

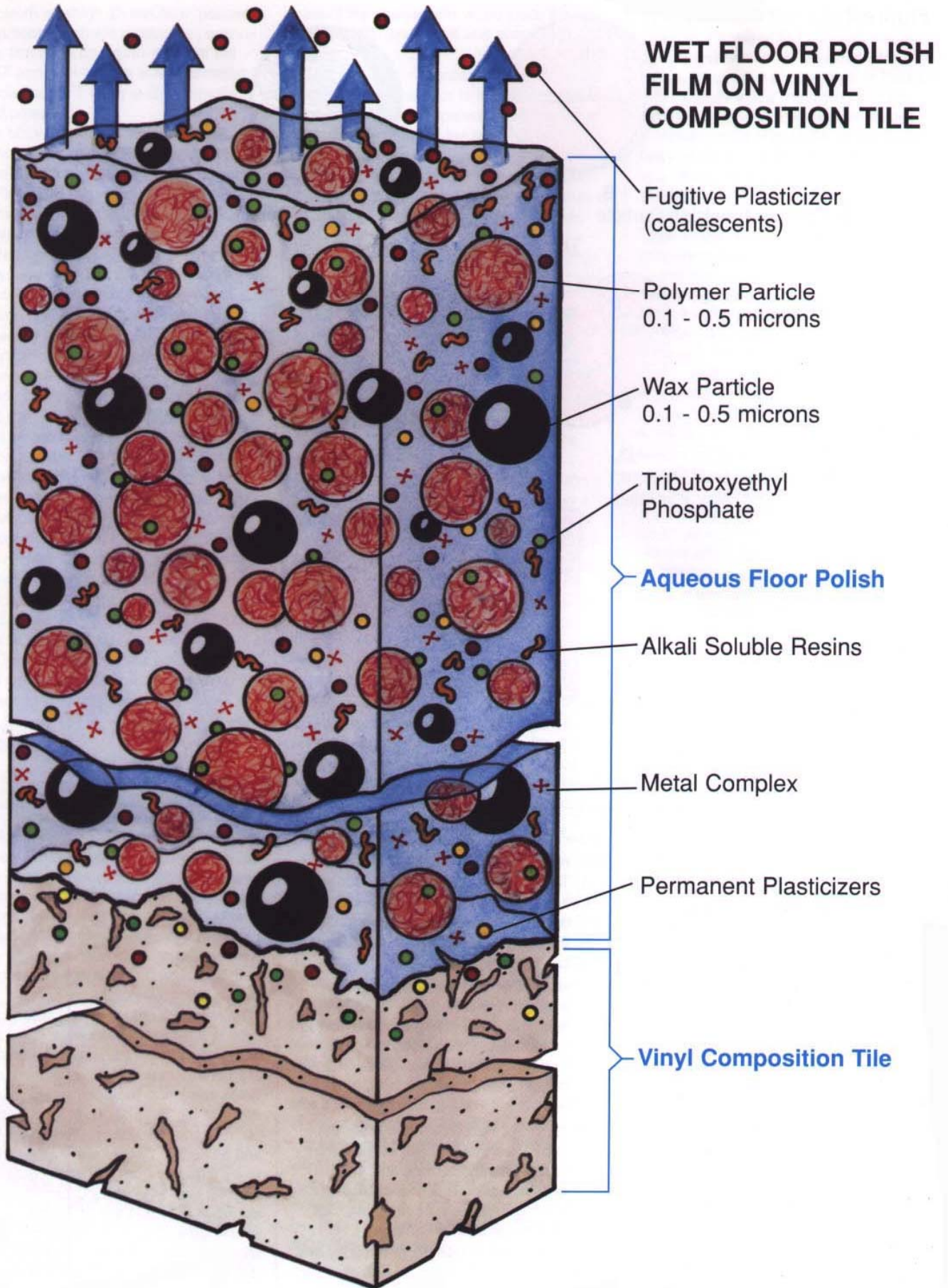


FLOOR CARE GUIDE

What Is A Floor Finish/Polish?

A temporary protective coating applied over a floor to protect it against the abuse of traffic and provide an enhanced appearance.

FLOOR FINISH MAKE UP



Floor Care Reference Guide

- I. Overview
- II. Floor Care Terminology
- III. Procedures
 - Mops And Pads
 - How To:
 - Strip Floors
 - Finish Floors
 - Spray Buff Floors
 - Wood Floor Care
 - Natural Stone Floor Care
- IV. Application Variables with Typical Floor Care Examples
- V. Simoniz®'s Floor Care Products
- VI. Common Problems with Floor Finishing Results
- VII. Conclusion

I. Overview

Thank you for choosing the Simoniz® Floor Care program. Simoniz® brings with it over 90 years of excellence which is synonymous with quality, recognition, value and trust. You can be assured that the products you purchase will always perform to the highest of standards.

The purpose of this guide is to provide you with the necessary tools and knowledge to successfully work with Simoniz® Floor Care Products in the institutional and industrial marketplace. While much of this information may be familiar to you already, it will be helpful to review once again. From the section on Basic Floor Care Terminology through the Simoniz® Product Line and on to Typical Floor Care Problems and Solutions, the more you understand the Simoniz® Floor Care Program, the more successful your program will be. Bear in mind that to properly master a floor care program, you must know the various application variables, such as traffic, frequency, type of maintenance, equipment available, etc. before deciding on the best solutions for your needs.

II. Glossary Of Terms Relating To Floor Polishes

To help you better understand the language of the industry, the following is a list of standard definitions of terms relating to floor polishes according to the ASTM.

BLACK MARKING – Black marks on a flooring surface usually caused by the impact of the soles and heels of footwear.

BUFFABLE – Capable of improvement in gloss or general appearance, or both, of a polish film by a mechanical action.

BUFFING TYPE POLISH – A floor polish that requires buffing to maintain or enhance appearance, or both.

BUILD-UP – Condition resulting from lack of self-sensitivity in a polish, whereby new film deposits over old, with little or no self-cleaning action.

BURNISH – To buff a protective floor coating with high speed equipment. (1500 to 3000 rpm)

DETERGENT RESISTANCE – The degree to which a polish film exhibits no apparent deterioration when spotted or cleaned with a solution of a nonabrasive, non-ammoniacal detergent.

DISTINCTNESS OF IMAGE – Measurement of sharpness of reflection of image on polished surface.

DRAG – Physical resistance to spreading of a polish.

DRY BRIGHT POLISH – A polish which dries to a gloss without buffing.

DURABILITY – The wearing quality of a floor finish. Also relates to hardness of the finish.

EASE OF USE – Cumulative effect of drag encountered in application or removal, or both and amount of time required to achieve desired finish.

FILM CLARITY – Ability of deposited film to allow an unaberrated view of the surface below.

Glossary continued...

GLOSS, SURFACE – Shine, reflection of light.

