

***PERMACOLOUR PATINA STAIN
OPERATIONS MANUAL***

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1. DESCRIPTION AND USES

Permacolour Patina is a penetrating liquid acidic stain. It chemically reacts with cured cementitious surfaces to produce insoluble colour deposits in the pores of the substrate. These deposits are permanent, weather resistant, mottled, variagated and/or translucent colour patterns.

Incorporating specialised colouring, patterning, texturing and finishing techniques in conjunction with Patina Stains, creates unique and dramatic special effects on concrete flooring.

Patina Stains can also be used to treat other cementitious materials (such as terrazzo, self levelling and other toppings, tilt up panels, shotcrete, stucco and cement plaster) as well as natural stone with a chemistry similar to concretes'(ie. Marble, limestone etc.)

Patina Stained cementitious surfaces give similar effects as that of the natural shading of stone or a timeworn antique look. These stained surfaces are striking in appearance and add to the artistic features of modern architecture.

The Patina Stain effect is excellent for exterior and interior floors and walls, artificial rock and any other concrete structure, where warmth and beauty result when coated with Patina Stain. Even a large concrete drainage canal or bridge superstructure for example can be made to blend into the surrounding landscape through natural looking colouration by Patina Stain.

Patina Stained treated surfaces have subtly shaded colour with natural beauty, which can then be treated with a variety of clear sealers resulting in an easy to maintain surface. Patina Stained cementitious surfaces have excellent durability and abrasion resistance. The stained colours become part of the surface. The colour will be subjected to wear only if the surface of the cementitious material wears. Therefore various sealers can be used for the "wear" factor of surfaces with high traffic loads.

2. COMPOSITION AND MATERIALS

Patina Stain is composed of water, hydrochloric acid and water soluble chemical elements. Permacolour Patina Stain penetrates the substrate and reacts with the chemicals in cured concrete. This reaction produces insoluble colour deposits in the pores. As the colours of Patina Stain vary, so does the complex chemical composition of the stain which contains no resin or pigments. The reaction etches the concrete slightly, removes laitance and promotes a more effective chemical reaction and deeper colour penetration.

3. LIMITATIONS

Permacolour Patina Stains, unlike paints, are not opaque – they are translucent. Therefore they will not hide faults in the substrate like discolouration, blemishes, cracks and other construction errors. Along with naturally occurring variegations and marbling, any blemishes and imperfections in the concrete simply add character, charm and individuality. Even cracks look great when stained, like naturally occurring veins of intense colour. Some designers even chip and scar floors before they are stained.

The colour produced is unique to each concrete surface. This colour difference from surface to surface is dependant on the following: chemical composition, mix design, porosity, age, texture, colour of the substrate, the Patina colour and concentration, preparation methods, application procedures, the number of coats, experience of the applicator, weather conditions and the sealing or finishing coat material. Each of these can effect the colour appearance as to the degree and type of colour shading and the depth of the overall colour. In order to verify and gain approval of the final appearance, a sample test should be made on the same surface to be stained.

Mottling and wide colour variations will occur. The exact colour shade and the depth of penetration is not usually predictable. Some concrete surfaces are even not possible to stain successfully. When dirt, grease or other contaminants are left on the surface, the Patina Stain penetration may be blocked. An example is a

concrete surface to which a curing agent has been applied. Weathered concrete that has been exposed to water run-off or a dripping tap for a significant period of time , may lack the chemical make-up for the proper chemical stain reaction to occur. Different batches of concrete can vary in chemical composition on the same job site even. These as well as areas that may have been patched or repaired, can vary significantly as to colour from adjacent areas.

The wear resistance of Patina Stained surfaces is totally dependent on the strength and abrasion resistance of the cementitious surface to which it is applied. Therefore the application of a suitable sealer, along with periodic maintenance will negate this wear in heavy traffic areas.

