

## TECHNICAL DATA: APU 45 Cushioned

### APU 45 2 Component Flexible Polyurethane Coating

#### Mix Ratio

By Weight 4 Part A : 1 Part B

#### Application Conditions

Minimum 10 °C, air and substrate temperature up to a maximum of 30 °C. Humidity must not exceed 75 %.

The floor temperature may be 3 °C maximum, less than the surrounding temperature to exclude a dew point situation on the surface and on the fresh coating.

#### Working Time:

Temperature	10 °C	20 °C	30 °C
Time	35 minutes	25 minutes	15 minutes

#### Cure Schedule:

Temperature	10 °C	20 °C	30 °C
Light Foot Traffic	36 – 48 hrs	24 – 28 hrs	12 – 14 hrs
Tack free	8 - 10 hours @ 20 °C		
Light Mechanical Load	2 – 3 days @ 20 °C		
Full Chemical Resistance	7 days @ 20 °C		

#### Re Coat window:

18 – 24 hours but within 48 hours @ 20 °C

**1 kg Yield at prescribed Film Thickness of 1mm is 0.7m<sup>2</sup>**

**Layer Thickness:** 2-3mm

**Package Size:** Available in 10kg and 30kg units

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**Shelf Life:** 12 months in unopened containers. **Must be protected from freezing.**

**Storage:** Store product at normal room temperature, 20 °C before using. Storage should be between 15 °C and 32 °C.

### **Product Description:**

- APU 45 is a proven high quality, 2 component, pigmented, Polyurethane coating for smooth flexible floors.
- APU 45 is based on solvent free environmentally friendly technology and offers an excellent alternative to solvent based coatings. It can be used as a stand-alone coating direct on to a prepared and primed sub base. It can also be used with APU 40 to reduce subsonic noise. Using APU 45 with APU 40 results in a quiet and more comfortable floor that is suitable for demanding areas such as Gyms, Spa Areas, Nurseries and Homes for the elderly.
- With excellent free-flow and smoothing properties, APU 45 is applicator friendly. The cured coating offers high deformability, flexibility and good resistance to many liquids including water, salt solutions, diluted bases, acids, mineral oil and also chemicals used in floor maintenance as well as common cleaning fluids. Please ask for our technical advice.
- The flexible properties of APU 45 mean it is ideal in situations where there is a need for more movement e.g. when coating weak substrates susceptible to deformation like mastic asphalt, reconstituted boards, metal, refurbishment of floors prone to cracking.
- APU 45 it is not photo stable, therefore a sealing top layer using APU 46 is necessary to prevent discolouration.
- Sealing with APU 46 results in an even, matt surface. The reflective properties of glossy coatings are reduced by light dispersion on the surface. This means that the product is ideal for visually demanding areas as it reduces glare and obvious marking
- APU 46 cures by physical drying and chemical cross-linking to a consistent strong film. The resultant surface is a hard, abrasion resistant, photo-stable film with a stain resistant surface. The finished surface is easy to clean and maintain.
- APU 46 is extremely resistant to water based solutions, diluted acids and alkalis as well as engine and fuel oil. The product is very resistant to staining from household chemicals, strongly dyeing foodstuffs and drinks like beer, red wine or coke.

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### Product features:

- Solvent Free
- Environmentally friendly
- Abrasion resistant
- Low odour
- Flexible
- Excellent bond strength
- User Friendly easy application
- Noise Reduction
- Comfort under foot

### Applications

- Areas where noise reduction is required
- Cafeterias, Restaurants, Waiting Areas, Gyms and Leisure Facilities, Show Rooms, Shops and Offices.
- Domestic Kitchens, Bathrooms, Bedrooms and Living areas.
- Substrates requiring a highly flexible coating such as asphalt, wood or mixed substrates susceptible to cracking.

### Surface Preparation:

Prior to application we recommend that the substrate is mechanically prepared to ensure that all dirt, oil, dust, foreign contaminants, laitance and any previous poorly adhered coatings are removed to ensure a trouble free bond to the substrate. The substrate to be coated has to be levelled, dry and free of dust and must have adequate tensile and compressive strength.

