RETROFIT™

CONCRETE & TERRAZZO RESTORATION & MAINTENANCE

Operations Resource Booklet

CURECRETE

Experts in Concrete Densification, Polishing, Restoration & Maintenance for 75 Years!

INDEX

SECTIONS

QUICK GLANCE

Quick Glance Chart

Step	Product	Purpose	Dilution & Coverage	Equipment & Tools	Dry Time	Final Appearance
1 STRIP	**RF Strip & Prepare**	Remove coatings	1:20 Water 100 ft²/gal	• Auto Scrubber OR • Swing Buffer • Black Stripping Pad	N/A	Dull, clean
2 GRIND	**RF Grind & Enhance**	Create consistent scratch pattern	800 ft²/gal	• Auto Scrubber OR • Swing Buffer • Oval Adapters • 200-grit Diamonds	N/A	Dull, rough to touch, consistent scratches
3 DENSIFY	**RF Densify & Harden**	Harden and strengthen floor surface	600 ft²/gal	• Sprayer • Microfiber Pad & Wand	1 hr	Dull, no visual difference
4 HONE & POLISH	**N/A**	Hone and polish the floor	N/A	• Auto Scrubber OR • Swing Buffer • Oval Adapters • 400-grit Diamonds • 800-grit Diamonds • 1800-grit Diamonds	N/A	After 400-grit: Dull, smooth After 800-grit: Shiny; clarity begins to reflect off floor After 1800-grit: High shine, clear and distinct reflections
5 PROTECT	**RF Acid & Stain Defender**	Additional protection against harmful acids	1:1 Water[1] 1500-2000 ft²/gal	• Sprayer • Microfiber Pad & Wand • Burnisher & Pad[2]	1 hr before use; 24 hrs full cure	Enhanced floor shine
	RF Water & Oil Defender	Additional protection against water and oil	Ready to Use 600-1200 ft²/gal	• Sprayer • Microfiber Pad & Wand	1 hr before use; 24 hrs full cure	Dull, no visual difference
6 CLEAN & MAINTAIN	**RF Hard Surface Cleaner**	Regular/ daily floor cleaning	1 oz : 1 gal Water	• Auto Scrubber & Pad[3] • Mop & Bucket	N/A	Clean floor, improved shine with consistent cleaning

[1]***Depending on floor absorbency; may dilute up to 50% with water.***

[2]***Recommended:*** *Americo Twister™ Gray (SuperGloss)*

[3]***Recommended:*** *Americo SmartScrub™ Floor Pad*

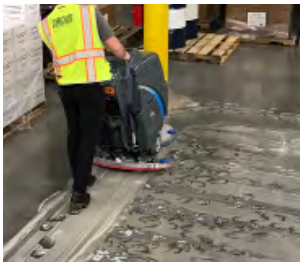
SYSTEM OVERVIEW

The Restoration & Maintenance System Process

The **RetroFit**™ Restoration & Maintenance System is a 6-step revitalization process for concrete and terrazzo floors - making them look new again!

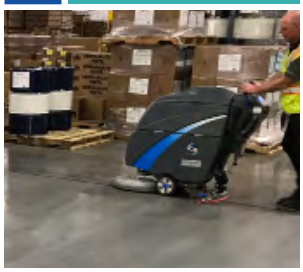
1 STRIP

2 GRIND



3 DENSIFY

4 HONE & POLISH

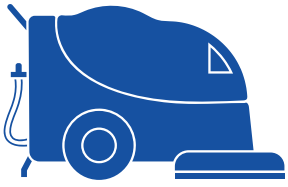


5 PROTECT

6 CLEAN & MAINTAIN

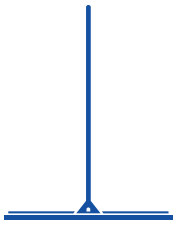
The Equipment

This system uses standard maintenance equipment to perform the work!



AUTO SCRUBBER

SWING BUFFER

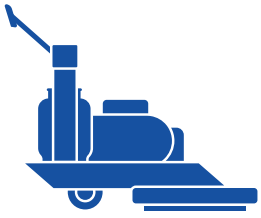


SQUEEGEE

OVAL ADAPTERS

SPRAYER

MICROFIBER PAD & WAND



BURNISHER

SYSTEM OVERVIEW

Products & Tools

This system uses industry-best concrete chemicals and tools with more than 70 years of concrete flooring expertise to strip, grind, densify, hone and polish, protect, and clean and maintain tired and worn concrete and terrazzo floors.