4. COLOUR EFFECTS

Permacolour Patina Stain is manufactured in 8 standard colours that approximate the colour chart. The colour produced from each standard is unique to each cementitious surface and may vary significantly from the colour chart. Wide variations, mottling and unevenness of colour should be expected and are normally desired. This is the uniqueness of Patina Stain. The 8 standard colours can also be mixed to produce many more colours and shading intensities. As an alternative to premixing the standard colours, they can be applied on a job one over the other whilst still wet or as a sequence of standard colours, evaluating each different colours' effect before applying the next. Even more additional colours may be yielded by working over Permacolour colour hardened or skim coated substrates and/or modifying Patina stained surfaces with Permacolour concrete dyes. The result is that the standard colour chart can be extended to a virtually limitless palette of beautiful and versatile colours. All colour effects will be highlighted by the addition of a penetrating protective sealer.

The colour effects and concentrations are dependant on many facts, from application procedures to chemical makeup of the substrate. For example, to produce a deeper colour effect than a translucent 1 coat effect, two coats of Patina Stain would need to be applied. The colour will also be more intense when

applied to freshly cured concrete or a concrete with higher cement content compared to old weathered concrete.

Colour choice should therefore be achieved through detailed discussion, identification of colour influencing factors and onsite sampling and testing. Collaboration with architects, concretors, concrete suppliers etc. is needed to ensure colour uniformity on projects.

5. DESIGN

In addition to the natural beauty of Patina Stains, a whole range of imaginative processes can enhance the final result, turning craftsman into artisan. Utilising controlled concrete finishing techniques, colour hardeners and skim coats, concrete dyes, texture mat stamping, stencils and template sandblasting, results in an unlimited production of concrete graphique.

The exploration of these processes and the perception of a clients needs..... leads to analysis of aesthetic, structural, logistic and financial consideration..... and ultimately presentation of solutions, client approval and a successful application of Permacolour Patina Stain.

6. SPECIAL EFFECTS

Special effects on a Patina Stain job are twofold, the special effect being derived from either the substrate or the actual stain itself. Experimentation is a necessity to learn the endless possibilities of unique design effects obtained from the stains and their application methods.

Firstly, flooring can be dummy jointed, sawcut or scored into , for example, tile and paving patterns. Designs and logos can be sandblasted into the surface, either before or after staining. Cementitious surfaces can be treated with rock salt, imprinted, scored and chipped and inlaid with various features, all these processes producing dramatically patterned hardscapes.

Special effects achievable from the Patina staining process are also many and varied. These range from multiple colour applications, mixing of colours in different proportions, dilutions and uneven applications, spotted colour effects from the use of granular iron particles, mottled and streaked effects created by placing inert materials like sawdust or other absorbant materials over the surface to be stained, to creating a paste by mixing the Patina Stain with an inert material like clay. This paste is therefore easily controllable for fine detail work in a logo or feature, or can be used on a vertical surface to control running or dripping. All surface preparation or application procedures should be tested before use on the jobsite to evaluate their suitability.

7. SUITABILITY

In order to verify the approved final appearance, a sample test should be made on the same surface to be stained. The test area should be of adequate size so as to give a good visual inspection. The same worker, equipment and techniques should be used on the test site and the finished job site.

But firstly, the cementitious surface to be stained should be visually inspected, pointing out to the client all the colour influencing factors that this particular surface holds. Porosity, blemishes, cracking are just a few factors that can effect the final appearance of a Patina Stained job. Then there are the non visual elements that can effect staining ability. These need physical testing to evaluate suitability. These elements could include contamination in the form of curing compounds, silicon, oil and grease etc., or simply old weathered concrete that simply no longer has the chemical makeup suitable for staining with any colour bar a dark one which may still work marginally.

So after all the colour and appearance influencing factors have been evaluated and discussed with the client, a decision can be made as to the suitability and a test sample can be started.

If factors make a surface unsuitable to staining, a skim coat can be applied .

If you are involved from the ground floor in a project, ie. In the initial stages when the concrete is yet to be poured, you can liaise with owners and architects as to what they expect and what is possible in relation to colour influencing factors.

Collaboration with architects, concretors and concrete companies will control colour influencing factors like concrete finishing techniques, consistent batching of concrete, concrete curing conditions etc.

The exploration of these suitability factors and test sections as well as the perception of a clients needs, leads to analysis of aesthetic, structural, logistic and financial consideration; and ultimately presentation of solutions, client approval and a successful application of Permacolour Patina Stain.