A moisture test should be carried out to ensure that the substrate moisture pressure is within acceptable tolerances for epoxy and polyurethane products. The possibility of moisture ingress from below must be permanently excluded. The prepared surface must be primed accurately, saturated and free of pores. If the substrate hasn't been sealed completely bubbles and pores may appear because of rising air. Conduct a trial if in doubt. To increase adhesion scatter the base-coat-surface with approx. 0.5 - 1.0 kg/m<sup>2</sup> quartz sand, 0.3 - 0.8 mm sieve.

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## Mixing

APU 45 is a two component product. Part A should be pre mixed then thoroughly mixed for a minimum of two minutes with Part B using a low speed drill and mixing paddle, to ensure uniform consistency. Avoid air entraining the product. Always ensure thorough mixing as improper mixing may result in product failure. We recommend that the mixed product is decanted into a clean mixing bucket and re mixed briefly to avoid spreading of un-mixed product on the walls of the mixing vessel. If only part of a kit is to be used pre mix the individual components then decant precise amounts.

## Application

- Immediately after mixing pour the material onto the substrate and spread with a notched squeegee or trowel. Always maintain a wet edge between batches.
- After 10 to 15 minutes the coating should be spiked rolled to remove any air, optimize leveling and improve adhesion.
- Maintain temperatures and humidity within the recommended ranges during the application and during the curing process. Fresh polyurethane coatings are susceptible to humidity. Direct sunlight or high temperatures will reduce working time and may lead to blisters. **The surface must be dry** before the application of this product.
- Restrict the use of the floor to light traffic and avoid the use of chemicals and water until the coating is fully cured (7 days).
- Sealing APU 45 should be carried out with clean Shoe in Pro overshoes, do not enter the surface with either spiked or blunt epoxy overshoes.

## Build up coat options:

### Dry surface, no vapour pressure present or anticipated.

1. Prime the prepared substrate with EP 70 All Purpose Primer at recommended coverage rate (refer to EP 70 TDS).
2. Optional Scratch coat with EP 70 mixed with fine sieved dry sand (refer to EP 70 TDS).
3. Apply coat of APU 40 at recommended coverage rate.
4. Apply coat of APU 45 at recommended coverage rate
5. Apply top sealing coat of APU 46 at recommended coverage rate.

### Damp surface and or vapour pressure present.

1. Prime the prepared substrate with EP 72 Vapour Barrier at recommended coverage rate (refer to EP 72 TDS).
2. Prime again with EP 72 Vapour Barrier. Both coats together must achieve a minimum of 900 g/m<sup>2</sup> (refer to EP 72 TDS).

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**These first two stages should be considered as a separate process to address the moisture in the slab.**

1. Prime again with EP 72 Vapour Barrier and lightly scatter the surface with fine dry sand.
2. Apply coat of APU 40 at recommended coverage rate.
3. Apply coat of APU 45 at recommended coverage rate
4. Apply top sealing coat of APU 46 at recommended coverage rate.

#### PRODUCT PERFORMANCE DATA

Viscosity	Components A + B	4400 mpas
Solid Contents		100%
Density	Components A + B	1.35kg/litre
Water Absorption		< 0.2weight%
Breaking elongation		95 %
Shore-Hardness A/D		76/29

#### Limitations

- Caution! Some cleaners may affect the colour of the floor installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.
- Designed for floors with light traffic from material handling equipment.
- Colour or gloss may be affected by humidity, temperatures, chemical exposure, application thickness.
- Slab on grade requires moisture barrier
- All new concrete must be cured for at least 28 days
- Colours may vary from batch to batch, therefore, use only product from the same batches for an entire job.
- Due to the chemical structure of APU 45 it is not resistant to yellowing. Therefore a sealing top layer using APU 46 is necessary.

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**APU 45**

**DIN EN 13813:2003-01**

Synthetic resin screed  
mortar

Fire behaviour	Cfl-
Emission of corrosive	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B
Impact resistance	IR

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