GLOSS RETENTION – The ability of applied polish to retain a gloss under normal wear conditions excluding exposure to water.

HAZE – Film which reflects unclear or foggy images, usually indicative of incompatibility.

LEVELING – The property of freshly spread aqueous polish to dry to a uniform and streak-free appearance.

MAR – Mutilation of polish film repairable only by recoating.

METAL INTERLOCKED – A floor finish that contains a metal salt to provide detergent and water resistance and improved removability.

NO SCRUB STRIPPER – A highly aggressive stripper, applied with mop, allowed to dwell and rinsed from floor. Typically formulated with caustic.

NO RINSE STRIPPER – Stripper that can be removed without the use of a clear water rinse. It does require the use of a wet vac or squeegee to remove stripper solution and old finish.

POLISH – Temporary coating which enhances the appearance and may protect the substrate to which it is applied.

POWDERING – Partial or total disintegration of the polish film resulting in a fine, light colored material.

RE-COATABILITY – The application characteristics of a polish and appearance of the film after successive coatings to a surface.

REPAIRABILITY – Ability of floor finish appearance to be enhanced or the repair of damage by use of a buffer/burnisher.

SCRATCH – Damage to the finish resulting from the movement of a hard pointed object.

SCUFF – Disfigurement of polish.

SELF-POLISHING POLISH – A floor polish that dries to a shine (Dry Bright).

SERVICE LIFE – The period of time required under use conditions to change the appearance of a surface treated with a floor polish sufficiently to require retreatment.

Glossary continued...

SLIP RESISTANCE – Frictional force opposing the movement of an object across a surface, usually with reference to the sole or heel of a shoe on a floor.

SOIL RETENTION – The property of holding foreign matter in or on the surface after a cleaning process.

SPREADING – The action of flowing out over a surface during application.

SPRAY BUFF – A form of cleaning and restoring the gloss of the traffic areas of a floor in order to extend the period between stripping and refinishing.

STAIN – Discoloration of floor by incompatible substances.

STREAKING – Nonuniform deposition of a polish film.

TOTAL SOLIDS – The percentage of chemicals in a floor finish remaining on the floor to form the protective coating.

TRAFFIC MARKING – Marring or discoloration, or both, of a floor surface by traffic.

VOLATILE SOLVENT – Any nonaqueous liquid that has the distinctive property of evaporating readily at room temperature and atmospheric pressure.

WATER BEADING – Surface property which causes the formation of discrete water droplets on the polished surface.

III. Procedures

EQUIPMENT

MOPS AND PADS

MOPS – Mops can be purchased in a variety of sizes and compositions. Operator fatigue vs. area covered are key factors in selecting the proper mop. Sizes range from 8 oz. to 40 oz. A heavier mop will cover a larger area per pass, but will cause fatigue (and perhaps a sloppier job) faster than a lighter mop. The second aspect to consider in mop selection, is the composition. Cotton mops absorb more liquids, but are prone to hang on to them more tenaciously. Rayon does not pick up as much liquid, but tends to shed the liquid more readily. Blended mops exhibit qualities of both. If the job requires mopping up spills, a cotton mop is appropriate. For finish applications, a rayon or blend is better suited for the job.

Finally, consider the yarn style. A non-banded, unlooped yarn is suited for mopping up spills or applying stripper. A banded, unlooped yarn is better for disinfectant application when a continuous film is desired. A banded, looped yarn is best for finish application to ensure a continuous film and to minimize linting.

Before using a mop for the first time, it should be conditioned. Conditioning removes loose lint, oils, and other treatments from the manufacturing process. Laundering or at the very least soaking for several hours will remove these contaminants.

In order to prevent contamination between the different products used for the job, there should be one mop used strictly for putting water down, another one used strictly for the rinse, one for the seal, and one for the finish. Each operation must have a different wet mop head.

FLOOR PADS – All floor pads have three basic components: mineral, resin, and fiber. They differ in the amount, size, and composition of these components. For example, a stripping pad will have a thicker fiber, more mineral, and a more rigid resin than a buffing pad.

Pad choice should take into account the job, the speed of the floor machine, and the cost value of the floor pad. A black pad should be more aggressive (cut more) than a white one. Stripping pads are generally black or brown. Cleaning pads are blue or green. White and light shades of tan, aqua or red are used in buffing pads. Pad manufacturers have designed the pads to optimize the results from a particular machine style and speed. Although a red pad may produce excellent gloss under a 175 rpm machine, it may stretch and reduce the floor's gloss under a 1500 rpm machine.

Equipment continued...

The easiest pad to test is the stripping pad. In a stripping operation the objective is to get the finish off the floor as fast as possible. By running a mark removal test, a common test within the industry, one can measure the speed at which the various floor pads are capable of removing marks from the floor. Be sure to take those floor pads and run them over an abrasive material until they are well worn, and then put another set of marks on the floor. Now time the pads again to see how long it takes the worn pads to remove the marks. This will give an indication of how a pad performs not only when it is new, but after it has been in service for a considerable amount of time.

Representatives from pad manufacturers are equipped to run these tests, which do not take very long. It would be worthwhile to take a look at such tests to help in deciding which pad does the fastest stripping job.

Selecting a pad for spray cleaning is a more difficult task. A spray cleaning pad should be aggressive enough to remove scuffs and black marks off the surface of the floor finish. However, a pad that is too aggressive will dull the gloss as it removes the scuffs and black marks and will also remove floor finish. This may cause a floor to deteriorate more quickly and require much more frequent re-coating of the floor finish. On the other hand, if the pad that is used for spray cleaning is not aggressive enough, too much labor time is spent trying to remove black marks and scuffs. Select a cleaning pad that is aggressive enough to remove black marks, but not so aggressive that it dulls the gloss and removes the floor finish.

CARING FOR FLOOR PADS – In both the spray cleaning and stripping operations, the two operations that are performed most frequently, there will be a buildup of old floor finish on the surface of the pad. If this is not taken care of properly, the floor finish will dry on the surface of the floor pad and become almost as hard to remove from the floor pad as the finish was to remove from the floor itself.

One way to clean floor pads is to put them into a deep sink and spray the old floor finish off the pad with a hose and standard garden nozzle. Use hot water and high pressure. Most floor pads can be cleaned in two to five minutes using this technique. Another method is to soak the dirty pads in a 55 gallon drum containing a stripping solution. This will help break down the floor finish that has been glazed onto the surface.

MOP BUCKETS – It is very important that floor finishes, sealers and final rinse water not be contaminated by material that was in a previously used mop bucket. Use of multiple buckets can be expensive. A simple disposable plastic liner will allow the use of a single bucket for stripping, sealing and finish.

How To Strip Floors

PURPOSE – To remove a floor finish (wax) when any of the following occurs:

- A. The colors begins to turn.
- B. The finish begins to build up.
- C. Mopping, spray buffing or re-waxing does not produce the results desired.

