a complete system, improves productivity and reduces operational costs



*3M™ Entrance Matting can help further reduce the long-term maintenance costs of your facilities.*



**AFTER**

## 3M™ Stone Floor Protection System—a complete floor care process



### Restore.

**Follow these simple steps to restore your floors to a glossy, long-lasting, easy-to-maintain finish**

1. Select the right abrasive pad: For heavily damaged floors, where there is visible wear or scratches, use 3M™ Trizact™ Diamond HX Discs Gold; for less damaged floors, use 3M™ Trizact™ Diamond HX Discs Red.
2. Attach four 3M™ Trizact™ Diamond HX Discs to a 3M™ Red Buffer Pad 5100 in the 12:00, 3:00, 6:00 and 9:00 positions.
3. Make 5 passes with the 3M™ Trizact™ Diamond HX Discs with squeegee up and solution on. Make a final 6th pass with squeegee down.
4. If 3M™ Trizact™ Diamond HX Discs Gold were used in steps 1-4, attach four 3M™ Trizact™ Diamond HX Discs Red (red backing) to the 3M™ Red Buffer Pad 5100 in the same positions. If 3M™ Trizact™ Diamond HX Discs Red were used in steps 1-4, skip to step 6.
5. Make 3 passes with the 3M™ Trizact™ Diamond HX Discs Red with squeegee up and solution on. Make a final 4th pass with squeegee down.
6. Repeat steps 2 & 3 with 3M™ Trizact™ Diamond HX Discs Blue (blue backing) and a new 3M™ Red Buffer Pad 5100.
7. Clean the floor with an autoscrubber and water using the 3M™ Red Buffer Pad 5100 to remove any residue.
8. Make 4 passes using a burnisher and the Scotch-Brite™ Purple Diamond Floor Pad Plus.
9. Dust the floor using the 3M™ Easy Trap Duster.



### Protect.

**Protect the natural brilliance of your stone floors with just two coats**

1. Wet the 3M™ Easy Shine Applicator Pad with 3M™ Stone Floor Protector and apply a thin, uniform coat to the floor using the 3M™ Easy Shine Applicator System. Allow 15 to 30 minutes to dry. Burnish the floor 6 times with the Scotch-Brite™ Purple Diamond Floor Pad Plus.
2. Dust the floor using the 3M™ Easy Trap Duster. Repeat step 1.

**Note:** If scratches occur between reapplications, a quick burnish with the Scotch-Brite™ Purple Diamond Floor Pad Plus will restore the appearance. When it's time to recoat, simply clean the floor and reapply—no need to strip or deep scrub. 3M™ Stone Floor Protector creates a hydrophobic surface that resists water, stains and dirt, so finished floors are easily cleaned by dusting and wet mopping.



### Maintain.

#### Daily Cleaning

1. Dust daily with the 3M™ Easy Trap Duster.
2. Damp mop or autoscrub with the 3M™ Red Buffer Pad 5100 using 3M™ Neutral Cleaner.

#### Burnishing & Recoating

1. Burnish the floor with Scotch-Brite™ Purple Diamond Floor Pad Plus, dark purple side down. A suggested burnishing schedule\*:  
Low Traffic Areas: 1-2x/month | Medium Traffic Areas: 3-4x/month | High Traffic Areas: 1-2x/week
2. Recoat floors using a single coat of Scotchgard™ Stone Floor Protector. A suggested recoating schedule\*:  
Low Traffic Areas: 1x/year | Medium Traffic Areas: 1-2x/year | High Traffic Areas: 2+x/year













**Note:** To ensure proper slip resistance, flooring should be cleaned regularly to keep dust, sand, oils and other contaminants off the surface. DO NOT use acidic cleaners, cleaners that contain citrus (d-limonene), 2-butoxyethanol (butyl cellosolve), amine-based cleaners, isopropyl alcohol, solvent-based cleaners, degreasers or non-neutral cleaners. DO NOT use spray buff products or chemical dust mop treatments. Customers without burnishing equipment should use the Scotch-Brite™ Purple Diamond Floor Pad Plus with an autoscrubber at least 2x/week in place of the red buffer pad. Use Scotch-Brite™ Sienna Diamond Floor Pad Plus prior to Scotch-Brite™ Purple Diamond Floor Pad Plus if 3M™ Trizact Diamond HX Discs are not used during the restorative process.