These products and tools are specifically designed to work together, ensuring floors are restored to their original beauty.

1 STRIP

RF Strip & Prepare
Floor Stripper

2 GRIND

RF Grind & Enhance
Grinding Accelerant & 200-grit

3 DENSIFY

RF Densify & Harden
Densifier-Hardener

4 HONE & POLISH

Diamonds
Grits 400, 800, 1800

5 PROTECT

RF Acid & Stain Defender
RF Water & Oil Defender
Floor Protectants

6 CLEAN & MAINTAIN

RF Hard Surface Cleaner
Floor Cleaner

Preparation

! PREPARE

IMPORTANT: Remove any items that may obstruct clear access to the floor. Where possible, move furniture and appliances. Be sure to protect all immovable objects and adjacent areas (walls, pillars, glass windows and doors, etc.) with protective sheeting. Should these objects or areas come into contact with slurry or chemical splatter during the restoration process, extensive cleaning and permanent damage (etching) may occur.

Detailed Process

1 STRIP

Purpose: Remove all topical coatings in order to speed up the grinding process and achieve a bare floor ready to be densified. Coatings can slow down the 200-grit diamonds from establishing a consistent scratch pattern on the floor, and also prevent the densifier-hardener, **RF Densify & Harden**, from properly penetrating, reacting and densifying the floor surface.

Equipment & Tools: Auto scrubber or swing buffer, black stripping pad

Product(s): *RF™ Strip & Prepare*

Dilution and/or Coverage Rate: Dilute 1:20 with water; Apply at 100 ft^2/gal (2.45 m^2/L)

Directions: Dispense **RF Strip & Prepare** onto the floor and spread until floor is uniformly wet. Allow to penetrate for 5-10 minutes to soften the coating. Apply additional stripper solution to areas that may be drying out. Do not allow to dry as it can attach to the floor and be difficult to remove.

Use a low-speed swing buffer (175 rpm) with a black stripping pad to thoroughly remove the old floor coating. Remove the soiled solution with an auto scrubber and flood-rinse the floor. Check for any remaining coating. If the floor has any remaining floor coating present, repeat the stripping procedure.

Note: A water test can help determine whether a coating is on the floor. If water is immediately absorbed into the floor, the floor DOES NOT have a coating. If the water sits on the floor surface and is NOT immediately absorbed, the floor HAS a coating.

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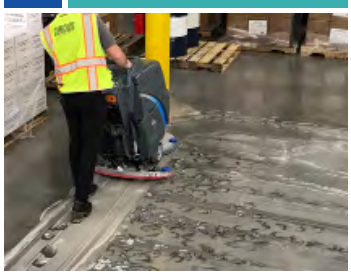
2 GRIND



Purpose: To mechanically remove any physical imperfections on the floor and establish a consistent scratch pattern for floor uniformity.

Equipment & Tools: Auto scrubber or swing buffer, oval adapters, 200-grit diamonds

Product(s): *RF™ Grind & Enhance*

Dilution and/or Coverage Rate: Apply at 800 ft^2/gal (19.6 m^2/L)

SYSTEM OVERVIEW

Directions: Spray-apply **RF Grind & Enhance** directly to the floor. Make 4, thorough, 1/3 overlapping wet passes over the entire floor section, cross-hatching each pass where possible (it may not be possible to cross-hatch in narrow hallways and corridors). Slurry will begin to develop during this step.

After completing the necessary grinding passes, clean up the slurry with an auto scrubber. Do not allow the slurry to dry as it can be difficult to remove.

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3 DENSIFY

Purpose: Chemically harden and strengthen the concrete and cementitious terrazzo surface after being "opened-up" during the "Grinding" step.

Equipment & Tools: Sprayer, microfiber pad & wand

Product(s): ***RF™ Densify & Harden***

Dilution and/or Coverage Rate: Apply at 600 ft^2/gal (14.7 m^2/L)

Directions: Spray-apply a thin layer of **RF Densify & Harden** onto the floor and spread it evenly with a microfiber pad using a figure-8 motion. Allow to dry for at least 1-hour.

Note: Do not allow **RF Densify & Harden** to puddle in low spots or voids. When **RF Densify & Harden** is applied too thick and is allowed to dry, it will appear white and will require significant grinding to remove.