EQUIPMENT/SUPPLIES REQUIRED

- Treated Dust Mop
- Brush And Dust Pan
- Putty Knife
- Wet/dry Vac
- 2 buckets with pressure wringers
- Squeegee
- Stripping Solution
- Clean Fresh Water
- Mop
- Floor Machine
- Stripping Pads
- "Cautionary/Hazard" Signs
- Waterproof Shoe Coverings

PROCEDURE

1. Prepare the area:
 - A. Place "Cautionary/Hazard" signs around the area which is being stripped.
 - B. Move all furniture. Work around heavy furniture which cannot be moved.
 - C. Sweep the floor with a treated dust mop or vacuum the floor.
 - D. Remove gum and other foreign matter with the putty knife.
 - E. Place stripping pad on the machine.
 - F. Set equipment in the area where work will begin. Start at the farthest corner from the entrance.
2. Follow instructions for using the stripping solution and pour into the bucket. Use cool or luke warm tap water. (NOTE: Hot water can loosen tile adhesive and cause solution to dry too fast.)
3. Insert mop into the stripping solution. Wring slightly so the mop still drips a little. Fan out the mop on the floor and start applying the solution at the edges. (NOTE: Most build-up is at the edges.)
4. Apply the solution in a 6' to 7' arc or side to side movement to cover area between the edges. Cover only a 100 to 125 square foot area at a time.

How To Strip Floors continued...

5. If splashing on walls and baseboards occurs, wipe off immediately with a damp cloth.
6. Let the solution soak on the floor 5 minutes.
7. Using the floor machine with stripping pad, strip the area that has been covered with solution. Overlap the strokes made by the machine. Use a small hand pad to strip along edges.
8. Use the mop and empty bucket or a wet/dry vacuum to pick up dirty solution. Do not allow solution to dry on the floor.
9. Rinse the area using fresh water and mop, which is slightly wrung out. Proper rinsing is essential for good floor preparation.
10. Clean mop with water after the first rinsing of the floor is complete.
11. Allow floor to dry. Restrip any high gloss spots.
12. Allow floor to dry at least one hour after final rinse.

Check the floor to be sure it is ready for the finish by wiping your hand across a section of the floor.

If a white powder comes up, the floor has not been rinsed properly and must be rinsed until no white powder comes up after the floor is dry. At this time the floor is ready for the finish.

NOTE: A neutralized floor gives a much better bond of the finish to the tile. Use a solution of commercial neutralizer if available. If not, household vinegar can be used at a dilution of 4 ounces vinegar to 1 gallon of fresh water. Apply to floor as you would a rinse.)

ACCOMPLISHMENT

After following this procedure, the floor will be free of all sealers, finishes, dirt, grime, gum, other foreign matter and have no powdery residue. The floor is then ready for the finish to bond to the floor tile properly.

BEWARE OF COMPLETE STRIPPING OF FLOORS

Over the past several years, in our desire for fast and complete removal of floor finishes we have developed powerful "killer" strippers, being a combination of strong alkaline detergent salts, emulsifiers and above all solvents. These products have been very successful in reducing the amount of time required to strip floors.

Unfortunately, every time we stripped the floors, we also removed some of the plasticizers and other cohesive ingredients of the flooring material, due to the chemical reactions between the strippers and the floor tile components. The process was invisible to the naked eye, and thus the illusion of good performance continued.

In the meantime, the trouble of "powdering" began to pop up more frequently. Experienced maintenance contractors have sensed the trouble and have begun to dislike stripping, not just for its labor, but also because of the difficulties in recoating such freshly stripped floors. Their observations reflect the whole theory of film formation of polymer floor finishes.

What do we mean here? We need a slow removal (evaporation) of the water from the freshly applied film of the polymer emulsion (finish) in order to make the "pooling" (capillary) forces of the water work and thus enable them to change from a round shape of the polymer particles into continuous, smooth film. If we remove water too fast, the particles of the polymer will retain a round shape or be partially attached to each other. While such "film" may appear glossy and smooth, the actual film will break under traffic and the "balls" of the now hard polymers will "start rolling" in the form of powder. Here is where the stripping procedure has actually hurt the finish application.

While killer strippers have allowed us to greatly decrease the amount of time needed to remove old finish, they have created a new and more serious problem with regards to floor care. Floors subject to frequent stripping show dramatic increase in the speed of drying of new floor finish, thus preventing the proper formation of the polymer film. The more the floor has been stripped the more serious the powdering problem will get due to the rapid absorption of the moisture by the bone dry floor. Also, those having powdering problems should look into other areas that accelerate the drying such as higher temperatures in the building, air drafts, very low humidity areas, etc.

How do we prevent this? First, if you have a good, non-yellow looking floor, do not strip. A thorough scrubbing is all you need. If the floor is in such bad condition that stripping is absolutely necessary, go ahead. Strip and rinse the floor well following directions on the

**Beware of Complete
Stripping continued...**

stripper label carefully. Try not to leave the stripper on the floor for too long at any time. Once final rinsing has been completed, apply at least two coats of sealer to the floor. Proceed now with the application of three to four coats of finish. A proper floor maintenance program should attempt to maintain the floor appearance on a regular basis by spray buffing, scrubbing and the use of mop on restorers instead of stripping and recoating.

HOW TO FINISH FLOORS

PURPOSE – To provide a protective floor surface which improves the floors appearance and is easy to maintain.

EQUIPMENT/SUPPLIES REQUIRED

- Floor Finish
- Clean Fresh Water
- Mop(20 - 24 oz. banded cotton/rayon or 100% rayon)
- 2 Buckets With Wringers, or 1 Bucket with Plastic Liners
- Floor Machine (optional)
- "Cautionary/Hazard" Signs

*It is recommended that the mop used in the following procedure should only be used for floor finishing operations.

PROCEDURE

If a sealer is recommended, follow these same steps to apply 2 coats of sealer prior to the finish.

1. Prepare to finish floor area:

- A. Follow procedure in report titled "How To Strip Floors".
- B. Once floor is completely dry, remove any dust particles or lint.
- C. Move supplies/equipment to the area where floor is being finished.
- D. Place "Cautionary/Hazard" signs around the area where the finish is being applied.
- E. Prior to pouring finish into bucket, install a plastic liner. It helps reduce the risk of the finish (wax) from becoming contaminated with any residue that might be in the bucket. Only pour enough product to cover area of floor that finish is being applied to. Do not return any product to the original container after it has been put in the bucket.

2. Place the mop into the bucket of floor finish (wax) and wring out completely so that the mop does not drip.

4. Beginning at the farthest corner from the doorway, apply 1 thin coat of finish on the floor near the baseboard on each side of the corner. Apply 6' to 9' at a time. Turn mop frequently and redip in finish before the mop becomes dried out and leaves streaks on the floor.

