



# PUR-W41

## (GLOSS, SATIN AND MATTE FINISH)

Before beginning installation, thoroughly review all product and system information and study the Safety Data Sheets (SDS). Initiate the installation only once you have gained a comprehensive understanding of the product and the system. Prioritize workplace safety at all times - Personal Protective Equipment (PPE), as specified in the SDS, should be worn and utilized throughout the installation process. Remember, the longevity and performance of the final product hinge on proper surface preparation - the foundation of successful installations.

### PRODUCT NAME

PUR-W41 (Gloss, Satin and Matte Finish)

### PRODUCT DESCRIPTION & USE

PUR-W41 stands as a multifaceted, transparent, low VOC, UV resilient, water-based aliphatic polyurethane coating, engineered specifically for both floor and wall coverings. It garners recognition for its user-friendly application, producing a sleek, orange peel-free finish while simultaneously serving as a robust, highly abrasion-resistant protective barrier.

Suitable for both outdoor and indoor implementations, PUR-W41 can be directly applied to concrete, functioning either as an individual protective layer or as an upper coating over cementitious overlays and epoxy coatings.

### ADVANTAGES & LIMITATIONS

#### ADVANTAGES

- Provides a high-performance aesthetic finish that is UV-stable.
- Offers excellent abrasion resistance, ensuring a durable coating.
- Quick-drying, allowing recoating in as little as 4 hours.
- Requires minimal maintenance, making it suitable for areas with high commercial traffic.
- Functions as a self-priming coat on suitably prepared substrates.
- Achieves an orange peel-free finish when applied at the lower coverage rate side of the recommended film thickness.
- Demonstrates exceptional chemical resistance against a wide range of common industrial and domestic substances.
- Environmentally-friendly formulation with low VOC content.
- Notably more user-friendly than other competing water-based polyurethane coatings

#### LIMITATIONS

- Deviating from the recommended application technique may lead to the formation of lap lines and an orange peel finish.
- If substrates are not prepared adequately, they may be prone to coating failure.
- The product emits a mild odour which some installers might find unpleasant.
- PUR-W41 doesn't entirely prevent discolouration and fading of non-UV-stable coatings and substrates (such as timber) that are overcoated.
- The product is not suitable as a primer over concrete with a moisture content exceeding 2.5% and alkalinity readings above 8.5 pH at the surface.
- Application on timber with a moisture content greater than 10% is not recommended.
- Avoid thinning. PUR-W41 is a ready-to-use formulation.
- Over-application or puddling of PUR-W41 can result in the formation of CO2 bubbles, poor adhesion, and less optimal surface properties.

### COLOUR

The formulation, which is initially milky white, dries to become a transparent, clear coating.





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## APPLICATION & USE

### SURFACE PREPARATION

Ensure new concrete has been left to cure for at least 28 days. Eliminate any oil or grease residues using an appropriate surface degreaser. Thoroughly remove all curing agents, bond breakers, and foreign impurities. Mechanically dislodge any laitance or weak and crumbling surfaces, then prepare the substrate through diamond grinding or shot blasting to attain a Concrete Surface Profile (CSP) of 1 or more. Make sure to eliminate all dust before applying the material. For more detailed instructions and guidance on surface preparation, refer to the "Alluvius Technical Bulletin SP-1".

For wood surfaces, sand the material to attain a 100-micron surface profile (equivalent to 140# Mesh).

### MIXING GUIDELINES AND PROPORTIONS

Mix four parts of Component A with one part of Component B by volume (4:1 v/v) using a slow-speed drill, keeping the rotation under 200 RPM. Ensure to mix for no more than one minute to achieve a homogeneous mixture, being mindful not to introduce air into the product. If preparing smaller batches of less than 5 litres, gently stir the components with a paint stick or combine and shake them in the bottle until a uniform mixture is formed. **Once mixed, transfer the material to an application bucket and let it stand for 5 minutes before initiating the application.** For more details, instructions, techniques, and advice on mixing, refer to the "Alluvius Technical Bulletin: Mixing of Multiple Component Alluvius Polymeric Materials"

### APPLICATION

PUR-W41 is best applied using a non-linting mohair roller cover, preferably with a 10 mm nap length. After mixing, transfer the PUR-W41 to an application bucket, enabling the dip and roll application technique.

To achieve an even, orange peel-free finish, apply PUR-W41 liberally, typically covering 5-7 m<sup>2</sup> per litre (200-280 sqft/gallon). You can verify an adequate application visually; the created film should appear as a cloudy white film on the surface after the initial rolling. Films that don't exhibit a cloudy white appearance during application are likely to cure with a light orange peel finish, especially over smooth, non-porous surfaces such as epoxy.

When using a roller, apply with long, uniform strokes, lightly feathering off at the end of each stroke. For a more uniform coating, you can cross-hatch the film at a 90° angle from the initial application direction, but ensure to do this shortly after the initial application (within 5 minutes).

Avoid overworking the product for extended periods, as the solvent (water) in the coating gradually evaporates from the film. As this happens, the film won't settle as efficiently, potentially leading to the appearance of lap lines and increased orange peel texture.