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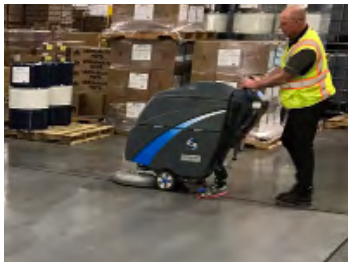
4 HONE & POLISH



Purpose: Hone and polish the floor by removing 200-grit scratch patterns and polishing to the customer's desired level of polish (800-grit or 1800-grit).

Equipment & Tools: Auto scrubber or swing buffer, oval adapters, 400, 800, 1800-grit diamonds

Product(s): N/A

Dilution and/or Coverage Rate: N/A

Directions: With the 400-grit diamonds, make 4, thorough, 1/3 overlapping wet passes over the entire floor section, cross-hatching each pass where possible (it may not be possible to cross-hatch in narrow hallways and corridors).

SYSTEM OVERVIEW

After completing the necessary honing passes, clean the floor thoroughly with an auto scrubber.

Repeat the same process with the 800 and 1800-grit diamonds, making sure to clean the floor after each polishing step.

Allow the floor to dry completely.

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5 PROTECT

Purpose: Provide additional protection against harmful acids and stains.

Equipment & Tools: Sprayer, microfiber pad & wand, burnisher & pad*

Product(s): *RF™ Acid & Stain Defender*

Dilution and Coverage Rate: Dilute 1:1 with water; Apply at 1,500-2,000 ft^2/gal (36.8-49 m^2/L)

Directions: Before application, ensure the floor surface is completely dry. Spray-apply RF Acid & Stain Defender thin and tight with a microfiber pad using a figure-8 motion. Allow to dry completely. It is best to allow RF Acid & Stain Defender to dry and cure overnight prior to burnishing.

Using a high-speed burnisher and burnishing pad, make overlapping dry passes until the floor finish is clean and clear. Watch for swirl patterns caused by the burnisher. If swirls develop, inspect the burnishing pad as hardened burrs of material can develop. Remove the burrs and continue burnishing. In most cases, swirls can be removed by additional burnishing.

**Recommended: Americo Twister™ Gray (SuperGloss)*

Purpose: Provide additional protection against water and oil.

Equipment & Tools: Sprayer, microfiber pad & wand, burnisher & pad*

Product(s): *RF™ Water & Oil Defender*

Dilution and Coverage Rate: Apply at 600-1,200 ft^2/gal (14.7-29.5 m^2/L)

Directions: Liberally spray-apply **RF Water & Oil Defender** onto the floor. Do not apply product too thick. Spread evenly using a figure-8 motion with a microfiber pad and wand.

RF Water & Oil Defender should penetrate the concrete. If excess product dries on the surface, burnish to remove any haze. Do not leave standing water on the floor until after 24 hrs.

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6 CLEAN & MAINTAIN

Purpose: Maintain the floor's shiny appearance and increase the durability, performance and overall life of the floor.

Equipment & Tools: Auto scrubber or mop & bucket

Product(s): ***RF™ Hard Surface Cleaner*** and ***RF™ Hard Surface Cleaner - Single Dose***

Dilution and/or Coverage Rate: **RF™ Hard Surface Cleaner:** Dilute 1 oz :1 gal water (7.8 mL/L); **RF™ Hard Surface Cleaner - Single Dose:** Dispense according to directions on bottle.

Directions: Recommended cleaning is 3 times per week. Sweep the floor thoroughly and clean the floor using an auto scrubber or mop and bucket.

FAQs

CONCRETE Ddensification

1. What is concrete densification and why is it important?

Concrete densification is the process of making regular concrete harder and more durable using a chemically reactive liquid which creates crystals to fill the voids within concrete - turning it into a durable, solid mass.

Concrete densification is important because concrete is naturally porous, susceptible to staining, can wear and erode easily, and dusts. Densification with a chemical densifier resolves these issues.

2. What are the differences between a densified and non-densified concrete floor?

A densified concrete floor is durable, has a hard surface, does not dust, and develops a sheen over time as a result of regular cleaning and foot traffic. Internally, voids in the concrete surface are filled-in with crystals, providing added strength and durability.

A non-densified concrete floor has a soft surface that dusts and scratches easily. It also has a dull surface appearance. Internally, it has a porous structure that makes it susceptible to wear, damage and staining.