5. Using a figure 8 pattern, apply the finish to the floor and overlap the strokes of the mop. Try not to splash. Apply even amounts of finish and cover all areas.

6. Allow floor to dry 30 minutes or until floor does not feel tacky to the touch.

How To Finish Floors continued...

7. Apply all subsequent coats of finish as before except stay 6" to 12" from the baseboard. This area receives little or no wear since people cannot walk close to the baseboard. Numerous coats of finish at the baseboard will cause a build up.

8. Allow second coat to dry completely.

9. If buffing is required between coats to level the finish and to increase the gloss, be sure:

A. that the finish (wax) used is buffable, and

B. to use the proper buffing pad on the floor machine.

(NOTE: When buffing between finish applications, be sure to mop the floor with a dry dust mop before applying a second coat. Buffing between coats is to level the finish.)

10. Remove "Cautionary/Hazard" signs when floor is completely dry.

11. Clean mop and buckets.

12. Store equipment and supplies.

NOTES: Important. Avoid trying to speed the drying of the floor with high heat or fans. As explained earlier, proper evaporation is vital to the formation of the film. If it becomes necessary to use a fan, aim the fan at the ceiling to create air movement. Do not apply finish to a cold floor.

(REMINDER: A buffable finish can be applied on top of a non-buffable finish, but a non-buffable finish should not be applied on top of a buffable finish.)

ACCOMPLISHMENT

By following this floor finishing procedure, the floor's appearance will be clean, attractive, and easier to maintain.

HOW TO SPRAY BUFF FLOORS

EQUIPMENT/SUPPLIES REQUIRED

- Floor Machine
- Pad Holder
- Synthetic Floor Pads (Minimum of 2 pads)
- Spray Mechanism
- Treated Dust Mop
- Spray Buff Material
- Small Synthetic Hand Pad

PROCEDURE

1. Dust mop the entire area to be spray buffed, then damp mop.
2. Pour spray buff material into trigger sprayer or mechanical spray unit.
3. Use pad on pad holder. As the pad gets dirty or loaded with material, turn the pad so that the dirty side faces the pad holder.
4. Start buffing the floor in the traffic lanes. In areas of wear or black marks, spray the material on the floor. After the area (about 6' wide by 4' long) has been buffed, go over the area and spray the marks that did not come out on the first buffing.
5. Buff the entire area, spraying where necessary.
6. Buff the area while it is wet and continue to buff until dry.
7. Change the pads when they pull or when they fail to clean the area because of clogging.
8. After completing the spray buffing of the area, dust mop the entire area.
9. In office areas move the desks about 2" up or back to be sure you don't leave marks from the desk legs.
10. Use the small synthetic hand pad for the edges near doors, walls and heavy furniture.

FOR BEST RESULTS

1. Follow directions on spray buff material label.
2. Do not over spray, spray the area twice if needed. **DO NOT MIX DETERGENT OR AMMONIA** in the spray solution.

**How To Spray Buff
Floors continued...**

3. DO NOT try to get EVERY mark out of the floor. Light scrubbing or stripping accomplishes this best.
4. Use Spray-Buffer Pads to remove marks.
5. Reapply finish in areas spray buffed every third or fourth time you spray buff.

INTERIM RESTORATIVE PROCEDURES

Scrub and recoat-This process is designed to repair the existing floor finish. It will remove imbedded dirt, scuffs, and scratches and prepare the surface for several coats (2-3) of clean finish. This process is not designed to replace total strip outs. When existing floor finish has begun to yellow, is not responding to burnishing, or has worn finish has worn to the bare tile it is time to scrub and recoat.

Scrub and recoating should be done a maximum of 2 times before a strip out is required. Over utilizing this process will cause excessive build up on edges and low traffic areas and make subsequent strip outs more difficult.

EQUIPMENT AND CHEMICAL CHECKLIST

1. Wet floor signs
2. Dust mops
3. 2 Mop buckets and wringers
4. 2 clean looped mops and mop handles
5. Doodle Bug and pads
6. Blue floor pads
7. Scrapers
8. Gloves when mixing cleaner
9. Eye protection
10. Floor squeegee and handle
11. Floor machine
12. Wet dry Vac
13. Dryer/floor fan
14. Autoscrubber if available
15. All purpose cleaner (Tru Blue works well for this procedure)

SCRUBBING PROCEDURES

1. Inspect the condition of the floor. Look for buildup, soiling, and wear.
2. Know your problem areas and obstacles: corners, traffic lanes, baseboards and edges.
3. Use a dust mop to remove loose soil.
4. Put out the "Wet Floor" sign.
5. Mix general purpose (Hot springs) cleaner according to directions.
6. Use a wet mop to flood on cleaning solution.
7. Allow cleaner to dwell for 10 minutes. This product will soften the existing floor finish prior to scrubbing.

8. Use a doodle pad to scrub edges and corners that the machine will not reach.
9. Scrub with a blue cleaning pad and a 175-300 RPM rotary machine (Floor machine) or scrub in two passes with an autoscrubber (Vac should be turned off with the squeegee off the floor).
10. Use a floor squeegee to pull cleaning solution out of corners and off edges
11. Pick up with a wet vac or autoscrubber (with squeegee down and vac on) and rinse with cool water. Be sure to use clean water with no detergents in autoscrubber when rinsing.
12. Damp mop rinse with clean cool water and a clean mop head.

APPLYING FLOOR FINISH

1. Put “Wet Floor” signs in place for safety.
2. Line mop bucket with trash can liner. This will insure sealer and finish will not be contaminated with left over soil or chemicals in the mop bucket.
3. Dip the damp mop head into the floor finish (wax) and wring out so mop head does not drip.
4. Use a clean looped “finish” mop and apply even, medium coats. Light to medium coats dry faster and more uniformly.
5. Begin by “framing” the area. Apply the first coat 12” from the baseboards to limit buildup. Apply the second and every other coat up to the baseboards.
6. Let each coat dry to the touch before applying the next coat, particularly in high humidity, about 30 minutes under normal conditions.

A fan can aid drying. Allow finish to level for 10 minutes before starting fan. Aim the fan above the floor. Don't use where dust can be blown onto the finish or force air directly on to wet finish

HOW TO CARE FOR WOOD FLOORS

WOOD FLOORS – A cardinal rule concerning maintenance of wood floors is to protect them as much as possible from being damaged by water. Water can have a damaging effect on wood, especially when it is not finished with a water-resistant film. Blackening, cupping, and cracking can occur if water comes into direct contact with the wood in floors. If enough moisture is present, buckling can occur.

