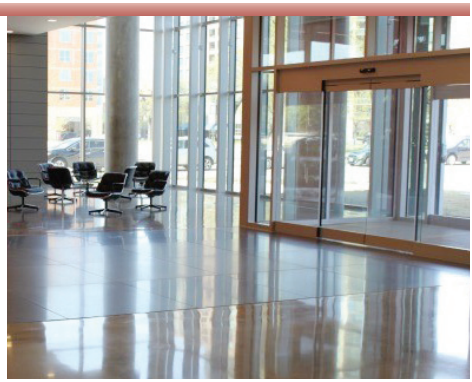
POLISHED CONCRETE CARE & MAINTENANCE

A Specialty Council of the
AMERICAN SOCIETY OF CONCRETE CONTRACTORS

With proper maintenance, the life cycle cost of polished concrete makes it one of the most affordable flooring systems. Polished concrete is created with mechanical processing combined with a reactive densification process and optional stain guard application. These steps are what greatly increase maintenance costs, but are often forgotten when pricing a flooring system.

Polished concrete does require upkeep. The amount and type of traffic combined with the amount and type of dirt and contaminants will determine the maintenance needed. Working with your installation contractor on a maintenance plan will extend the life of your floor, increasing durability and stain resistance. The plan outlined on the following pages is a baseline strategy to make the most of your flooring investment.

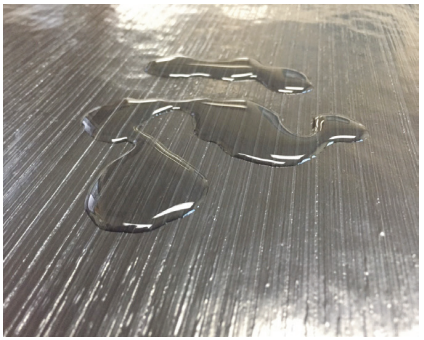


Construction Phase:

Construction often continues on a building after the concrete has been polished. It is imperative for the floor to be protected from spills, especially oils, during this time. There are many types of protection available, from paper and cardboard to liquid membranes that can be used 24 hours after final sealer application. The protection must be compatible with polished concrete and made for this purpose, as some systems can cause additional problems. Tape should not be adhered directly to the floor during this period.

Contaminants and threats that can affect your polished concrete floor:

- **Incorrect Cleaning Chemicals:** Many cleaners used on other types of floors (vinyl or hardwood) can cause damage to a polished concrete surface. Verify that your cleaning chemicals are compatible with polished concrete.
- **Salt:** All concrete surfaces are damaged by salt. Salt residue cannot be left on the surface without long term damage occurring.
- **Acid:** Acids etch concrete. Soda, orange juice, or pickle juice, for example, can damage a floor just like battery acid. Don't underestimate a spill.
- **Detergent Over Use:** Not rinsing a floor properly following cleaning can heighten the collection of soil and debris.
- **Corrosive Chemicals:** Highly alkaline chemicals will dull, etch and cloud the surface of the concrete.
- **Abrasion:** Dirt and debris left on the floor are ground in by constant foot traffic, forklifts, pallet jacks, and shopping carts. Stiff bristle brushes will also grind dirt into the floor, causing scuffing, scratching and dulling of the surface.
- **Neglect:** Routine use of pH neutral cleaners suspends and removes contaminants. Cleaning with water only is a form of neglect.



General Maintenance Recommendations:

Daily

Dry sweep or microfiber mop[1] the floor of dirt and debris.

- Contaminants on a polished concrete floor will act like sandpaper and will constantly diminish a floor's appearance.
- The use of entry mats and daily routine cleaning are the most important steps to make your floor last longer. Entry mats must be cleaned to reduce the dirt accumulation.
- Liquid spills and stains should be wiped up immediately, as all concrete has some level of porosity. Polished concrete reduces the porosity but still allows staining when left on the surface.

Weekly

Mop or auto-scrub[2] (fitted with red or white pads or soft brushes[3]) the surface with a cleaner designed for polished concrete and thoroughly vacuum.

- Look for natural cleaners such as castile soap, and isobutyl alcohol. Do not use cleaning products like vinegar with high acidity.
- Polished floor product manufacturers offer numerous cleaning products that include rejuvenation chemicals.
- Do not use traditional floor waxes; they are not compatible with the finishing treatments used for polished concrete.