3. Why is densification more advantageous than typical coatings?

Densification is more advantageous than typical coatings because it is a one-time, permanent, chemical reaction that hardens and densifies the concrete. It is cost effective as it does not typically require re-application, makes concrete easy-to-maintain, and develops a glossy sheen over time with regular foot traffic and cleaning.

Coatings, however, require repeated and expensive re-application, not to mention the costly downtime of the floor during re-application. It may look good for a few years, but will yellow, peel or chip away over time. It also may not be suitable for indoor conditions due to VOC content.

4. When is re-densification necessary?

Re-densification is only necessary when the concrete surface has been mechanically ground with diamonds and "opened up." Grinding the concrete surface effectively removes the strong, densified layer, leaving behind porous and less-durable concrete.

RETROFIT RESTORATION & MAINTENANCE SYSTEM

5. Can the RetroFit Restoration & Maintenance System be used on terrazzo?

This system can be used on terrazzo floors. Cementitious terrazzo floors use cement as a matrix and can be densified the same as typical concrete. Non-cementitious terrazzo floors can benefit from restoration, however, densification will have little to no effect since there is no cement matrix for the densifier to react with.

FAQs

6. How to determine if a floor should be cleaned or restored?

Clean the floor using **RF Hard Surface Cleaner** five (5) times before deciding whether or not to restore a floor. If after five (5) cleanings the owner/occupant's expectations have not been met, then move ahead with floor restoration and maintenance.

7. What are the steps of the RetroFit Restoration & Maintenance process?

The RetroFit Restoration & Maintenance System consists of 6 easy steps:
1. **Strip** 2. **Grind** 3. **Densify** 4. **Hone & Polish** 5. **Protect** 6. **Clean & Maintain**.

8. What equipment is used in the restoration and maintenance process?

The RetroFit Restoration & Maintenance System uses standard maintenance equipment. Equipment used in the restoration and maintenance process include: auto scrubbers and/or swing buffers, stripping pads, squeegees, sprayers, microfiber pads, and burnishers.

9. How to determine if a floor has a coating which must be stripped?

A water test can help determine whether a coating is on the floor. If water is immediately absorbed into the floor, the floor DOES NOT have a coating. If the water sits on the floor surface and is NOT immediately absorbed the floor HAS a coating.

NOTE: It is best to assume terrazzo floors have a coating and must be stripped every single time.

10. What are diamond tools used in the RetroFit Restoration & Maintenance System?

Diamond tools are used to grind, hone and polish concrete and terrazzo floors. They are attached to a rotary polishing machine - or in the restoration and maintenance system - attached to an auto scrubber or swing buffer which moves the diamonds across the floor to establish consistent scratch patterns.

Diamonds are categorized by grits - or levels of coarseness - similar to sandpaper. Lower/coarser grit diamonds are used for grinding, while higher/finer grit diamonds are used for polishing.

11. How to determine if/when the grinding step is complete?

After performing the prescribed grinding steps, the floor surface should be dull, have NO shiny spots, should feel rough to the touch, and have a visible, consistent scratch pattern.

12. What does honing and polishing accomplish?

Honing smooths and refines the 200-grit concrete floor surface, effectively removing the visible scratch patterns in the floor. Polishing further refines the floor until it develops a shiny and reflective surface. Depending on the owner/occupant's desired level of polish, a floor is typically polished to an 800 or 1800-grit finish.

13. Who should determine the final level of shine on the floor?

The customer/owner/occupant.

14. Should protection be applied to every floor?

Additional protection is not necessary on every floor surface. For floors prone to harmful liquids, additional protection is recommended. It is important to note that if the ultimate goal of restoration and maintenance is to restore the floor's glossy appearance, a topical protectant/coating is not necessary to achieve this look. Properly polished floor surfaces will have a glossy finish without the help of a topical coating.

CLEANING & MAINTENANCE

15. Can RF Hard Surface Cleaner regularly help create a stronger, more durable floor?

Regular cleaning with **RF Hard Surface Cleaner** can continually help strengthen and harden the concrete floor surface over time, leading to a more durable, long lasting floor.

COMPETITORS

16. How does the RetroFit Restoration & Maintenance System compare to others?

This restoration and maintenance system was researched and developed over many years, answering a demand in the market for a better understanding of how to restore and properly maintain concrete floors. The products in this system have been developed by concrete industry experts and backed by more than 75 years of proven performance.

A few differences that set this system apart:

- **EQUIPMENT:** This system was designed for use with standard maintenance equipment. Others created their systems using professional polishing machines, then adapted their process to include standard maintenance equipment.