8. QUOTING AND COSTING

Apart from the usual promptness, courtiness and professionalism that should be displayed, a contractor, as time goes by, will develop a skill in ascertaining all of the obvious and not so obvious factors in quoting a job.

These factors are many and varied but all pertain to to common sense as well as areas already covered under 'SUITABILITY'.

If this area is covered diligently there should be no unexpected surprises during the job. In other words, find out exactly what the customer wants and expects, how the cementitious surface you are going to stain will perform, how accessible the site will be and what 'extras' you may encounter. Often you will find it more convenient to work after hours simply due to the nature of business your in; ie. Nine times out of ten you will be working on the floor , usually where every other contractor on site needs access therefore creating chaos. Therefore prior planning and liasing with site foreman is most necessary; whether it be in regulating working hours, working areas, or simply the protection of the newly poured concrete slab whilst normal construction continues around it and on it.

Let everyone concerned know the importance of protecting your domain whilst your not present. So make allowances for the above situations on top of your

normal costings pertaining to raw materials to be used and labour and consumable costs.

A final consideration in costing and quoting a job is offering your client costings on periodic maintenance of the sealer. This will display to your client a pride and genuine consideration on how the finished product looks in the future. It will also be a safeguard for yourself if you are offering, or your clients demands, a performance guarantee above and beyond the standard workmanship guarantee.

9. SKIM COAT APPLICATION

If the concrete substrate is unsuitable for Patina staining, a skim coat may be applied.

Permacolour Skim 10 coat is a polymer modified cementitious, self levelling, shrinkage controlled compound designed to level and smooth concrete and other subfloors. Skim 10 hardens quickly and achieves high early strength, enabling you to Patina Stain the following day. It will not shrink, crack or spall even when applied in thick layers up to 10mm.

1. SUBFLOOR PREPARATION

Before installing Skim 10, all loose material, curing compounds, coatings, floor coverings, dirt, dust, grease, oil and other contaminants must be removed.

PROCEDURES

(A) Mechanical stripping – wire brushing, grinding scraping, sweeping, floor sanding, water blasting, bead blasting, scarifying etc.

(B) Chemical stripping – a water based stripper ideal for stripping latex paints and carpet glues, especially when used in conjunction with a floor polisher equipped with a black 3M scouring pad.

- solvent based strippers based on methylene chloride.

N.B. gyprock or plaster based contamination is most prevalent on construction or renovation sites and is scantily regarded as a serious contaminant; but it is a major source of delamination trouble – easily removed using a water based stripper.

When using chemical strippers, those areas must be thoroughly rinsed. Failure to do so could impede the bond of the primer and cause adhesion loss.

All loose, crumbling, spalled, broken or adhesive unsound concrete must be removed down to sound concrete.

The best final cleaning process after all contamination has been removed, is an acid wash followed by thorough rinsing.

Holes and spalled areas greater than 5mm deep should be primed, patched and left to dry prior to Skim 10 installation. These areas should be also primed once dry with Permacolour Lock-in bonda.... Which will totally block moisture transmission from the repair area which can ultimately effect the even drying of the overlaid skim coat and thus the colouring by Patina Stain.

2. PRIMING

After the subfloor has been cleaned and dried, the area is primed with Permacolour Bonda. A minimum of two coats should be applied by broom, roller, mop or spray. Highly porous substrates may require additional coats. Allow primer to dry. After 70% of the area has dried, spread remaining puddles. No white puddles should be present when Skim 10 is being installed.

3. MIXING

Permacolour Skim 10 reacts and hardens quickly when mixed with water. Thorough mixing in the shortest time is essential to ensure the powder and water is dispersed evenly to obtain a lump free mixture.

The most efficient mixing method is by using a paddle mixer in conjunction with a low speed / high torque drill. Mixing time should be kept to a minimum of around 2 minutes. Mix 1x20kg bag to 5.5 l of water. Put the 5.5l of water into a clean pail then add half of the 20kg bag initially whilst mixing thoroughly. Then slowly add the remaining dry mix while still mixing with the drill and paddle.

