

WATER BASED URETHANE

PROPERTIES OF MATERIAL

Solids by Volume 35-41% (+/-3%)

Solids by Weight 37-43% (+/-3%)

Part A Density 1.00 – 1.10 g/cm³

Part B Density 1.05 – 1.15 g/cm³

Mix Ratio

Part A to 1 Part B (4:1 v/v)

Pot Life

(Ca. @ 25°C/60% RH) 2 hours (5 litre mix)

Dry to Touch Time

(Ca. @ 25°C/60% RH) minutes

Recoating Time

(Ca. @ 25°C/60% RH) 4-12 hours

Open to Light Foot Traffic

(Ca. @ 25°C/60% RH) 6-8 hours

Open to Heavy Traffic

(Ca. @ 25°C/60% RH) 48-72 hours

Full Cure

(Ca. @ 25°C/60% RH) 7 days

Gloss @ 60°

(7 day cure @ 25°C/60% RH) Gloss 93, Satin 50, Matte 10

Initial Mixed Viscosity

(Ford Cup #4) seconds (+/- 3s)

Shelf Life

12 months in unopened container

Coverage

Can be applied from 5 m² per litre up to 10 m² per litre (100 um to 200 um wet film thickness).

PRODUCT DESCRIPTION

A universal use, clear, low VOC, UV stable, water based aliphatic polyurethane floor and wall coating with exceptional chemical and abrasion resistance enhanced with advanced Abrasion Recovery Technology (ART).

Abrasion Recovery Technology (ART), is a prominent feature of Permacolour Water Based Urethane. ART modified protective coatings mend and repair fine abrasion, recovering up to 75% of damage in as little as 12 hours at room temperature (23°C).

ADVANTAGES AND LIMITATIONS

Advantages

High performance aesthetic UV Stable finish.

Excellent abrasion resistance further enhanced with Abrasion Recovery Technology (ART).

Re-coatable in as little as 4 hours.

Low maintenance finish suitable for demanding high volume commercial traffic conditions.

Self priming on suitably prepared substrates.

Orange peel free finish when applied at lower coverage rate side of recommended film thickness

- Exceptional chemical resistance across a broad spectrum of common industrial and domestic substances.
- Environmentally advanced formulation free of NMP and low in VOC's.
- Substantially easier to use than other competing water based polyurethane coatings.

Limitations

- Failure to follow recommended application technique may result in lap lines and orange peel finish.
- Poorly prepared substrates will be susceptible to coating failure.
- Mild odour may be unpleasant to some installers.
- Does not completely prevent discolouring and fade of non UV stable coatings and substrates (timber) that are overcoated.
- Not suitable as a primer over concrete with moisture content >2.5% and alkalinity readings >8.5 pH at the surface.
- Do not apply to timber with moisture content >10%.
- Do not thin! Permacolour Water Based Urethane is a ready to use formulation.
- Puddling or over applying Permacolour Water Based Urethane can create CO₂ bubbles as well as poor adhesion and less than desirable surface properties.

COLOUR

Milky white formulation dries to water clear finish.

SURFACE PREPARATION

All new concrete must be allowed to cure for a minimum of 28 days. Concrete and timber surfaces must be removed of any oil or grease. Remove all curing compounds, bond breakers and foreign contaminants. Mechanically remove any laitance, loose or friable surfaces followed by preparing the substrate by diamond grinding to a CSP (Concrete Surface Profile) of 1+ in the case of concrete or sanding with 100 micron surface profile (140# Mesh) for timber surfaces. Remove all dust prior to material application.

MIXING

Mix 4 part A to 1 Part B by volume (4:1 v/v) with a slow speed drill for no more than 1 minute at no more than 200 RPM creating a homogeneous mixture while being careful not to induce air into the product. Smaller batches <5 litres can be gently stirred with a paint stick or combined and shaken in the bottle to create homogeneous mixture. After mixing, transfer material to application bucket and allow material to stand for 5 minutes before commencing application.

APPLICATION

Permacolour Water Based Urethane can be applied with a non linting mohair roller cover with preference given to 10 mm nap length. After mixing, product is transferred to the application bucket to allow for dip and roll technique. Permacolour Water Based Urethane should be applied liberally (typically 5-7 m² per litre) to allow for sufficient film in order to achieve an even orange peel free finish. This can be visually observed by creating a film that is thick enough to appear a cloudy white on the surface after initial rolling. Films that do not appear a cloudy white at time of application will most likely cure with a light orange peel finish over smooth, non porous surfaces such as epoxy. Roller application should be made in long uniform strokes with a light feathering off at the end of the stroke. Cross hatching the film on a 90° angle from initial application direction can help to uniformly distribute the coating but should be done shortly after initial application (less than 5 minutes).

