

## AMITEK PU CONCRETE

### Product Description

AMITEK PU Concrete is a four-component PU concrete flooring recommended as robust floorings in food and beverage industries. AMITEK PU Concrete is a self smoothing polyurethane concrete flooring system designed to provide outstanding abrasion and chemical resistance and is generally applied at thicknesses 4-6 mm. AMITEK PU Concrete is available in a few limited colours. AMITEK PU Concrete does not support bacteria or fungal growth. It is inert, non-bio-degradable and is highly recommended for dry and semi-wet areas of F&B and pharma industries, where the highest standards of hygiene are required.

### Uses

- Food processing industries
- Beverage plants
- Confectionaries
- Dairies
- Process industries

### Key features

- HACCP Certified
- Food Grade
- Temperature Resistant
- Chemical Resistant
- Slip resistance

### Properties

Type :	PU Concrete
Finish :	Matt
Colour :	Limited colours
Density :	1.92 gm / cc
Pot life ASTM D 2471 :	8 -12 min
Drying time at RH 50% @ 270C ASTM D 1640	
Surface dry :	≥ 20 min
Tack free dry :	≥ 1 hr
Hard dry :	≥ 24 hrs
Recommended thinner Clean up :	PUT 502
Shelf life :	6 months in the unopened container

### Performance data

Compressive strength ASTM D 695 :	≥ 40 MPa
Tensile strength ASTM D 638 :	≥ 5 MPa
Flexural strength ASTM D 790 :	≥ 20 MPa
Bonding strength ASTM D 4541 :	Concrete failure
Abrasion resistance ASTM D 4060 :	≤ 50 mg loss
Hardness, Shore D ASTM D 2240 :	≥ 75
Water absorption ASTM D 2247 :	≤ 1%
Slip resistance (skid value) Pendulum test BS 8204 :	40 - 70
Service temperature (for 4mm) :	-150C to +800C
Speed of cure @ 300C	
Light traffic :	12 hrs
Full traffic :	24 hrs
Full chemical cure :	6 days
Spread Of Flame resistant :	Class 3 as per BS 476

**Note** : The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, dependent on actual site conditions

### Thickness

4 – 6 mm

### Coverage

- 4mm thick 2.2 - 2.4 sq.m per pack
- 6mm thick 1.45 -1.6 sq.m per pack

(All the coverage including Anchor groove and scratch coat).

**Chemical resistance :** AMITEK PU Concrete offers excellent chemical resistance to varied chemicals: from acids to solvents. AMITEK PU Concrete is resistant to many chemicals commonly encountered in food and beverage industries such as 50% acetic acid (vinegar), 30% lactic acid (acids present in milk and dairy products), citric acids (acid present in citrus fruits and limes), oleic acids (organic acid formed by oxidation of vegetable and animal fats). A full list of chemicals resistant to AMITEK PU Concrete is available on request. Strong solvents may soften AMITEK PU Concrete on continuous immersion, but the film will regain its strength once the solvent is evaporated. A few substances will make stains on Duracrete floors on continuous exposure. It should be noted that discolouration is not termed as film failure. Staining can be minimized by effective cleaning.

**Design criteria :** AMITEK PU Concrete is designed for application at a nominal thickness between 4 mm to 6 mm. thickness design criteria would depend on service temperature and chemical exposures.

**Thickness selection**

- Service Temperature -15°C to +80°C : 4 mm
- Service Temperature -25°C to +90°C : 6 mm

**Important Notes :** Despite AMITEK PU Concrete is suitable for use @ service temperature range from -25°C to +80°C @ 6 mm, it's not recommended for thermal shock conditions. For application intended in areas continuously subjected to cold or hot conditions, please ensure strict adherence to application procedure for cold and hot conditions.

**Instructions for preparation and use :** AMITEK PU Concrete should be installed by specialist applicators, who must follow the procedures – Synthetic Resin Floorings, and the Amitek PU Cementitious Flooring.

**Application Conditions**

Ideal ambient, material and substrate temperature range is 15 - 30°C to achieve best results. The product components should be stored in a cool area (or warm area in the case of low ambient temperature), using localised forced cooling or heating equipment as appropriate, in order to bring product temperature within the ideal range

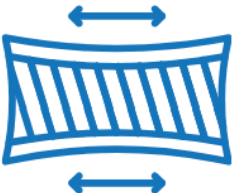

The product can be applied outside this ideal temperature range (subject to a minimum of 10°C and maximum of 34°C). Surface finish may be subject to spike roller marks; however, in such cases physical properties and durability of the floor are not affected

**Surface Preparation**

Inadequate preparation may lead to loss of adhesion and failure. With flow-applied systems, there is a tendency for the finish to mirror imperfections in the substrate.