[1] Microfiber Cleaner

[2] Auto-Scrubber

[3] Red and White Buffing Pads

Monthly/Quarterly

Following cleaning, buff the floor with a high-speed burnisher[4] fitted with a diamond grit pad[5] recommended for your floor. This pad will remove scratches and surface stains.

[4] High Speed Burnisher

[5] Diamond Impregnated Pads

Annually

Re-application of a stain resistor or finish guard may be applied for best stain protection. Consult your flooring installer for products compatible with the initial treatment.

The Importance of Proper Matting

The first defense against soil entering your building is entrance matting. A proper matting system is compiled of three types of mats. First is a scrapper / grid mat that removes the heavy soil. Second is a grass mat that absorbs moisture. Third is a fiber mat that traps and absorbs dirt. The length of your entrance matting directly affects the amount of soil that is carried into your building. A study by Corporate Clean Services showed that the following mat lengths result in the percentage of soil reduction.

- 5 feet of matting = 33% soil reduction
- 10 feet of matting = 52% soil reduction
- 20 feet of matting = 86% of soil reduction
- 25 feet of matting = 95% of soil reduction

The maintenance of polished concrete floors is no different than any other hard surface floor. Soils and stains on the surface must be addressed, correct cleaning chemicals must be used, and personnel must be properly trained to maintain the floor to its original look. The longevity of the polished floor will be dependent upon these variables being addressed by the contractor to the building owner.

f. Inspect areas at junctures of horizontal decks and vertical sections (ie: parapet walls, planter walls, building walls, curbs, etc.) to determine if there has been excessive movement at these points which may have caused the coating to crack.

g. Inspect coating at the base of parking bumpers (in the case of parking deck coating systems) to determine if there has been any damage to coating as a result of movement of the bumper.

h. Inspect coating surface to determine if there are any substantial structural cracks in the substrate which have caused the coating to crack.

i. Inspect areas which are subject to high abrasion and wear such as:

(1) Vehicular Traffic Decks: Turn radii, entrance and exit ramps and other start/stop areas for excessive wear loss of aggregate in the coating.

(2) Pedestrian Decks: Top of stair landings, stair treads, doorways, narrow walk-through areas, etc.

(3) Other Decks: Inspect entire surface for high wear areas.

3. Cleaning

A. The use and location of the deck will cause the cleaning frequency to vary. Our recommendation for cleaning under average use conditions is as follows:

a. Weekly - Sweep or vacuum deck to remove loose debris and dirt.

b. Monthly - thoroughly clean the deck to remove dirt, debris, oil or grease dripping, black tire marks, etc. Cleaning may be by:

(1) Power scrubbing with low suds, biodegradable detergent. This requires thorough rinsing to avoid detergent residues which may cause the deck to be slippery when wet and may cause stains.

(2) High pressure water blast. Water pressure should not be greater than 1,000 psi at nozzle.

c. Avoid the use of strong solvents, especially hydrocarbon type solvents.

4. Snow Removal and Ice Control

A. It should be recognized that piled snow can significantly load the deck surface beyond its design load capacity resulting in significant structural cracks and/or more serious structural damage. Therefore, immediate removal of piled snow is recommended.

B. The use of metal blades should be avoided at all times to prevent physical damage to the coating system.

C. Snow Blowers *with rubber blades* and Snow Brooms are recommended, as opposed to heavy snow removal equipment.

5. Repair to Structure

A. All structural repairs should be at the direction of a Structural Engineer.

6. Repair to Deck Coating Materials

A. Minor repairs may be made by owner's maintenance people, however, it is suggested that to protect the manufacture's warranty, major repairs should be accomplished by the original approved applicator.

B. Physical damage to the coating system (cuts, tears, burns, etc.):

a. Remove damage coating materials back to well adhered material.

b. Thoroughly clean the exposed substrate and existing coating surrounding the area with a clean cloth that has been wet with xylene solvent.

c. Allow solvent to evaporate (1 hour at 75ºF, 50% R. H.).

d. Install the coating system to the original film thickness, extending each coat onto the existing coating, featheredging the terminating edge of the coating. If multiple coats are required (ie: coating removed to the original substrate), allow 24 hours cure time between coats.

e. Allow the repaired area to cure for 24 hours (minimum) for pedestrian decks, 48 hours (minimum) for vehicular decks before allowing traffic on the repaired area.