Wood floors that are tight and well sealed can withstand casual contact with water without harm; however, it is recommended that cleaning solutions be picked up quickly and completely when floors are scrubbed. Polymer finishes, water-based ones, may be used on well sealed, tight floors. Spirit waxes may be used at any time, although these products can present a removal problem—they are hard to remove completely and any residue that remains impairs adhesion of any seal/finish applied over it.

DAILY MAINTENANCE – Keep wood floors free of dust and abrasive soils (tracked-in grit, sand) by sweeping, dust mopping (with an untreated or very lightly treated dust mop) or vacuuming with large-area vacuum cleaners. The use of track mats that intercept the transport of abrasive particles is highly recommended. To prevent floor damage caused by liquids, institute a program that makes their removal as complete as possible. When damp mopping or machine scrubbing these floors, clean small areas carefully and remove liquids without delay. Cleaners that work well on most sealed woods are those with a high degree of hard water tolerance, and a pH between 7 and 9.

Polymer finishes, water-based, may be used on some sealed wood floors. When a finish is applied, you are actually maintaining the finish, not the wood floor. Semi-buffable or buffable finishes generally work best here. Spray buffing/cleaning may be used for periodic maintenance in much the same manner as in the maintenance of resilient floors. Note: It is important to make sure that a floor is tight before using any significant amount of water-based maintenance products on them. “Tight” means that board joints are sealed and provide no area (gap) where water products can penetrate the wood.

REMOVING STAINS – Most stains can be prevented or minimized by keeping the floors well waxed and by wiping up any spilled liquid immediately. Here are some suggestions for common accidents. When removing a stain, always begin at the outer edge and work toward the middle to prevent it from spreading. The following applies to stains that get into the wood, not just the floor finish.

How To Care For Wood Floors continued...

1. Stains caused by standing water: Rub the spot with #00 steel wool and re-wax. If this fails, sand lightly with fine sandpaper. Clean the spot and the surrounding area using #1 steel wool and mineral spirits or a proprietary floor cleaner. Let the floor dry. Apply matching finish on the floor, feathering out into the surrounding area. Wax after the finish dries thoroughly.
2. Dried milk or food stains: Rub the spot with a damp cloth. Rub dry and wax.
3. Dark spots: (a) Clean the spot and the surrounding area with #1 steel wool and a good floor cleaner or mineral spirits. (b) Thoroughly wash the spotted area with household vinegar. (c) If the spot remains, sand with fine sandpaper, feather out three to four inches of the surrounding area, then re-wax and polish.
4. Heel marks and caster marks: Rub vigorously with fine steel wool and a good floor cleaner. Wipe dry and polish.
5. Ink stains: Follow the same procedure as for other dark spots.
6. Animal stains: Spots that are not too old may sometimes be removed in the same manner as other dark spots. If spots resist cleaning efforts, the affected flooring can be refinished.
7. Mold: Mold or mildew is a surface condition caused by damp, stagnant air. See that there is proper ventilation in the room, use a disinfectant cleaner that is effective against mold.
8. Chewing gum, crayon, candle wax: Apply ice until the deposit is brittle enough to crumble off. Cleaning fluid poured around the area (not on it) will soak under the deposit and loosen it.
9. Cigarette burns: If they are not too deep, steel wool will often remove them. Moisten the steel wool with soap and water to increase its effectiveness.
10. Alcohol spot: Rub with liquid or paste wax, silver polish boiled linseed oil, or cloth barely dampened in ammonia. Re-wax affected area.
11. Oil and grease stains: Rub a high alkaline soap on it, or saturate cotton with hydrogen peroxide and place it over the stain.
12. Rust stains: Use baking soda and a small amount of water.

HOW TO CARE FOR NATURAL STONE FLOORS

NATURAL STONE (Marble and Granite) — When a new stone floor is installed and the joints are grouted, the excess grout should be removed with clean water only. The floor should then be left untouched for 5 - 14 days to allow the mortar bed and grout to thoroughly dry. This is necessary so that all moisture can evaporate. Damp mop the surface daily with water during this time to remove dirt.

Depending on the surface finish of the natural stone, two different cleaners may be needed for grout film and construction dirt cleanup and floor preparation for impregnation/sealing. For a smooth and polished surface, a pH 7 - 7.5 cleaner is required to avoid etching of the marble surface and to avoid discoloration of the marble and colored grout joints. An inhibited, dilute hydrochloric acid cleaner is helpful for the initial cleaning of textured surfaces. Be sure to protect adjacent surfaces. The following are directions for a smooth surface:

1. Sweep or dust mop surface to remove all loose dirt and debris.
2. Mop on a liberal coat of solution. Do one manageable area at a time. Do not let surface dry. Allow solution to work.
3. Agitate with a natural fiber brush at the beginning and again at the end of work before the solution is vacuumed up. The use of a common floor machine at 175 rpm with a white nylon polishing pad or natural fiber scrub brush is helpful. Avoid the use of abrasive pads such as green or red since they will scratch the marble surface. Be careful not to remove the grout from the joints.
4. After final agitation, add water and wet vacuum.
5. Flood floor with clean water and wet vacuum again; two rinses are recommended for the best results.

Allow the surface to dry 1 - 3 hours to accommodate traffic and 12 - 24 hours before impregnation/sealing. Longer drying times (up to 48 hours) may be required, which depends on temperature and humidity. A fan will help circulation. Stone and grout have to be absolutely dry before proceeding to the protection step.

IMPREGNATION AND SEALING — All natural stone and marble is porous and susceptible to staining. Even the hardest granite will show oil stains. In addition, more and more decorative marbles are being used for their beauty and not their strength. These marbles are generally very prone to abrasion and staining. Harsh chemicals for cleaning cannot be used since natural stone will etch and discolor.

How To Care For Natural Stone Floors continued...

The use of impregnators and sealer (surface coat) will chemically solve these problems by hardening the surface and closing the stone's pores. Surface dirt is easily removable through regular maintenance described here. The surface must be clean and dry for the impregnator/sealer to penetrate/bond properly. If otherwise, the surface will look cloudy or milky. The impregnator/sealer is best applied with a pump sprayer (solvent resistant), which should then be leveled and massaged into the stone surface with special sealing brushes. A paint roller can be used in place of the sprayer in small areas.

In the case of an impregnator, two applications are recommended. With a sealer, one may be sufficient. Do small, manageable areas at a time. Do not allow puddles. Allow 2 - 5 hours drying time to fully cure. Be certain to pay attention to specific job conditions such as air and surface temperatures, humidity, sunlight, and curing times.

REGULAR MAINTENANCE — For regular maintenance, daily dust mopping is required. Always dust mop before detergent cleaning, and do not use any mop treatments. Daily wet cleaning is essential to prevent ground-in dirt, to moisturize the floor, and to protect against foot abrasion. Periodic, thorough cleaning is helpful to bring out the original beauty of the floor. For daily wet cleaning, mix neutral liquid soap in a mop bucket and damp mop 50 - 75 square feet at a time. Wring mop until it is damp. Do not re-mop each area. Continue this process until the entire floor is clean. When the water becomes cloudy, replace it and add soap with the same dilution. Do not rinse soap, since this would remove the protective film.