### COVERAGE RATE

PUR-W41 can be applied with a coverage rate varying between 5 m<sup>2</sup> to 10 m<sup>2</sup> per litre (200-400 sqft/gallon). This corresponds to a wet film thickness of 200 µm to 100 µm (8 to 4 mil). For achieving an orange peel-free finish, the ideal coverage rate on smooth, non-porous surfaces is between 5-7 m<sup>2</sup> per litre (200-280 sqft/gallon), which translates to a wet film thickness of 200 µm to 140 µm (8 to 5.5 mil)





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## RECOATING

Recoating with PUR-W41 can be achieved without the need to abrade or sand subsequent layers if the reapplication takes place within a 12-hour window. However, if the recoating of PUR-W41 occurs after this 12-hour timeframe, the previously applied layer of PUR-W41 will require sanding to achieve a minimum profile of 100 microns (equivalent to a 140# Mesh sanding screen).

If PUR-W41 coated surfaces have been left to cure for more than 5 days, further testing will be necessary to determine the suitability of reapplication without additional surface preparation, ensuring optimal adhesion. For further information, please consult our technical consultant.

We recommend applying multiple coats of PUR-W41 in high-traffic domestic and commercial flooring areas to establish a robust protective barrier.

## ENVIRONMENTAL CONDITIONS DURING INSTALLATION

The environmental conditions at the time of application must be taken into account. PUR-W41 should not be applied if the humidity exceeds 80%. The product is suitable for application in temperatures ranging from -4°C (25°F) to 38°C (100°F).

## CLEAN UP

Thoroughly clean all tools and materials with warm water. Rigorously wash hands and any exposed skin with warm water and soap. Any clothing that comes into contact with the product should be promptly removed. Bear in mind that once the product has hardened, it can only be removed mechanically. Roller covers are single-use and should be safely discarded once the materials have solidified.

## PROPERTIES OF MATERIAL

PROPERTY	VALUE
Solids By Volume	40% (+/- 3%)
Solids By Weight	42% (+/- 3%)
Part A Density	1 – 1.10 g/cm <sup>3</sup>
Part B Density	1.05 – 1.15 g/cm <sup>3</sup>
Mix Ratio By Volume	4:1 v/v
Mix Ratio By Weight	4:1.1 w/w
Volatile Organic Compounds (VOC)ASTM D-2369	55 grams per liter
Pot Life (Ca. @ 25°C)	2 hours (5 liter mix)
Gelation Time (Ca. @ 25°C)	20 minutes
Dry to Touch Time (Ca. @ 25°C)	90 minutes
Recoating Time (Ca. @ 25°C)	4-12 hours
Open to Light Foot Traffic (Ca. @ 25°C)	6-8 hours
Open to Heavy Traffic (Ca. @ 25°C)	48-72 hours
Full Cure (Ca. @ 25°C)	7 days





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## RESTRICTIONS

- Concrete substrates must be sound and have a minimum compressive strength of 21 MPa, with a minimum surface pull-off 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.
- Substrates with moisture content equal to or greater than 4% will not be over-coated without first contacting the manufacture in writing for further instructions.

## STORAGE & PACKAGING

Material is to be stored from 10°C (50°F) to 35°C (95°F) and away from direct sunlight. Materials are best used within 12 months of the date of manufacture if kept in original sealed containers.

PUR-W41 is available in 5 litre (1.33 gallon) kits. Kits include 4 litres (1.06 gallon) Part A and 1 litre (0.27 gallon) Part B.

## DISPOSAL

Please be aware that product containers will hold residual amounts of product and must be handled with care. Adhere to the warnings detailed on the labels at all times. All containers must be disposed of following federal, state, and local regulations to ensure responsible waste management.

## HEALTH & SAFETY PRECAUTIONS

- Please refer to the Safety Data Sheet (SDS) for detailed instructions on handling PUR-W41 safely.
- When mixing and applying, make sure to wear chemically-resistant gloves, eye protection, approved respiratory equipment, and suitable protective clothing, as specified in the latest version of the SDS.
- It's essential to maintain a well-ventilated workspace and avoid inhaling any fumes.
- Be aware that PUR-W41 Part B can cause skin sensitization. If you come into contact with the product, immediately wash the affected area with warm, soapy water and change out of any contaminated clothing. Seek medical attention immediately if symptoms of dermatitis occur.
- To ensure compatibility, it's advisable to conduct a small-scale test of PUR-W41 on the actual job site before full application.

## ADDITIONAL NOTES

- The specifics provided for working time, cure time, and coverage should not be considered absolute; they are subject to change based on site conditions
- We strive to provide typical values to be used as a reference

## DISCLAIMER

The data provided in this technical document is a culmination of our laboratory testing and practical experience. However, this document does not constitute a guarantee for the product's properties in terms of any legally stipulated warranties. Should you need further clarification or information to make an appropriate assessment, we encourage you to reach out to us directly. All Alluvius products are manufactured according to strict specifications, and while we can vouch for the quality of the product itself, we do not control the conditions under which the products are transported, stored, or handled, and we cannot predict or oversee the conditions under which they will be used. Therefore, we strongly advise each user to study this product data sheet in light of their intended handling and usage of the product and to conduct comprehensive tests before adapting the product for their specific uses. Please note that we reserve the right to alter the provided data without any prior notice.