Grinding or light vacuum-contained shot-blasting is therefore preferred over planing for these systems.

All sound concrete surfaces need to be prepared as per CSP 4-6, depending on the thickness. Percussive scabbling or acid etching is not recommended.

<p>1</p> 	<p><b>Compressive Strength</b> of concrete minimum 25MPa.</p> <p><b>Surface tensile strength</b> should be minimum 1.5MPa All joints should be treated by PU sealant.</p> <p><b>Concrete surface profile</b> needed CSP 4 to 6</p> <p><b>Moisture level</b> should be <math>\leq 5\%</math> Rh &lt; 75%</p>
<p>2</p> 	<p><b>First apply 2 component water based primer (Binder + Curing agent )</b> Mixing ratio 2.5:1:1.5 Drying time 12 hours</p>

3



**Then apply 1 mm 3 component screed or scratch coat  
(Binder + Curing agent + Filler)**

Mixing ratio 1:1:1:4.5

Drying time 18 hours

4



**Drying screed do sanding before application Of top coat**

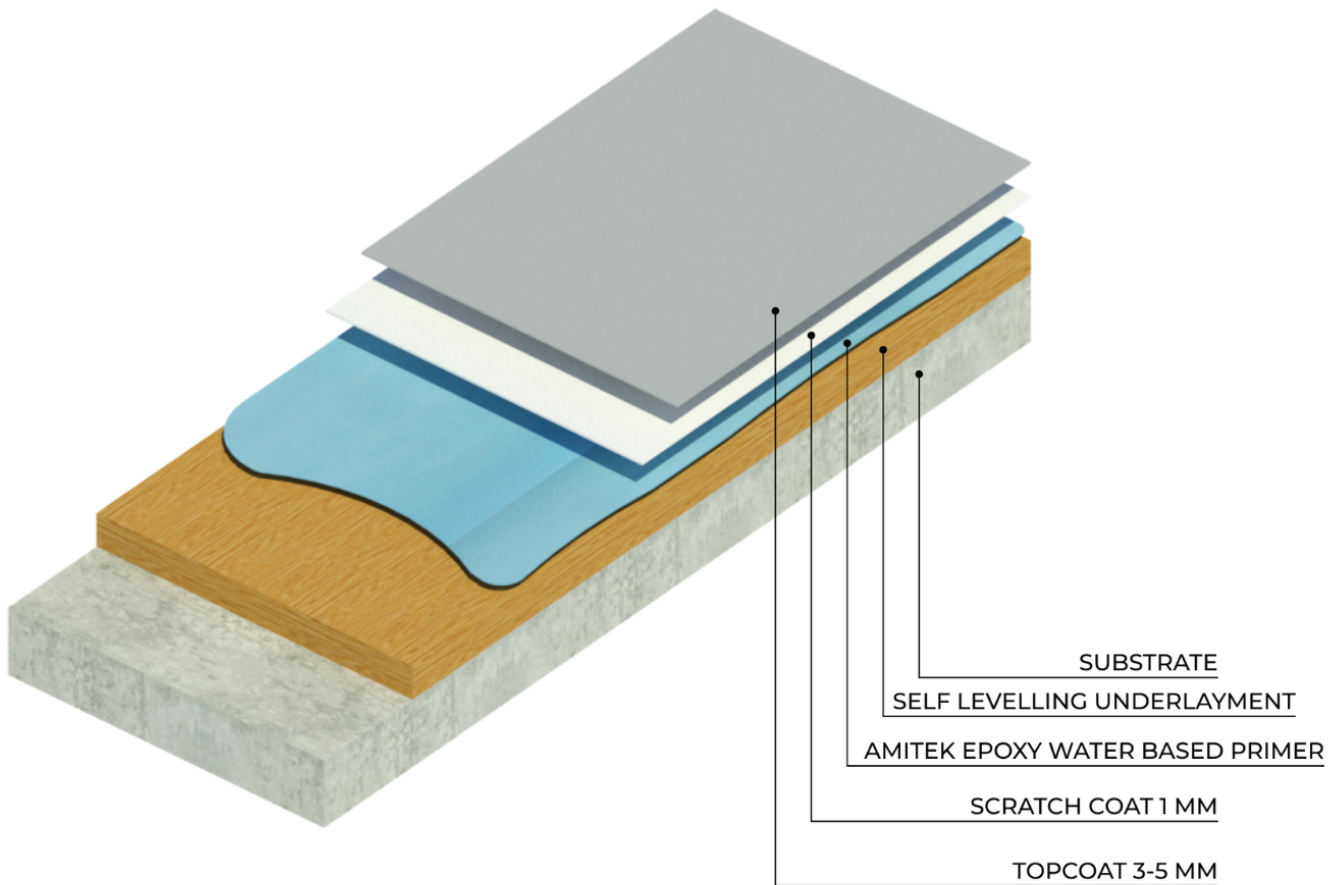
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**Then apply 3mm 4 component top coat  
(Binder + Curing agent + filler + Pigments)**