For bi-weekly cleaning, alternate the use of liquid soap with a polish preserver to protect the floor against foot abrasion. Apply this product, diluted with water, in the same manner as liquid soap. Again, do not rinse after application. The preserver may be applied over itself without stripping or spot patched in traffic worn areas.

STAIN REMOVAL — Before using a special solvent base stain remover for natural stone, consider the following:

1. The stain may be ground-in dirt or grout film; in this case, use a mild, pH 7 - 7.5 neutral cleaner.
2. Shadows on a polished surface are in most cases etch marks and not stains. A repolishing powder is then needed.
3. If the stain is under a sealer coat, strip the coat in order to remove the stain.
4. In case of rust, special rust remover may be needed.

How To Care For Natural Stone Floors continued...

Stain removal directions are as follows: Pour a solvent base stain remover onto the stain and let it set for 30 - 60 minutes. Apply more solution if drying occurs. Scrub vigorously with a natural fiber brush. Avoid abrasive pads or brushes. Rinse well with clean water and repeat if necessary.

CERAMIC TILE — It is helpful to distinguish between ceramic tile and quarry tile (terra-cotta, mexican paver, brick paver, and other red quarry tile), since quarry tile is much more absorbent. Ceramic and quarry tile are man-made materials; the absorption rate, abrasive hardness, compressive strength, and other important test results are therefore well known. More and more resin-based grouts are being used; for their cleanup, once dried on the surface, inhibited dilute acid-type cleaners may be needed. Often a complete removal of this residue is only feasible mechanically. Always try a mild, pH-neutral cleaner first. Rinse well and allow the floor to completely dry for 12 - 24 hours before going on to the protection step.

Once the tile is completely clean and dry it must be protected. In case of a smooth, absorbent tile (more than 1/4% absorption rate), use an impregnator (penetrating sealer) since a surface coat will not properly bond. A sealer may be used for textured ceramic tile. Make sure the impregnator and sealer are specifically recommended by the manufacturer for the intended purpose. The impregnation/sealing is a must in order to protect against stains, to facilitate regular maintenance, and to avoid the need for harsh maintenance products that harm the ceramic tile and the grout.

Depending upon the abrasive hardness of the ceramic tile, the ceramic tile maintenance system consists of:

1. Dust mopping daily.
2. A neutral, no-rinse cleaner/conditioner for daily damp mopping.
3. An acrylic maintenance sealer/cleaner is helpful to continuously protect the surface against foot abrasion. Maintenance sealers enrich the natural appearance of the ceramic tile and may be buffed to a high shine.

TERRAZZO — Take the time to learn the system of terrazzo that will have to be maintained. There are two types of binders used to anchor the marble chips that appear in a terrazzo floor. One is a Portland cement type and the other is referred to as a resinous type. The latter can be an epoxy, polyester or polyacrylate system, often referred to as a Thinset system. Although both systems anchor in the aggregate, the treatment of each varies.

How To Care For Natural Stone Floors continued...

Terrazzo floors are known to have ease of maintenance, but should not be thought of as requiring no care at all. Once the care requirements are understood in the early stages of a new terrazzo floor, possible problems can be avoided and the economy of care and the aesthetic values of this product can then be recognized and appreciated.

MAINTENANCE PRECAUTIONS — Harsh cleaners and sealers can damage terrazzo; thus, only materials that are known to be neutral with a pH between 7 and 10 should be used when scrubbing and mopping your floors. Avoid all-purpose cleaners or soaps containing water solubles, inorganic or crystallizing salts, harmful alkali or acids. These materials could prove harmful to your floors. Sweeping compounds contain oil, which is not only a fire hazard, but will penetrate and discolor the floor. Furthermore, many of these compounds contain sand, which is hard to sweep and could abrade the floor if not removed.

PORTLAND CEMENT-TYPE SYSTEMS — The terrazzo surface has a minimum of 70% density of marble chip surface exposure. The marble chips have a very low porosity of absorption, thus the portion of this floor system that needs protection is the Portland cement binder that has 30% or less surface exposure. This is why the specification requires that a penetrating solvent-type sealer (which seals off the minute pores in the binder) must be applied to this surface immediately following the final polishing.

Internal protection has been achieved, but since it is a penetrating liquid material, it is not expected to produce a sheen on the floor surface. Thus, unless it has been specified otherwise, it is normal that the owner would provide maintenance and seal the surface to provide the desired sheen.

A new Portland cement terrazzo floor initially may appear to be mottled in color, especially in darker colors. This is the normal characteristic of this product because it is going through the curing process. This blotchy appearance will gradually disappear as the curing cycle runs its course.

RESINOUS-TYPE TERRAZZO SYSTEMS

(Epoxy & Polyester)— Since the matrix in these systems becomes a nonporous surface, no penetrating-type sealer is used on this floor — only surface sealers.

“How often must this floor be swept or scrubbed?” is a popular question. The answer would be determined by the amount of foot traffic that moves across this floor daily. It is normal that daily dust mopping is a requirement in most public buildings. Daily dust mopping removes not only the dust but also the grit tracked into the building. The grit acts as an abrasive on hard surfaces.

How To Care For Natural Stone Floors continued...

As for scrubbing, normally a newly constructed building contains a considerable amount of dust that will eventually end up on the floors. Scrubbing should be done twice weekly until the construction dust no longer exists. Wet mopping once or twice a week should give floors a clean appearance.

Most owners want to see a high sheen on their floors. However, safety in all buildings is a concern; thus, a sealer must be water-based and normally in the acrylic family of maintenance products. These products are designed for terrazzo use and have the classification by Underwriter's Laboratories that they have slip resistance with a coefficient of friction rating of a minimum of 0.5 or higher.

Solvent-based sealers have a tendency to not only discolor with age, but have a removal problem for the user, especially when wear patterns develop or discoloration dictates stripping the surface.

Acrylic water-based sealers should be mopped on (one or more coats) in accordance with recommended instructions of the manufacturer. This can also be followed by an acrylic water-based finish for daily or weekly buffing if a high sheen is desired.

It is essential to maintain a clean floor appearance. Water, mops, and other equipment must be clean. If the floor becomes heavily soiled, consult with a terrazzo contractor for directions before using any cleaner that is suggested by someone not familiar with terrazzo.

CLEANING PROCEDURES— The cleaning cycle should be regulated by the amount of foot traffic the floor receives. Neutral cleaners are designed to react only if solutions of clean water and cleaner (mixed in accordance with manufacturers' instructions) are allowed to remain on the floor surface for several minutes. This provides the time necessary for the grime-dissolving action to take place before removing the dirt-laden solution from the surface by squeegee, vacuum, or mopping. Rinse with ample clean water. It is important to keep the floor wet during this entire cleaning process so that the dirt is not reabsorbed into the floor.