\*Minimum recommendation for optimum appearance.



# Protect. Maintain.

## Products and Ordering Information

Product	Information & Applications	Size	Item #	Oty.
<b>RESTORE.</b>				
<b>3M™ Trizact™ Diamond HX Discs</b> 	A diamond disc for refurbishing concrete, marble, terrazzo and other porous stone flooring. Gold/Coarse, Red/Medium, Blue/Fine.	Gold 5"	27621	4/bx, 4 bx/cs
		Gold 3"	27620	8/bx, 4 bx/cs
		Red 5"	27508	4/bx, 4 bx/cs
		Red 3"	27509	8/bx, 4 bx/cs
		Blue 5"	27507	4/bx, 4 bx/cs
		Blue 3"	27510	8/bx, 4 bx/cs
<b>3M™ Electric Variable Speed Polisher</b> 	An accessory tool for floor restoration and maintenance. Used to access stairs, corners and other tight spaces.	3M™ Electric Variable Speed Polisher	28391	1/cs
		3M™ Disc Pad Holder 7"	917	1/cs
		3M™ Disc Pad Holder 4-1/2"	9145	1/cs
<b>Scotch-Brite™ Sienna Diamond Floor Pad Plus</b> 	Diamond-coated pad cleans and conditions worn and dull concrete, marble, terrazzo and other porous stone flooring. Use prior to Scotch-Brite™ Purple Diamond Floor Pad Plus to bring floor to a medium shine if 3M™ Trizact Diamond HX Discs are not used during the restorative process.	Multiple sizes available		5/cs
<b>PROTECT.</b>				
<b>Scotchgard™ Stone Floor Protector</b> 	High performance hardener and protector for concrete, marble, terrazzo and other porous stone flooring. Lower maintenance requirements than typical finishes; reduces floor maintenance costs. NFSI-certified high traction.	1 gallon bag	59379	2/cs
<b>3M™ Easy Shine Applicator Kit</b> 	Helps reduce worker exposure to floor finish, and accelerates application compared to traditional mop and bucket methods.	Applicator w/ 16" pad	55433	1/ea
<b>3M™ Easy Shine Applicator Pad</b> 	Washable and reusable 18" pads for the 3M™ Easy Shine Applicator.	18"	59646	10/cs
<b>MAINTAIN.</b>				
<b>3M™ Easy Trap Duster</b> 	Specially developed disposable sheets simplify removal of dust, dirt and sand from floor surfaces.	8" x 6" x 125'	55654	1 roll/box 250 sheets/cs
		8" x 6" x 30'	59152	60 sheets/box 8 boxes/cs
<b>3M™ Neutral Cleaner Concentrate</b> 	No-rinse, low-foaming formula has proven compatibility and will not leave residue that can cloud or dull the floor appearance. Chemical concentrates sold with the 3M™ Twist 'n Fill™ and Portable dispensing systems are Green Seal Certified.	55 Gallon	29644	1/cs
		2.5 Gallon	59865	2/cs
		2 Liter	 3L, 3H	6/cs
		1.9 Liter	 3P	6/cs
<b>Scotch-Brite™ Purple Diamond Floor Pad Plus</b> 	Diamond-coated pad for periodic maintenance with low and high speed equipment to help bring floor to a high shine.	Multiple sizes available		5/cs
<b>3M™ Red Buffer Pad 5100</b> 	Used to hold 3M™ Trizact™ Diamond HX Discs during floor restoration and for daily cleaning maintenance with autoscrubber machines. Pad is washable and reusable.	Multiple sizes available		5/cs



\* These products meet the Green Seal™ Standard for Cleaning Products for Industrial and Institutional Use, GS-37, based on their reduced human and environmental toxicity and reduced volatile organic compound content.



## Restore. Protect. Maintain.

Experience the brilliant shine, safety and savings.

Order now or schedule a free demonstration by calling 1.866.649.1973.

Visit [www.3MFloorProtection.com](http://www.3MFloorProtection.com) for more information.

**Note:** Scotchgard™ Stone Floor Protector is not recommended for granite, black-colored stone or ceramic surfaces.

**Product Use:** Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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