

# KUT FLEXI GUARD PU

## Chemical and UV Resistant Protective Coating System

PPC-25-0512



### DESCRIPTION

**KUT FLEXI GUARD PU** high performance polyurethane, protective coating which can be applied to a variety of surfaces including steel, concrete and fully cured epoxies. It is supplied as a two pack system in pre-weighed qty ready for on size mixing & use.

**KUT FLEXI GUARD PU** is applied to a dry surface, as a single coat of between 95 and 145 microns wet film thickness, which will cure to give a finished dry film thickness of between 50 and 75 microns. Additional coats may be required for extreme exposure conditions.

### ADVANTAGES

- Excellent UV, CO<sub>2</sub>, Chloride & chemical resistance properties.
- Good adhesion to fully cured epoxy coatings.
- Can be applied to steel, concrete and wood.
- Excellent gloss and surface finish.
- Two pack system eliminates curing problems associated with single pack alternatives.

### USES

For application as protective coating, to a variety of surfaces exposed to aggressive environments. Typical areas for application include;

- Sewage works and effluent treatment plants.
- Excellent barrier to carbon dioxide, chloride ions
- Chemical processing.
- Underwater, or submerged structures.
- As a UV resistant coating.
- Jetties, piers, harbours, seawater intakes and channels.

### TYPICAL PROPERTIES

- **Specific gravity** : 1.3 (mixed)
- **Solids by volume** : 54 % (mixed)
- **Carbon Dioxide diffusion** : 1.0 x 10<sup>-7</sup> cm<sup>2</sup>/s
- **Pot life** : 1.15 hours @ 25° C & 45 min @ 35° C
- **Elongation @ break (ASTM D 412)** : > 200%
- **Drying Time:**

	@25° C	@35° C
Touch Dry	2 hours	1 hours
Recoatable	2 hours	1 hours
Full cure	7 days	3 days

- **Chemical resistance:** Fully cured coatings were tested on some common chemicals. Tests were performed by constant immersion over a set period followed by visual inspection.

#### • Acids:

Acetic acid 5%	:	Excellent
Citric acid 80 %	:	Excellent
Tartaric acid 10 %	:	Excellent
Phosphoric acid 1 50%	:	Good
Oleic acid <sup>2</sup>	:	Good

#### • Alkalis:

Ammonia 20%	:	Excellent
Sodium Hydroxide <sup>2</sup> 25%	:	Very good
Hydrogen peroxide <sup>2</sup> 50%	:	Very good

#### • Solvents & organics:

Xylene	:	Excellent
Diethyl ether	:	Excellent
Ethanol	:	Excellent
Toluene	:	Very good

#### • Aqueous solutions :

Bleach	:	Excellent
Aqueous starch solution 5%	:	Excellent
Milk	:	Excellent

1. Note – Slight surface discoloration was observed.
2. Note – No visual defects upto 7 days.

Consult **ASPEC** Technical Department for specific recommendations to meet varying operating conditions.

### INSTRUCTIONS FOR USE

**KUT FLEXI GUARD PU** can be applied on top of various substrates; either directly, or after application of priming coat.

**Surface Preparation:** All surfaces to be treated with KUT FLEXI GUARD PU should be clean, dry and free of dust or other loose material.

**Concrete surfaces:** All surface laitance should be removed by grit blasting or water jetting, to provide a suitable key. The general standard of surface preparation should be in accordance with ACI 503R-89, Chapter 5, Paragraph 5.4.

Following the preparation of a concrete surface, care should be taken to ensure that any surface irregularities are filled with the **KUT EPOXY MORTAR FC** appropriate or **KUT** range product.

**Metal Surfaces:** Any metal surfaces should be blasted to a bright finish, meeting the requirements of Swedish standard SA2½ or equal.

**Fully Cured Epoxies:** Please contact **ASPEC** Technical Department for details on surface preparation required for existing epoxy coatings.



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**Priming:** Priming on any substrate should only be completed using **KUT DURAPRIME CP1** or and is required for applications to metal or concrete. In certain instances, it is possible to apply **KUT FLEXI GUARD PU** directly on top of prepared, existing substrates – contact **ASPEC** Technical Department for more details.