IV. Application Variables

Now that we're all speaking the same language with our customers, it is necessary that we understand what application variables are involved that effect our product selections and best suit our customer's needs. Here we must consider actual floor maintenance programs, frequency of maintenance, equipment availability, floor type and location, etc.

To simplify these variables, we must now determine how much time (labor cost) a customer is willing to spend to maintain floor appearance, how much he is willing to invest in maintenance products (product cost) and ultimately, what he expects in terms of overall floor appearance.

Let's look at 3 typical locations to see exactly how product selection falls into place:

1. Small Business Office - low to moderate traffic, appearance not of prime importance, little or no equipment available, minimal floor care done.
2. Hotel Lobby - Moderate traffic, appearance important, moderate speed equipment available, floors maintained 2-3 times a week.
3. Supermarket - high traffic, appearance very important, high speed equipment available, daily maintenance program in place.

These 3 examples are designed to help you understand the importance of positioning your product in order to meet the customer's needs. Their requirements and willingness to invest in floor care are quite different, as well as what they can realistically expect from the appearance of their floors.

Floor finishes and maintenance products are formulated to meet the needs of each of the above examples in a fairly specific way. While it is possible that one finish may be used in all 3 applications. A supermarket floor finish needs a high degree of repairability while a small business office needs durability (hardness) as its prime requirement. To clarify the overall positioning and product selection of each location, let's look at what application variables are involved with each.

1. **SMALL BUSINESS OFFICE** – First and foremost, this location is most interested in protecting his floor while using minimum supplies and labor. Floor care equipment consists of a mop and bucket. Traffic is generally light so the floor doesn't suffer as much abuse. This

**Application Variables
continued...**

location requires a durable, scuff resistant finish that lasts, and a simple neutral floor cleaner to mop up heavy soil that may occur. This location can expect a high gloss appearance when the finish is applied but will wear out over time, due to lack of maintenance. Costs are lowest for this type of customer, while day-in/day-out appearance is good. Typically this floor will be stripped and refinished on an annual or semiannual basis.

*Ideal Simoniz® Finish Choice: Style, Ultra Line 33 or Wet Look Plus
Cleaner: AP-7*

2. HOTEL LOBBY – For this type of location, appearance is very important and the customer is willing to invest time maintaining that look. Since traffic is moderate, daily maintenance is not necessary to keep the appearance at a high gloss level. Low speed buffers (175-1500 rpm) are available here and a regular maintenance program (2-3 times/week) is in place. This type of floor requires a repairable, slip resistant floor finish with high gloss levels. Floor maintenance will consist of regular spray buffing and cleaning, and can be further enhanced by periodic use of a mop-on restorer in heavy traffic areas. A good neutral cleaner will be used here almost daily. Floor care costs are moderate for this location as more labor and product is used. Dayin/day-out shine is excellent in this moderate traffic area.

*Ideal Simoniz® Finish Choice: Premier Plus or Ultra Line 33
Cleaner: AP-7*

Maintainer: Maintain, Rebound

3. SUPERMARKETS – Since floor appearance is of utmost importance in this heavy traffic setting, floor care is given a lot of attention. High speed burnishers (2000+ rpm), and auto scrubbers are used here on almost a daily basis. A complete line of maintenance products include spray-buff, restorers and cleaners are likely to be included. This location generally requires a top quality finish that is both durable and repairable while having high gloss. Total floor care cost is highest here due to a high degree of labor and product usage. Floor appearance is excellent, but the customer pays for it.

*Ideal Simoniz® Finish Choice: Style or Wet Look Plus
Cleaner: AP-7*

Maintainer: Maintain

While the three examples above may be oversimplified, they should give you a good idea of the variables that we must take into account when offering floor care products. If we properly understand the level of commitment each customer has to floor care, our product recommendations are that much easier to make.

V. Product Descriptions

FINISHES

FINISH FIRST - An economical, metal cross-linked floor finish/sealer for use on resilient floors.

OVATION - A truly economical and protective finish for floors that encounter minimal traffic and maintenance.

PREMIER - A highly responsive, metal cross-linked floor finish. Formulated for easy maintenance and a high gloss.

PREMIER PLUS - A highly responsive, metal cross-linked floor finish with 25% solid. Formulated for easy maintenance and high gloss.

PREMIER URETHANE FORTIFIED - A highly quality, urethane fortified, metal crosslinked floor finish that protects and enhances the beauty of all resilient floors. Provides extra durability and is fast drying.

SHOW OFF - A highly responsive, metal interlocked floor finish.

SHOW OFF PLUS - A highly responsive, metal interlocked floor finish.

STYLE - The latest in polymer floor finish formulations. Highest initial shine, extremely responsive, excellent in no maintenance floor finish programs. High solid content.

ULTRA LINE 33 – New labor saving floor finish. Provides the same protection in half as many coats. Excellent gloss.

WET LOOK - A premium floor finish with high gloss levels. Perfect finish for floors with heavy traffic and minimum maintenance.

WET LOOK PLUS - A durable, high gloss, metal interlocking, UHS floor finish.

FLOOR MAINTENANCE PRODUCTS

MAINTAIN - A high quality product that maintains the "wet look - no skid" finish on floors. Used routinely for low speed floor maintenance between strippings.

REBOUND - A high quality restorer used to maintain the fresh polished look between strippings and applications of floor finish. This high quality, dilutable product is used routinely for floor maintenance to keep the shine and the no-skid finish. Resist black marks.

**Product Descriptions
continued...**

RESPOND - A highly dilutable cleaner formulated for maintenance of resilient tile floors using high speed equipment. Eliminates the need to clean with a neutral cleaner prior to buffing. Removes black heel marks, scuff marks, small scratches and returns finish to its original gloss. Very economical for large areas.

SEALERS

SUPER SEALER - An acrylic floor sealer with superior bonding and leveling qualities. This high quality undercoating increases depth of gloss and provides for a longer wearing finish.

URA SEAL - A urethane fortified, penetrating floor sealer formulated for porous surfaces such as terrazzo, quarry tile, ceramic and other stone floors. Ura Seal addresses the bonding concern which is present with stone flooring.

CLEANERS

AP-7 - A lemon-scented, no-rinse, neutral floor cleaner, re-conditioner and all-purpose cleaner formulated to safely clean floors without dulling or removing the protective finish. Its unique formulation lifts and suspends soil for easy removal while restoring the high gloss luster.

ONE SHOT - A concentrated, lemon-scented, neutral floor cleaning/maintenance product. Safely and effectively cleans all types of floors. One Shot is a unique blend of wetting agents and surfactants that lift soil from the surface so it can be easily removed and not harm floor finish gloss. Should not be used on unsealed wood.