Mixing ratio 1:1:1:4.5:0.08

Drying time 24 hours



## **Anchor Grooves**

Anchorage grooves should be cut to a minimum depth and width of 2x the flooring thickness to be laid, at the edges, day joints, up-stands, drains, doorways and at regular points across the floor, and all debris removed.

## **New concrete floors**

The base should be a minimum of Grade M25 and should not contain a water repellent admixture. The surface strength when assessed using a rebound hammer should be above 25 or the surface tensile strength should exceed 1.5 MPa. The laitance and any surface sealer or curing membrane should be removed by mechanical means such as shot-blasting or grinding to expose the coarse aggregate. After surface preparation, all loose debris and dirt should be removed by vacuum equipment.

For concrete bases in contact with the ground, a dampproof membrane should have been incorporated into the slab design.

**Old concrete floors** : All laitance and surface contamination should be removed by mechanical means such as shot-blasting or diamond grinding to expose the coarse aggregate.

After surface preparation, all loose debris and dirt should be removed by vacuum. Heavy oil or grease deposits should be removed either mechanically, or by steam cleaning, or by biological treatment, then by high pressure water blasting followed by the application of a penetrating primer.

Where oil or grease contamination has been severe or of long duration, these methods may prove unsatisfactory and in these cases removal of the affected base is necessary.

In existing buildings without a functioning dampproof membrane, the application of a surface-applied membrane should be considered. Hydrostatic pressure may, under certain circumstances, cause adhesive failure between the flooring and the substrate.

Where this is likely to occur, such as in areas where the ground water table is higher than the substrate, and where external tanking has not been applied, pressure relief must be provided, e.g. by direct drainage.

A close visual examination should be made to verify cleanliness and soundness. Any weak or suspect areas should be repaired.

**Storage, Mixing & Application** : AMITEK PU Concrete has a shelf life of 6 months if stored off the ground in unopened packs in a covered dry store at 10 -30°C.

Storage outside this temperature range or repeated fluctuations in storage temperature can reduce the storage life. Protect from frost.

**Application Instructions** : Priming/ Scratch coating : AMITEK PU Concrete should be applied as a primer/ scratch coat at a coverage rate of up to a nominal 1 mm thickness; actual coverage rate will depend on concrete surface texture and porosity. This scratch coat is designed to prime and seal the floor. Mix (see Application below) and spread evenly by trowel.

The scratch coat should be allowed to cure for 12 - 48 hours at 20°C before applying the AMITEK PU Concrete topcoat. If the scratch coat has been allowed to cure for >48 hours, then the coat must be thoroughly abraded and a fresh layer of scratch coat applied.

If severe pin-holing is evident in the cured scratch coat, indicating that air is rising from the substrate, then remedial action should be taken. Contact your local Pidilite office for advice. Failure to do so may result in increased risk of pin-holing of the surface topping.

## **Application of AMITEK PU Concrete topping**

AMITEK PU Concrete is a four component product.

A forced-action rotary paddle mixer is recommended for mixing the product. Drain the contents of the liquid base and DPI and to be mixed well for homogenous mixing, followed by liquid hardener components into a large plastic container and mix briefly. Add slowly the Part C and continue mixing for at least 1 minute, until a lump-free mix is obtained.