Paddle should be moved up and down and around the sides of the bucket, but should always remain below the surface so that air will not be trapped in the mixture. The volume of water added to the dry mix must be accurately measured

and kept consistent throughout the job. Too much liquid will cause weakening and discolouration; not enough water will decrease workability.

4. INSTALLATION

The working life of the newly mixed material will vary depending on the temperature and humidity (approx. 20 mins under normal conditions). The material should always be installed as soon as possible after mixing. The material should be poured out onto the primed surface, spread with a 5mm notched trowel (experienced applicators may not need to use one) followed by trowelling smooth with a steel trowel; avoid over-trowelling. To avoid cold joints, placements should be continuous. Placement of new pours should be timed so that they flow into and blend with the previous pour before the material reaches the end of its working life. Do not retrowel after working life as the surface finish will tear open becoming more porous and ultimately stain differently to surrounding areas. Protect the area you are covering from drafts or wind as this will cause premature setting and thus reduce marrying- in ability between pours.

Coverage: 1x20kg bag will cover approx. 5m²@ 3mm thickness.

5. LIMITATIONS

Permacolour Skim 10 should be installed at between 3-5mm thickness for the best staining results. Thicknesses above 10mm should be reinforced with a 5mm pea gravel for added strength.

Patina Staining can be carried out after a 24hr drying period. Do not lay any object or material on the curing surface within this time period as drying rates will thus vary causing a different chemical makeup of the topping in this area and ultimately staining differently to surrounding areas.

10. PATINA STAIN SURFACE PREPARATION

In the previous section we covered the application of a skim coat if the underlying substrate is unsuitable for Patina staining and achieving the desired

effect. After the Skim coat has cured , there is no further preparation needed before staining.

So this section is dedicated to the preparation of existing concrete surfaces in readiness for Patina Staining.

Before applying Permacolour Patina Stain to concrete surfaces, they must be cleaned to remove all forms of contamination (dirt, oil, grease, plaster stains, paint, adhesives, construction chemicals etc.) Cleaning methods vary depending on the form of contamination. Failure to remove all forms of contamination will impede the penetration of the stain. Acid washing must definitely not be used as a form of cleaning as it will remove the necessary reactants from the surface with which the stain needs to react.

Cleaning methods include pressure washing, chemical stripping, rotary floor machine scrubbing and detergent washing.

After cleaning, the surface must be rinsed thoroughly to remove any remaining residue, repeating the process until the rinse water is totally clean. Wet/dry vacuums are particularly useful when working on interior flooring. After drying the surface should be carefully inspected and retested for penetrability. If necessary, additional general or spot cleaning and rinsing should be performed.

New concrete should be allowed a minimum of 14 days to cure, depending on weather conditions, thus allowing it to become fully reactive to the Patina Stain.

Liquid curing compounds must not be used on concrete to be stained. For a more uniform colour to be achieved, all surfaces should be cured for the same time period and under similar conditions before chemical staining.

Aged concrete should be cleaned similarly to new concrete. The cleaned surface must be penetrable. This can be checked by spotting the surface with water. The water should darken the surface and be readily absorbed into the concrete. If the water beads and does not penetrate, additional surface preparation and testing must be done. The beading of water is particularly evident on heavily worked steel trowelled or machine trowelled concrete surfaces. The best method for creating porosity is by sanding with a rotary floor machine with varying grades

of sand paper. This will open up the pores and enhance the grain of the substrate to be stained.

For vertical surfaces, contamination is usually less evident and high pressure water blasting should suffice in conjunction with a chemical or detergent wash.

This should also be the case with other substrates like limestone, rock etc.

11. EQUIPMENT

Equipment needed to apply Patina Stain is very basic.

The most common form of application is by pump sprayer. This pump sprayer must be all plastic as the acidic nature of the stain will corrode anything metallic. Metallic utensils of any description coming into contact with the Patina Stain liquid may also change the resulting stain colour or affect its' performance. Therefore all holding vessels should be plastic also.

On less porous concrete surfaces, the Patina Stain can be sprayed on the surface followed by scrubbing with an acid resistant broom in a circular motion and then respraying immediately to disperse any broom pattern marks left behind.

