



Uniguard PU 2K 400 Hot

Product Description

Uniguard PU 2K 400 Hot is a 2-component hybrid polyurea resin, which cures very fast into an elastic membrane with crack bridging capacity. This product can only be applied by 2-component spraying equipment. can be combined with different geotextiles to obtain on-site applied, seamless liners. It can be also pigmented with aluminum particles pigments to obtain sun-reflective properties. Highly resistant to meteorological phenomena, especially hail. Radon gas barrier which is naturally generated in the earth's crust.

Features and Benefits

- Excellent crack bridging properties.
- Monolithic – no welds or seams.
- Excellent chemical resistance.
- Excellent mechanical properties.

Typical use

- Waterproofing of concrete structures and bridge decks.
- Roof waterproofing.
- Waterproofing of water tanks and channels containing neutral water (not potable).
- Geomembrane lining for retention basins and secondary containment structures.
- Waterproofing of ponds, landfills, tunnels, canals, and dam reparations.
- Waterproofing of foundations, especially those designed as barriers to Radon gas.

Substrate

Concrete and steel.

Product Data

Packaging size	Comp A (193 kg + pigment 4 kg) Note: Aluminum pigmented version is supplied with pigment added Comp B (203 kg)
Mixing Ratio	A=1, B=1 by volume A=1, B=1.03 by weight
Final state	Solid elastomeric membrane
Non-volatile content [%]	Approx. 100 %
Colors	Variable, depending on the chosen pigmentation.
Density Comp A @ 20 °C	1.05 g/cm ³
Density Comp B @ 20 °C	1.12 g/cm ³



Hardness	90A/40D (ISO 868)
Elongation at Break	>400%
Tensile Strength	14 MPa (EN-ISO 527-3)
Adhesion Strength	5.6 MPa on Concrete Substrate 3.6 MPa on steel Substrate
Tear Strength	69 N/mm (ISO 34-1 Method B)
Chemical Resistant	Water 5
Permanent contact	Salt (saturated salt) 5
(7days, 80°C 0=worst, 5=best)	Ammonia (3%) 5
	Hydrochloric Acid 3M (9%) 4
	Isopropyl Alcohol 1
	Xylene 0
	Sulphuric acid (50%) 0
UV resistance	Good resistance to UV-induced degradation. Aromatic polyureas undergo change of colour under sunlight.
Radon diffusion coefficient	$1.4 \times 10^{-11} \text{ m}^2/\text{s}$ (ISO 11665-13).

Application data

The product can be applied by

2-Component Heated Spray Equipment

Recommended

Cleaning of painting tools

Solvent use for machine component cleaning is discouraged. A cleaning plasticizer fluid is suitable. Component B must be completely removed from all air-exposed parts and replaced with cleaning fluid.

Film Thickness per coat

Usually, needed thickness can be obtained in one single coat. If necessary, a second coat can be applied immediately afterwards.

Mixing

Stir and homogenize separately both components using suitable mixing equipment before being loaded into the machine. Add the required pigment to the A-component and stir before loading at low speed for a few minutes. Excess stirring may lead to undesirable moisture pick up. Recirculate both components while heating up to the required application temperatures.



Application Guidelines

Uniguard PU 2K 400 Hot must be applied using a 2-component hot spraying equipment. Recommended temperatures are:

- Component A: 70°C
- Component B: 65°C
- Hose: 65°C Pressure should be 170 bar.

During application, check layer thickness and curing speed. Spray Uniguard PU 2K 400 Hot at 2 kg/m² as a general rule. Wind speeds in excess of 25 km/h may result in excessive loss of exotherm and interfere with the mixing efficiency of the spray gun affecting polyurea surface texture, cure, and physical properties and will cause overspray issues.

Conditions during application

- Do not apply if the temperature is below 10°C and not more than 40°C.
- Relative humidity: Less Than 85 %.

Curing Time

Cures to touch after a few minutes after application.

Approximate hardness values are provided as reference only (1 mm, polypropylene support, 25°C 50% RH).

Time	Hardness
10 min	74/27
20 min	77/29
1 hr	80/30
24 hr	88/35

Return To service

Under most usual conditions (25°C, 50% rh), the membrane is resistant to rain droplets after 15 minutes, and able to resist light pedestrian traffic in 1 hour. After 2 days, 90% of the final properties are reached.

Pot Life

Gel time mixture A+B (20 g) 8-9 s at 25°C

Directions for use

Surface preparation

- Concrete substrates must be prepared mechanically using high pressure sand or abrasion, in order to remove the surface and obtain an open pore
- Substrates must be primed and levelled until a regular surface is obtained.
- Sharp irregularities are eliminated using an abrading disc machine.
- Eliminate all dust and loose particles from the substrate by brushing or vacuum cleaning.



Storage

Keep between 10°C and 30°C. Product is hygroscopic: protect from moisture. Component B may become hazy upon storage at low temperatures. Reheat mildly before use.

Use Before

12 months after manufacture, provided it is kept in its sealed container.

Caution

Empty containers must be handled with the same precautions as if they were full. Treat empty containers as hazardous waste, and transfer them to an authorized waste manager. If the container still has some material left, do not mix with other product with no knowledge of potentially dangerous reactions. Component A and Component B may be mixed on a 1/1 ratio in order to get an inert material, but never do it in volumes larger than 5 liters in order to prevent a dangerous heat evolution.

Health and safety

Component B contains isocyanates. Always follow the safety instructions in the Material Safety Data Sheet. As a general rule, a good ventilation and/or respiratory protection is needed (combined organic vapor filters +particles) along with protective clothing. This product must be used only for the applications here described. This product is intended for industrial and professional use. It is not suitable for DIY-type applications.