C. Excessive Wear Areas and Traffic Replacement

a. Thoroughly clean area with steam cleaner, power scrubber or high pressure water blast.

b. Allow area to become completely dry.

c. Scrub area with xylene solvent.

d. Allow solvent to evaporate (1 hour at 75ºF, 50% R.H.).

e. Apply P-801-VOC Interlaminary Primer at a rate 300-400 square feet per gallon in a thin, even film. Avoid puddles or ponding.

f. Allow P-801-VOC primer to cure for 1 hour minimum, 8 hours maximum.

g. Apply continuous membrane coat:

(1) For Pedestrian Decks apply a coat of Pecora 802 Base Coat to the cleaned area at a rate of 50 square feet per gallon. Featheredge terminating edges. Allow to cure overnight at a temperature above 70ºF. Lower temperatures will extend the cure time.

(2) For Vehicular Decks apply a coat of Pecora 804 Intermediate Membrane Coat to the cleaned area at a rate of 100 square feet per gallon. Featheredge terminating edges. Allow to cure overnight at a temperature above 70ºF.

h. Open pail of Pecora 806 Topcoat and stir contents to ensure that there is no settlement on the bottom of the pail and that all the pigment is dispersed into the liquid.

NOTE: To ensure color uniformity, all containers should have the same batch number. In the event it is necessary to use pails with different batch numbers, the material should be mixed together.

i. Apply Pecora 806 Topcoat at a rate of 100 square feet per gallon. Immediately broadcast aggregate into the wet coating and backroll with a wet roller to evenly distribute the aggregate. Vehicular decks require two coats in high wear areas. Allow 24 hours between coats.

j. Suggested schedule for aggregate. Amounts may require adjustment to match existing coating texture.

Vehicular Decks – 12/20 mesh silica at 50 lbs/100 sq. ft.
Pedestrian Decks – 16/30 mesh silica at 10-15 lbs/100 sq. ft.
Pool Decks – 80/100 mesh silica fully covered
Tennis Decks – 80/100 mesh silica fully covered 2 coats

k. Allow Pecora 806 Topcoat to cure for 48-72 hours before opening to traffic.

7. Replace Topcoat

A. To maintain the aesthetics and wearing properties of the Pecora Deck Coating System, it is recommended that the Pecora 806 Topcoat be inspected yearly and replaced every five years. (Actual time required for re-coating will depend upon the use of the deck.) Replace topcoat using the procedure in Section 6.C.

CLEANING GUIDELINES

WHY CLEAN YOUR FLOOR?

Appearance: Your floor will look its best when it is clean. By establishing a scheduled cleaning program, the floor will continue to look and perform as it did when it was first installed.

Safety: No matter how aggressive the texture of your floor, if it is not cleaned properly, it can present a slip hazard. Emulsifying, rinsing and drying your floor properly will reduce the risk of a slip and fall incident.

Note: Wet environments need to be kept dry as possible to prevent slip and falls. Proper signage, non-slip shoes, floor fans, and walk-off mats will help prevent slip and falls in any facility

Service Life: The lifetime of your floor will depend upon how well you clean it. In aggressive use areas (i.e. kitchens and machine shops) contaminants such as oil, dirt, and grease work with water and bacteria to break down the floor.

FLOOR CLEANING PROCESS & TOOLS

The best way to clean a Dur-A-Flex floor is to use the recommended cleaning product and follow a six-step process. (Equipment needs vary between small and medium/large floor areas.)