Immediately discharge and spread the mix over the application area, using a notched trowel to achieve the required coverage rate, to built up minimum thickness of 3 to 5mm topcoat. De-aerate using a spiked roller. Spike rolling should be carried out within 10 minutes of application in order to avoid interfering with flow and surface finish. Ensure that anchorage grooves are fully wetted out with material. Do not return to spike roll older applied areas as the product is fast-setting and this action will leave spoiling marks on the applied floor. Polythene should not be used. Protect the installed floor from damp, condensation and water for at least 4 days.

## **Applications in Areas Intended for Hot or Cold Conditions**

For these areas must be consulted APP Paint Chemicals before proceeding.

**Cleaning** : Regular cleaning is essential to maintain and enhance the life expectancy, slip resistance and appearance of the floor. AMITEK PU Concrete can be easily cleaned using industry standard cleaning chemicals and techniques.

Consult your cleaning chemical and equipment supplier for more information.

**Health and Safety** : AMITEK PU Concrete should not come into contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Wear suitable protective clothing, gloves and eye protection. If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provides additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting. Refer to Product Safety Data Sheet for further information.

**Fire** : AMITEK PU Concrete is non-flammable.

**Limitations** : Do not proceed with application if atmospheric relative humidity is, or is anticipated to be within the tack-free period, >90% or if the surface temperature is <3°C above the dew point. Application should not commence when the substrate temperature or the ambient temperature is, or is anticipated to be, <10°C during the application or within the tack-free period.

The manufacture of AMITEK PU Concrete is a batch process and despite close manufacturing tolerances, colour variation may occur between batches. Slip resistance can reduce over time due to poor maintenance, general wear or surface contaminants. Duracrete MD has a smooth finish so can be expected to become slippery when wet. Good housekeeping practices must be observed.

Application can take place outside the ideal temperature range of 15 - 30°C, subject to a minimum of 10°C and a maximum of 34°C, however the surface finish may be subject to e.g. trowel and/or spike roller marks. AMITEK PU Concrete is not colour fast and may yellow over time. The rate of change will depend on UV light and heat levels and cannot be predicted.

#### Do's

- Clean regularly
- Remove aggressive chemical spillage immediately
- Maintain wheel for proper rolling, should not get dragged.
- Handle heavy material gently and cautiously
- Clean any oil or any liquid which may cause accident during people's movement

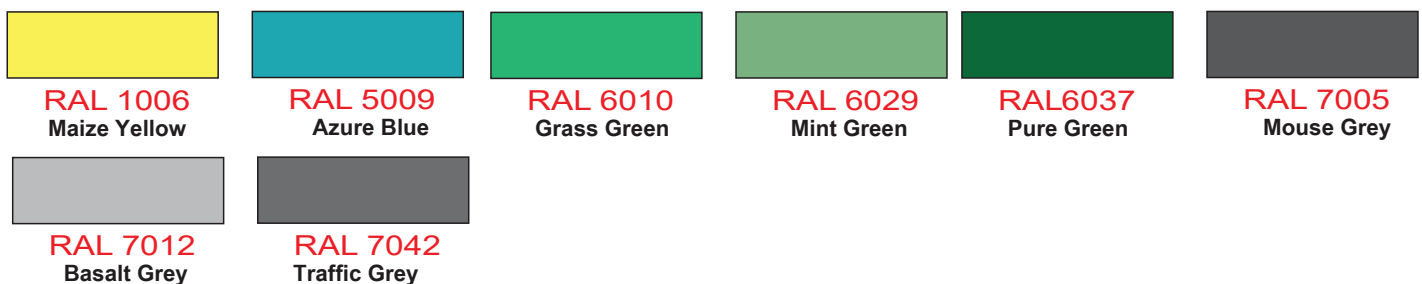
#### Don't

- Drag any sharp and heavy object
- Expose to fire or welding spark
- Expose to very high temperature than recommended by Manufacturer
- Drop down and heavy material on the floor
- Expose to highly corrosive chemicals

#### Pack Size

- 18.8 kg (Resin+ Hardener+ Filler+ Pigments) Colours available

#### PU Pigments RAL Shades:



#### DISCLAIMER:

*The information above is believed to be accurate & represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use, handling and from contact. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way, AMITEK manufactured by APP Paint Chemicals Private Limited will be liable for any claims, losses, or damages of any third party or for lost any special, indirect, incidental, consequential or exemplary charge, however arising, even APP Paint Chemicals Private Limited has been advised of the possibility of such damages.*

MANUFACTURED BY -

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