QUARRY TILE CLEANER - A cleaner that emulsifies and lifts dirt from tile and grout lines on contact. It penetrates cracks and pores to make soil removal complete. Safe to use and pleasantly scented.

**Product Descriptions
continued...**

SPECIALTY ITEMS

CONCRETE SEALER - An ideal coating for sealing and finishing unpainted concrete floors. This unique polymer formulation fills in the porous surface of concrete, allowing for easier cleaning and maintenance, while providing shine for an attractive appearance. Minimizes dusting of the concrete.

TERRA BRITE - A superior quality sealer/finish formulated to seal and protect terrazzo floors, quarry tile and other stone flooring. Offers excellent gloss and durability and can be maintained at any speed for long lasting shine.

TERRA BRITE PLUS - A superior quality sealer/finish formulated to seal and protect terrazzo, quarry tile and other stone flooring. Terra Brite Plus offers excellent gloss and durability and can be maintained at any speed for a long lasting, enhanced shine.

STRIPPERS

AMMONIATED SPEED STRIP - An economical, concentrated stripper fortified with ammonia for quick removal of floor finishes from all types of resilient tile floors.

EZ 2000 - Our highest quality non-butyl, emulsifying stripper. Quickly and effectively removes both metal-linked and zinc-free floor finishes. Highly dilutable, low odor and no-rinse.

RELEASE - An aggressive, liquefying, no-scrub stripper used for quick and complete removal of metal cross-linked floor finishes. This labor saving "workhorse" stripper is perfect for all of your most difficult stripouts.

STRIP AWAY – A high solids, fast acting, highly dilutable floor finish Stripper. Strips the toughest floors quickly and completely.

TAKE AWAY - Heavy duty no scrub floor finish stripper. Quickly liquefies finish for easy removal.

WAX AWAY - A non-corrosive, non-ammoniated, solvent-based stripper for the removal of metal cross-linked floor finishes from all types of floors.

Z-STRIP - An economical, concentrated, non-ammoniated and highly alkaline stripper.

VI. Common Problems With Floor Finishing Results

1. LOW GLOSS

- Insufficient number of coats or too thin
- High humidity
- Poor rinsing of the chemicals of the cleaning solution
- Too soon recoated
- Material was frozen
- Dirty mops
- Cleaning too frequently
- Porous flooring

2. SLIP RESISTANCE

- Inferior floor finish
- Residual mop treatment film
- Overspray from furniture polish
- Dust created by burnishing
- Poor preparation before applying finish
- Improper application of finish
- Spilled liquids left on floor

3. SCUFFING

- Too heavy coats
- Too soon recoated

4. POWDERING (see following discussion)

- Low humidity
- Freshly stripped old floor, poorly sealed, allowed to "bone dry" before coating
- Drafts promoting fast vaporization of the film
- Coats too thin
- Failure to remove manufacturers coatings on new floors
- Pad too aggressive

5. STREAKING

- Dirty floor
- Dirty mop
- Pronounced high humidity
- Recoated too soon
- Too little polish in mop
- Poor rinsing
- Polish too thick

6. "FISH EYES"

- Greasy floor
- Soap film

**Common Problems
with Floor Finishing
Results continued...**

7. PEELING, NO ADHESION (this can be mistakenly judged as extreme case of powdering)

- New floor with original factory coating
- Some old waxy floor finish underneath

8. BLACK HEEL MARKS

- Coats too heavy

9. POOR FLOW/LEVELING

- Greasy surface
- Examine container of the finish used. It was perhaps stored in hot area and not properly closed

10. YELLOW/BROWNING

- Insufficient cleaning before burnishing and recoating
- Dirty mop/dirty water used to clean
- Cleaner residue left on floor
- Use of too harsh a cleaning solution
- Heavy coats of polish
- Recoating entire floor after cleaning (don't do non-traffic areas as often)

POWDERING CAN BE PREVENTED

The most important and critical part of a floor finish is the polymer emulsion. One can imagine this polymer emulsion as a multitude of small "Balls" surrounded by water. They are so small in size that they are suspended and evenly distributed throughout the entire volume. If we spread this polymer material about on the floor and allow the water to evaporate from it, the resultant film will consist of the layer of small balls loosely adhering to each other and to the surface on which they are placed.

Generally, floor finish will powder if, during application, you are to remove the water surrounding these balls of polymer so fast that the ingredients and factors introduced into the formulation to cause a film to form do not have enough time to do the job. Many balls will retain their round shape and the traffic on the floor will, so to speak, kick them out of the film. Once this process has been started, those loose balls, because of their hardness, will act as abrasives and the powdering of the floor will begin.

Perhaps the single most important factor to recognized and correct is what promotes fast removal of water from the film.

Low relative humidity for example is very often a major cause of rapid vaporization and therefore of powdering. Such extreme low relative humidity will most often occur in warm buildings during the winter months. The fast vaporization will also appear on the surfaces

**Common Problems
with Floor Finishing
Results continued...**

exposed to a constant draft of warm air. An attempt should be made to lower the temperature of the area, to close all sources of air drafts and to create humidity by using an artificial humidifier or a simpler means. In many cases, washing or mopping the area with cold water just prior to the application of the finish will be sufficient to create enough moisture in the air. Opening a window or door to create a draft or using an electric fan in order to cause a floor to dry more rapidly can cause untold expense in trying to stop the powdering these procedures often cause.

Another cause of rapid water removal is when floor finish is applied to an old or porous type of floor surface. Some of these will absorb moisture so rapidly that a film will never form and powdering will occur almost immediately. The use of a sealer prior to the application of floor finish is essential, particularly in the case of this type of flooring, as it keeps the moisture from being absorbed by the floor surface.

It is doubtful that there is any procedure in floor maintenance which is any more expensive than those that must be implemented to stop powdering. For this reason, an ounce of prevention is worth much more than a pound of cure. A little care exercised prior to the application of the original coats of floor finish to your floor surface can avoid that costly process of trying to stop the powdering of your floor; should it occur. Before a floor finish is applied you should take into consideration the factors which cause powdering and take whatever steps are necessary to correct them before the floor finish is applied. By taking the necessary steps your end cost in maintaining your floors will be greatly reduced.

VII. Conclusion

You now have the basic information to successfully produce great looking floors. One application variable which we have purposefully omitted is the price factor. While economics certainly impact your ultimate decision, when you take into account the labor cost savings and quality as opposed to the product costs, the value of your recommendations will be immediately realized. This, however, is not always the case. The reality is, that in this competitive market, you must be in a position to react to price concerns, sometimes as your primary consideration. In these unfortunate cases, the choices made will be based on economics instead of performance. Bear in mind that all of our finishes can be applied to all types of floors (excluding unsealed wood). Performance of the finish in terms of gloss, durability, etc. will then be the variables.