Process	Small Area	Medium/Large Area
Sweep floor thoroughly	Broom, Dust Mop	Floor Sweeper, Broom
Apply cleaning product on floor surface	Deck Brush, Foamer/Sprayer	Automatic Floor Scrubber, Foamer/Sprayer
Dwell - allow cleaning product time to emulsify foreign material	10-15 Minutes	10-15 Minutes
Agitate to aid in the release of foreign materials	Deck Brush, Rotary Floor Machine	Automatic Floor Scrubber, Rotary Floor Machine
Remove cleaning product from the floor	Squeegee (Soft Neoprene) Wet Vacuum	Automatic Floor Scrubber
Rinse the floor with clean water and remove	Wet Vacuum, Squeegee (Soft Neoprene)	Automatic Floor Scrubber

NOTES

- **Wax strippers should never be used on a Dur-A-Flex Floor**
- **Never use Enzyme based cleaners on a Dur-A-Flex Floor**
- **DO NOT use "No-Rinse" cleaners as the chemical concentration can increase in the residual film left behind**
- **Combinations of chemicals can result in staining or degradation if not properly rinsed and removed**
- Never use a mop to clean a floor that is greasy or oily.
- Make sure the pads or brushes on the automatic scrubber are in good shape. Pads should be non-abrasive white, tan or red 3M cleaning pads or equivalent. Brushes should be nylon non-abrasive Malish 8129 series or equivalent soft to medium flex nylon bristle brush.
- When using a deck brush, choose a medium/stiff bristle.
- When using a floor cleaning machine, a pad is recommended for use on smooth floor systems, while a soft to medium flex nylon bristle brush is recommended for broadcast floor systems or smooth floor systems with added texture.
- When removing solution with a squeegee, use a soft, neoprene squeegee. **Do Not** use a water spray to remove cleaning solution from the floor because it will over-dilute the solution and cause grease and oil to fall back onto the floor.
- Spills should be cleaned up immediately to prevent staining and as a safety precaution.
- Surfaces should be adequately protected when moving heavy equipment across the floor.
- Through proper training and education, unnecessary wear of the floor (such as forklift spin and skid-marks) can be avoided.

DUR-A-FLEX®
INNOVATION FROM THE FLOOR UP

RECOMMENDED CLEANING PRODUCTS

Determining the correct cleaning product for your Dur-A-Flex floor is based upon the amount and type of soiling the floor receives. We have divided these into four types, and recommended a cleaning product for each instance:

Application	Typical Areas	Product	Product Description
Traffic Areas (Light soils)	Hallways, Healthcare Facilities, Labs, Dining Areas, Schools	EZ-CLEAN	EZ-CLEAN is a heavy-duty alkaline floor cleaner designed to remove protein or crude based soils
Moderate/Heavy (Protein soils)	Grocery Stores, Restaurant Kitchens, Animal Care, Food/Beverage Processing	EZ-CLEAN	
Moderate/Heavy (Crude soils)	Manufacturing/Industrial, Machine/ Automotive Service Centers, Warehouses	SIMONIZ 969	SIMONIZ 969 is a heavy duty, highly alkaline floor cleaner designed to remove machine and crude oil from concrete
Rubber Tire Marks	Forklift Tire Spin	TIRE MARK REMOVER	TIRE MARK REMOVER is a heavy duty cleaner designed to remove rubber skid marks from polymer type floors as well as hard steel troweled floors

The above Dur-A-Flex cleaning products may be ordered directly from Dur-A-Flex Customer Service at 1-800-253-3539 or via email at orders@dur-a-flex.com

WHEN TO CLEAN YOUR FLOOR

Dur-A-Flex floors are designed for and used in heavy traffic areas that typically accumulate foreign matter. Because of this, the recommended maintenance schedule for most areas is once or twice daily cleaning and regular “touch-ups” for spills. Less frequent cleaning of these areas results in a buildup of foreign matter, which diminishes the appearance, safety and service life of the floor.

Our CRYL-A-FLEX MMA products develop to full cure in one hour, and full cure for most epoxy and urethane systems is 7 days at 68°F. The lower the room temperature -the longer the cure time. Avoid chemical spills and full traffic during cure period. Premature exposure may cause permanent staining or discoloration. Do Not use abrasive cleaning methods during the first week after installation.

WALL CLEANING PROCESS

1. Application – Apply EZ-CLEAN, follow cleaner guidelines for dilution rate, use with hot water while using a deck brush, foamer/sprayer or power washer.
2. Scrub walls with deck brush
3. Rinse walls with clean water

For further technical assistance regarding this guide, please call Dur-A-Flex, Inc. Technical Services: (800) 253-3539 or e-mail Contact_Us@Dur-A-Flex.com