For special effects, sponges, lambs wool applicators or acid resistant smaller spray bottles can be used. For borders and small areas to be highlighted, use a paint brush to apply the Patina Stain.

All application equipment and procedures should be evaluated and tested before use on site.

12. PATINA STAIN APPLICATION

All surfaces must be clean and dry. Adjacent landscaping and surfaces should be masked and/or protected from spills, overspray and runoff. The entire work area should be barricaded. Any adjoining walls should be masked.

The work areas should be divided into smaller work sections using natural dividing lines, such as walls, construction joints or other stationary features.

It is important to control section to section wet edges and overlaps. Do not step on wet Patina areas. All safety precautions must be followed including wearing full protective gear.

Permacolour Patina Stain should be applied full strength. When using more than one container of Patina Stain or combining different colours on a job, combine the number of containers to be used into a larger container before use.

Do not ‘puddle’, apply a uniform film thickness. Normally staining is a two coat process.

The Patina Stain liquid will not resemble the final colour produced on the concrete surface. The colour changes as the chemical reaction takes place.

Permacolour Patina Stain has a slight bubbling or fizzing action on the surface.

If this does not happen, the surface was not properly prepared and additional surface preparation will be required. The Patina Stain should be transferred to the surface by pump sprayer, making slow circular motions and always maintaining a wet edge. During the application of Permacolour Patina Stain the surface should be uniformly saturated with the liquid stain. Do not splash, drip or allow the stain to puddle in joints, depressions unless a changed colour effect is desired in those areas.

DO NOT STAND ON THE WET SURFACE: foot prints will appear darker than the adjacent areas. If stepped on by accident the footprints should be brushed out immediately.

When applying stain to a vertical surface, application should start at the bottom and work upwards avoiding excessive run down. The Patina reaction time is dependant on wind, temperature and humidity. The Patina Stain, wet or dry, should remain on the surface a minimum of 4 hours. Prevent contact with the surface until the stain residue has been removed and the surface rinsed. For ‘ón colour’ or ‘mixed colour’ applications, the Patina Stain surface should not be touched before the final application has been made.

When different colours of Patina Stain are to be applied on top of each other, the first colour residue should be cleaned off and evaluated before the application of the second or third colour etc. After the final application of the Patina Stain has remained on the surface for a minimum of 4 hours, all residues must be removed by wet scrubbing using a commercial grade detergent. Addition of ten percent ammonia to this solution will neutralise the acidic nature of the stain residue.

The surface must be rinsed clean. Be sure the runoff does not stain adjacent areas as the residue may still have some colouring power.

During outdoor application of Patina Stain, consideration for weather condition must be taken into account. Hot windy conditions means the Patina Stain will dry faster and will require more material or extra applications to attain the desired result. Rain on the other hand will dilute the application or prematurely wash it off, and runoff may stain adjacent areas.

13. COVERAGE RATES

A minimum of two coats is usually required on most concrete surfaces. A single coat may only be required over Permacolour colour hardened concrete for a colour wash effect.

Extra coats may be required on older weathered concrete or particular jobs where a desired colour effect is to be achieved.

Permacolour Skim coats also require a minimum of two coats but at a dilution ratio of 50:50 with clean water.

The coverage rate is dependant on and varies widely due to porosity, texture, composition, age, preparation, application technique and other factors in relation to the cementitious surface.

Therefore an average coverage rate would be: 5-7.5m²/l/coat.

14. CONCRETE DYES

Permacolour concrete dye concentrates are high strength solutions of a single colour intended to make ready to use concrete dye stains by blending to the desired colour and reducing concentration with water. (usually 1 part dye: 10-20 parts water depending on colour depth desired)

ADVANTAGES:

- Available in 10 distinctive colours
- Water based; user friendly
- Fast drying
- Good interior colour stability

- Uniform staining without wiping or other mechanical treatment.
- Full range of colours possible through blending.
- Designed to set in cementitious surface due to structured ph values.

LIMITATIONS

- blended colours, once applied to concrete, do not always represent the blended colour. Therefore testing of blends is of utmost importance during the sampling stage.
- Not recommended for exterior use
- Must be overcoated with Permacolour clear sealers
- The shade and depth of colours will vary with reduction, application and the type of concrete over which they are applied.
- Use disposable gloves when handling due to staining nature.