**KUT DURAPRIME CP1** is a two pack epoxy primer. Refer **KUT DURAPRIME CP1** product datasheet for mixing and application.

**Mixing:** The contents of the resin base tin should be thoroughly stirred to disperse any possible settlement. The entire contents of the hardener should be poured into the base container, and two materials mixed thoroughly until both uniform colour and consistency are obtained.

It is recommended that the two components are mixed together mechanically; using slow speed, electric drill, with a proprietary mixing paddle attachment. Mixing should be carried out continuously for 3 to 5 minutes. Allow to stand for 10 to 15 minutes before application.

**Important note:** **KUT FLEXI GUARD PU** is a solvent based product, and should be mixed in an open, well ventilated area. If subsequent application is to be in a confined or poorly ventilated space, then air-fed respirators must be worn.

#### **Application:**

**Hand application:** This can be suitably achieved by brush or roller. The primer (if used) should be firmly applied and scrubbed well into the surface, ensuring that a continuous film results of uniform thickness. For application over **KUT DURAPRIME CP1**, ensure that the primer is fully dry. If applying over an existing epoxy coating, the existing coating must be fully cured. In case of two coat application, the undercoat must be fully dried before the application of second coat. To ensure continuous film, use different colours for 1st and 2nd coat.

**Spray application:** Faster rates of application are possible using airless spray equipment. For technical advice contact **ASPEC** Technical Department.

**Cleaning:** Tools and equipment should be cleaned with **KUT SOLVENT PU-100** immediately after use.

**Repairing and over coating:** Any applications of **KUT FLEXI GUARD PU** which have become damaged can be readily overcoated. The existing surface should be well abraded, using a stiff wire brush, or similar, to ensure that a good mechanical bond will be achieved between the two layers. Overcoating works can then proceed as for new work.

## **PACKAGING & COVERAGE**

**Packing:** **KUT FLEXI GUARD PU** is available in 4 litre & 20 litre. packs.

**KUT DURAPRIME CP1** is available in 1 kg pack.

**KUT SOLVENT PU-100** is available in 5 litre cans.

**Coverage:** The coverage figures quoted are theoretical, and based upon application to a properly prepared substrate.

Since application conditions vary greatly; due to substrate porosity, quality of surface preparation, application thickness and wastage factors, the on-site figures may vary from those shown below:

<b>KUT FLEXI GUARD PU</b>	7 to 10 m <sup>2</sup> /litre
<b>KUT DURAPRIME CP1</b>	5 to 8 m <sup>2</sup> /pack

## **TECHNICAL SUPPORT**

**ASPEC** offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, and AutoCAD facility and dedicated specification assistance in locations all over the world.

## **LIMITATIONS**

A minimum application temperature of 5°C should be observed at all times.

For applications in confined, or poorly ventilated, spaces the use of respirators is mandatory.

## **PRECAUTIONS**

**Fire:** **KUT DURAPRIME CP1** and **KUT EPOXY MORTAR FC** are non-flammable.

**KUT FLEXI GUARD PU** and **KUT SOLVENT PU-100** are flammable. Do not use near a naked flame.

#### **Flash point:**

<b>KUT FLEXI GUARD PU</b>	:	23°C
<b>KUT SOLVENT PU-100</b>	:	33°C

#### **Shelf life:**

**KUT FLEXI GUARD PU** and **KUT DURAPRIME CP1** have a shelf life of 12 months, when stored in warehouse conditions below 25°C.

## **HEALTH & SAFETY**

**KUT FLEXI GUARD PU**, **KUT DURAPRIME CP1** and **KUT SOLVENT PU-100** should not come in contact with skin or eyes, nor should they be swallowed.

Avoid inhalation of vapours and ensure adequate ventilation, in particular for **KUT FLEXI GUARD PU** which is a solvent and isocyanate containing product. Air-fed respirators must be worn if the application is in a confined or poorly ventilated, space.

Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye/face protection. Barrier creams provide additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream followed by washing with soap and water – do not use solvent.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – do not induce vomiting. For further information, please consult the Material Safety Data Sheet for **KUT FLEXI GUARD PU**.

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