It is important to not over work the product for an extended period of time as the coatings solvent (water) gradually evaporates from the film. As the solvent (water) evaporates, the film will not settle as efficiently and may potentially leave lap lines and increased orange peel.

COVERAGE RATE

Permacolour Water Based Urethane can be applied from 5 m² per litre up to 10 m² per litre (100 um to 200 um wet film thickness).

RECOATING

Recoating Permacolour Water Based Urethane can be carried out without abrading and sanding subsequent coatings if reapplied within 12 hours. If recoating Permacolour Water Based Urethane any longer than the 12 hour recoat window, the previous coat will need to be sanded to a minimum profile of 100 micron (140# Mesh sanding screen). Permacolour Water Based Urethane coated surfaces that have been allowed to cure for more than 5 days will require further testing to determine suitability of reapplication without further surface preparation to guarantee adequate adhesion (contact technical consultant for further information). Multiple coats of Permacolour Water Based Urethane are recommended in high traffic domestic and commercial flooring spaces to build a protective barrier.

Environmental Conditions During Installation
Consideration of environmental conditions at time of application should be made. High humidity conditions will slow the curing speed. Installation of Permacolour Water Based Urethane when humidity is in excess of 80% should be avoided. Permacolour Water Based Urethane can be applied from 10° C up to 40° C. Cooler conditions will lengthen curing times while warmer conditions will shorten curing time.

CLEAN UP

Clean all tools and materials with warm water. Wash hands and skin tenaciously with warm soap and water. Remove all soiled clothing. Once product has cured, it can only be removed through mechanical means. Roller covers are to be disposed of after materials have hardened.

RESTRICTIONS

- Concrete substrates must be sound and have a minimum compressive strength of 25 MPa, with a minimum surface pull of strength of 1.5 MPa.
- The substrate must be clean, removed of any standing water and free of all contaminants, e.g. dirt, oil, grease, coatings and surface treatments, etc.
- Humidity should be less than 80% at time of application.

STORAGE AND PACKAGING

Material is to be stored from 5°C to 35°C and away from direct sunlight. Materials are best used within 12 months of the date of manufacturing if kept in original sealed containers. Do not store containers directly on cold and damp surfaces. Do not allow to freeze.

It is recommended to nitrogen blanket opened containers of Part B that are not emptied prior to closing to protect contents from reacting within the container.

Permacolour Water Based Urethane is available in 5 litre kits.

HEALTH AND SAFETY PRECAUTIONS

- Refer to Safety Data Sheet (SDS) for specific information relating to the best practices for handling Permacolour Water Based Urethane
- Both Permacolour Water Based Urethane part A and B are Hazardous Chemicals.
- Wear chemical resistant gloves, eye protection, approved breathing apparatus and overalls during mixing and application as outlined in the latest revision of the SDS.
- Ensure there is adequate ventilation and avoid breathing any vapour.
- Permacolour Water Based Urethane is a strong skin sensitizer. If materials are exposed to skin, wash immediately with warm soapy water and remove soiled clothing. See a doctor at first signs of dermatitis.
- If materials are swallowed call CHEMCALL on 0800 CHEM CALL without delay.
- If in eyes, hold eyes open and flood with fresh water for at least 15 minutes followed by visiting a doctor.

NOTES

- The figures quoted for work time, cure time and coverage are not definitive, they are dependent on job site conditions and will vary accordingly.
- In all cases we endeavour to provide typical figures for use as a guide.
- Permacolour Water Based Urethane should be tested by the applicator for suitability of use on a small surface area on the actual job site prior to commencing complete coating.

WARRANTY Permacolour products are warranted for one year after date of purchase. Please refer to the Limited Material warranty for additional clarification. The information contained herein is true and accurate to the best knowledge of Permacolour. Since we cannot anticipate all possibilities and conditions under which this information and our products may be used, Permacolour hereby accepts no responsibility and offers no warranty in the case of results achieved by the use of our products or of the safe use and suitability of these products. Permacolour offers our products for sale subject to, and "The Customer" and all users are deemed to have accepted our Terms and Conditions of Sale. We warrant our products to be free of manufacturing defects. If any product is found to be defective and was within storage/shelf life, Permacolour will replace the product at no charge to the purchaser. Permacolour makes no other warranty with regards to our products, either expressed or implied. Whilst any information provided by ourselves, both verbally or written, is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control. As all Permacolour technical data sheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.