Permacolour concrete dyes are intended to be used as a final shading or colour adjustment on Patina Stained surfaces. Colours not possible with Patina Staining can be introduced with concrete dyes. They also achieve a 3 dimensional look in colouration.

APPLICATION:

Can be applied in suitable concentrations via pump sprayer or sponge. Can be mixed in with Patina Stains by experienced applicators, but are usually applied after the residue wash off of Patina Staining. Their effectiveness is dependant on the porosity of the cementitious surface and how dry it is before dyeing.(the dryer the surface the greater the penetration). Over saturating the surface with dye will leave dry deposits that must be wiped clear before sealing.

15. SEALERS

Patina Stained surfaces do not have to be sealed as the colour is deposited under the surface and will not fade, chip or wear unless the surface itself wears. But colours will be enhanced by the use of a sealer; the wearing of the surface can be

taken up by the sealer and a sealer will also prevent dirt, oil, and other contaminants from penetrating the substrate, thus creating a low maintenance surface with ease of cleaning. There are a wide variety of sealers available and each must be evaluated as to its suitability to a particular Patina Stain application.

This evaluation will entail; slip resistance as to indoor outdoor/ dry wet conditions; the wear resistance necessary as to how heavy the traffic load will be; cost factor considerations; work site considerations (pertaining to the smell of solvent based sealers and the time allowances before a job must be sealed).

WATER BASED ACRYLIC SEALER/FLOOR FINISH

- this system involves the application of a minimum of two coats of sealer followed by a minimum of 2 coats of floor finish. The floor finish is an easily strippable coating that can be replaced whenever the need be.

Advantages:

- Low cost, easily applied by spray, broom or mop. Can be buffed to a high gloss with a white 3M pad on a mechanical polisher.
- Normally a flat low gloss finish that enhances antique or weathered looks.
- Surface needs little drying time after residue wash off before application ie. Moisture tollerant.
- Dries rapidly
- Multi coating in the one day.
- Water clean up
- Low, sweet odour
- Non toxic, nonflammable
- Large coverage rate; approximately 10-15m² /l/coat
- Floor finish can be used as an overcoat system over other sealers.

Disadvantages

- Low to moderate wear resistance for high traffic areas; therefore high maintenance; better suited for residential applications.
- Low chemical resistance.

- Cannot incorporate slip resistant materials successfully due to small film thickness.

SOLVENT BASED ACRYLIC SEALER

- A two coat minimum system that is cost effective and a good allrounder.

Advantages:

- Easily applied by any method; broom, roller or spray
- Low cost
- Moderate to good wear resistance
- Easily incorporate nonslip additives in wet areas
- High gloss if required; or matting agents can be added for low sheen
- Average to good coverage rate; 7-9m²/l/coat
- Can overcoat water based sealers that were initially used to protect finished jobs.
- Moderate to high chemical resistance

Disadvantages

- Solvent has a pungent smell that is not suitable when applied on jobs where the public is close by; eg renovation of a shop in an existing mall; ie. Solvent smell will enter the air conditioning system and be distributed throughout the centre
- Toxic, flammable, dangerous goods
- Not very moisture tolerant

POLYURETHANE SEALER

- Single pack nonyellowing clear high gloss coating designed for industrial/commercial use

Advantages:

- Hard wearing, good abrasion resistance.
- Resistant to attack by most chemicals.
- Extremely high gloss if required.