- **GRINDING ACCELERANT:** Some systems use only diamond tools or pads and water to grind the floor taking a significant amount of time and labor. This system utilizes a grinding accelerant, **RF Grind & Enhance**, to help create a lubricated environment for the grinding process by which the 200-grit diamonds can perform more effectively, cut with better precision and quality, and last longer.

FAQs

- **DENSIFIER/HARDENER:** This system utilizes a concrete chemical densifier with more than 25 years of proven performance. Other systems do not use a chemical densifier at all, or use a less effective and inferior densifier.

- **ABRASIVES:** This system uses industry-best diamond discs which are highly effective and efficient in grinding, honing and polishing the floor surface. Other systems use a series of pads and diamond-impregnated pads, which may not be as efficient or effective as diamond discs.

- **PROTECTANT:** Other systems tend to use a topical protective coating as a means to deliver a highly-polished floor surface, rather than properly polishing the floor surface itself. In this system, additional protection is OPTIONAL, and is meant for just that - protection against harmful liquids. This topical protectant acts as a sacrificial layer between the harmful liquid and the concrete surface. It is highly-recommended that harmful liquids be cleaned up immediately; before it has a chance to penetrate through the coating and reach the concrete.

GLOSSARY

Aggregate
The course stone in the concrete mix. Aggregates are available in a variety of colors and sizes that will have a big impact on how a floor looks.

Cement
A substance used for construction that sets, hardens and adheres to other materials in order to bind them together.

Coatings
Floor coatings typically consist of acrylics, epoxies and urethanes used to create a tough, protective layer where heavy surface wear is expected.

Concrete
A building material made from a mixture of water, aggregate and cement, which resembles stone when hardened.

Cross-Hatch
Intersecting sets of parallel lines perpendicular to each other (i.e. lines going north-south and then east-west).

Densification
The process of making regular concrete harder and more durable using a chemically reactive liquid that creates crystals to fill the voids within the concrete, turning it into a durable, solid mass.

Diamonds
Tools used to grind, hone and polish concrete and terrazzo floors. When attached to a rotary machine, they move across the floor establishing a consistent scratch pattern. Diamonds are categorized by grits similar to sandpaper. Lower/coarser grits are used for grinding, while higher/finer grits are used for polishing.

Grind
Using machines and diamond tools to mechanically remove any physical imperfections on the floor surface and creating a consistent scratch pattern for floor uniformity.

Hone
To smooth and refine the floor surface by removing/erasing the 200-grit diamond scratch patterns with a 400-grit diamond, making the surface smooth to the touch.

Polish
Further refining the floor surface using 800-grit and 1800-grit diamonds to create an ultra smooth surface that is shiny, glossy and reflective.

Protect
An optional step of adding a layer of topical or penetrating protection to further protect the floor surface from harmful spills.

Restoration
The process of using standard maintenance equipment (auto scrubbers, swing buffers, pads, burnishers, etc.) and a series of liquid chemical products and diamonds tools to restore a polished concrete or terrazzo floor back to its

original state. This system is not intended to transform the floor surface into a different type of floor (i.e. exposing larger aggregate or changing the color of a floor) as this type of transformation must be completed by certified concrete polishing professionals.

Strip
The process of ensuring the floor surface is free of coatings and surface debris, as a clean and bare floor is essential to the restoration process.

Terrazzo
There are two (2) types of terrazzo - 1. Cementitious Terrazzo and 2. Epoxy Terrazzo. Cementitious terrazzo includes chips of marble or granite set in a cement matrix, whereas epoxy terrazzo is the same thing, but set in an epoxy matrix. When dyed with color, cementitious terrazzo tends to be duller in color when compared to that of epoxy terrazzo.

QR CODES

RetroFit Restoration System
Sales Brochure

A concise overview of the RetroFit Restoration System along with real before and after photos of restored concrete and terrazzo floors.

RetroFit Restoration System
Promotional Video

Help floor owners bring their floors back to life! They deserve to see the potential in their tired and worn concrete and terrazzo floors! With the RetroFit Restoration System, there's no doubt they'll be FLOORED!

RetroFit Restoration System
How-To Application Video

Watch and learn how the RetroFit Restoration System is accomplished from start to finish. Observe best practices and techniques, as well as proper expectations to achieving a properly restored concrete or terrazzo floor.

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