Disadvantages:

- **High cost.**
- **Requires much experience for successful application.**
- **Extremely low moisture tolerance, substrates must be allowed at least 24 hours drying time after residue wash-off if indoors.**
- **Contains aliphatic isocyanate monomer so can only be applied in properly ventilated areas with acceptable respiratory protection.**
- **For most substrates primers are required to ensure proper adhesion and performance.**
- **Cannot be used in low temperatures.**

WATER BASED EPOXY SEALER

- **Economical and ecologically friendly waterbourne 2 part epoxy coating system.**

Advantages:

- **Water based non flammable coating.**
- **Equipment can be cleaned up in water.**
- **Can be applied to hardened green concrete or skim coats.**
- **Can be applied to damp substrates.**
- **Performs as a waterproofing membrane.**
- **May be overcoated with conventional sealers.**
- **Full gloss finish: matting agents can be added.**
- **Very little non-toxic odour.**
- **Excellent chemical resistance.**
- **Has been designed to allow semi-skilled applicators to produce flooring systems that provide excellent service levels for most commercial and light to medium industrial applications.**
- **Medium recoat times that allow multiple coats to be applied within a single day. (six hours between coats)**
- **Average coverage rate 5-7m²/l/coat and usually only a two coat system even on pouress substrates.**

Disadvantages:

- Not recommended to be applied below 10 degrees C as no significant reaction occurs between hardener and resin below 7 degrees C. This
- temperature specification refers to the surface temperature of the substrate and not the ambient temperature.
- Yellowing can occur in direct sunlight after about 6 months, although any colour change with interior applications would be scarcely perceptible.
- Higher cost compared to water based and solvent based acrylic sealers; but this is outweighed by higher performance levels and far less maintenance.
- Best when applied by roller as material is too viscous to be applied by airless sprayer.
- Mix small quantities at a time per applicator, as the mix, due to its exothermic reaction (heat generating), will make the mix increasingly difficult to use, resulting in having to overwork the film in order to spread it evenly.

16. MAINTENANCE

Because the Patina Stain is deposited in the pores of the substrate and will not wear off, the only maintenance needed is that off the protective sealer.

Permacolour Patina Stained and sealed surfaces should be swept off as needed. Spills should be cleaned up when they occur.

Hose off loose dirt.

Soiled areas should be scrubbed or mopped using a commercial grade detergent.

Interior floors that require polishing due to heavy traffic wear, should be maintained by using Permacolour Floor Finish or a similar commercial emulsion type floor polish.

Periodic resealing may also be required on heavy wear surfaces.

All cleaning materials used should be tested prior to use for their compatibility with the type of sealer used.

17. WARRANTY

Permacolour Patina Stain is warranted to be of uniform quality within manufacturing tolerances. Since Permacolour does not have control over its use, no warranty, expressed or implied, is made as to effects of such use.

The sellers or manufacturers obligation under this warranty shall be limited to refunding the purchase price of that portion of the material deemed to be defective.

Individual contractors should negotiate their own warranty with clients apart from the standard workmanship guarrantees.

Clients therefore should be made aware of the limitations of staining certain surfaces, and test sections completed and approved (in writing) if warranties are to be entered into.

Periodic maintenance of sealers is therefore also important in relation to warranting a job.

18. HEALTH AND SAFETY

Permacolour Patina Stain is a liquid acidic stain so its use should be treated with caution. It is a corrosive liquid that can cause eye and skin burns. It can cause severe eye irritation, possible blindness. The vapour or mist can cause irritation to the nose, throat and lungs.

IMPORTANT: READ MATERIAL SAFETY DATA SHEETS

Do not get Patina liquid in eyes, on skin or clothing. Wear an acid vapour mask, goggles, gloves, protective clothing, chemical resistant apron and boots. Use with adequate ventilation.

Do not breathe vapour or mist.

Close containers after use.

Store in tightly closed containers in upright position.

Keep away from combustible materials and all heat sources.

Under normal conditions, the shelf life should be at least one year- therefore rotate stock.

FIRST AID: flush contaminated areas immediately with water. Remove contaminated clothing and seek medical attention.

EYES: Hold eyelids apart while flushing material out using large amounts of clean water.

INGESTION: Drink several glasses of water or milk. Seek medical attention immediately. Do not induce vomiting

SKIN: Wash thoroughly with soap and water. Remove contaminated clothing and footwear and wash well before re-use.

INHALATION: Move to fresh air at once. If symptoms persist or develop, get medical attention.

KEEP OUT OF REACH OF CHILDREN

Close container after each use. Store in an upright position in a tightly closed container away from combustible materials and sources of heat. In case of spillage, neutralise, absorb with an inert material and dispose of in accordance with applicable regulations. Do not re-use empty container.