Polyurethane Flooring System

ROKrete-PU®

Antibacterial polyurethane flooring system

JV POLYMERS
innovative coating

ROKrete-PU TDS

Antibacterial polyurethane flooring system

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FIELDS OF APPLICATION

ROKrete-PU® is used in situations subject to constant exposure to aggressive chemicals, high heat cleaning and mechanical abuses such as dairy, food & beverage production facilities, warehouse & distribution centres, chemical and minerals processing plants and waste treatment plants. It is normally used as a topping on concrete floor at 3 to 4 mm thickness.

DESCRIPTION

ROKrete-PU® is a 4-component, self-smoothing and seamless polyurethane concrete flooring system. It has excellent mechanical and chemical resistance properties. It is resistant to organic acids, dilute mineral acids, vegetable and animal fats, petroleum oils and solvents. It is suitable for use in conditions of a wide temperature range between -5°c to +70°c (3mm); -15 to +90 (4mm). Exposed to UV and weathering **ROKrete-PU®** is not color stable.

FEATURES & BENEFITS

- Excellent chemical resistance – resists organic acids, dilute mineral acids, vegetable and animal fats, petroleum oils and solvents.
- High impact/abrasion resistance – resists mechanical wear and heavy vehicular traffic
- High thermal shock resistance – withstands hot water and steam cleaning
- Anti-Bacterial – complies to HACCP requirements
- Self-smoothing – speedy installation
- Fast curing – trafficable in 24 hours
- Seamless matt smooth finish – easy to keep clean and maintain
- Odorless – non-tainting to food
- Solvent free – non-flammable, no fire hazard
- Wide service temperatures - -15°c to +90°c

CARE AND MAINTENANCE

The lifespan & performance of your resin floor can be extended considerably by adopting a regular cleaning and care programme. We recommend the use of an alkaline based cleaning agent

SUBSTRATE PREPARATION

Concrete substrate shall be firm, clean and dry with a compressive strength of 25 MPa and surface tensile strength of 1.5 N/mm^2 minimum. New concrete must be allowed to cure for a minimum of 28 days. Remove surface laitance, contaminants, coating, curing compound and all weak and loose materials. Prepare concrete surface by diamond grinding, scarifying or captive shot blasting to provide the appropriate surface profile for optimum mechanical keying. Cut grooves of 3mm width and 5mm depth minimum just inside the perimeter of the area and around drains, columns and protrusions where **ROKrete-PU®** will be applied.

PRIMER

Apply an epoxy primer such as SILPRIME-ROK by roller to the prepared surface. If the surface is porous, a second coat of primer may be necessary. To improve inter-layer adhesion, sprinkle 0.2-0.5 mm quartz sand lightly (approx. 600 g/m^2) while the primer is still wet.
If two coats of primer is necessary, this should be done on the second coat.

For application in high temperature situation, apply **ROKrete-PU®** (using only 8 kg instead of 14 kg of Filler C Component) at a consumption rate of approx. 1kg/m2 as a scratch coat and allow to cure 12 to 16 hours before applying **ROKrete-PU®**

APPLICATION

Before starting the application, the material temperature must be close to the site conditions. Dispense the colour paste into Component A. Mix to disperse the colour paste (1 minute) until homogeneous using a helical mixer at a speed of 750 rpm.

Add Component B and mix (1.5 to 2 minutes) until homogeneous. Add Component C gradually to the mix with the mixer running.

Move the mixer around from side to side and top to bottom and scrap the sides of the mixing vessel to ensure thorough mixing, until homogeneous (2-3 minutes). Transfer the mixture to another clean container and mix for 1 minute.

Pour the wet mix on the prepared floor. Spread over the floor area at the nominating thickness (3-4 mm) using a pin rake or notched trowel.

Ensure to maintain continuity of wet material between pours. While wet, roll the surface with a spiked roller to remove entrapped air.

For cleaning of tools and other contaminations ROKRETE tool cleaner is used.

OVER-COATING

Over-coating should be carried out within 24 hours after application of **ROKrete-PU®** If longer than 24 hours.
It is necessary to lightly grind the surface before over-coating is carried out.

TECHNICAL DATA

ROKrete-PU	
LIQUID mixture (A+B)	
1. Solids content	99%
2. Density (25°c)	1.9g/cm^3
3. Viscosity (28°c)	A+B : 500-1,000 mPas
4. Packaging size(4-component)	20kg (3kg A + 3kg B + 14kg C + 0.175kg color paste)
5. Colour	Green, Buff, Red, Grey, Beige, Light-grey
6. Shelf life	9 months in closed original container
7. Storage	Dry at 10-30°c, avoid direct sunlight
8. Adhesion strength(cured material) (DIN ISO 4624)	>1.5 N/mm^2 (concrete failure)
9. Mixing ratio A : B Mixing ratio A : B : C : CP	1 : 1 by weight (kg) 3 : 3 : 14 : 0.175 (kg)
10. Working time (25°c)	Approx. 20-25 minutes
11. Application temperature	10-30°c (min. 3°c above dew point)
12. Material consumption (PU mortar)	1.9 kg/m^2 per mm 6-8 kg/m^2 for 3-4mm
13. Overcoating (25°c)	Within 12-24 hours
14. Cure time to withstand Foot traffic Heavy traffic Exposure to chemical	 After 12-20 hours After 2 days After 7 days

ROKrete-PU system data sheet

Medium duty, self-smoothing, seamless, antimicrobial, odourless, solvent free polyurethane concrete flooring system with excellent chemical resistance and smooth matt coloured finish

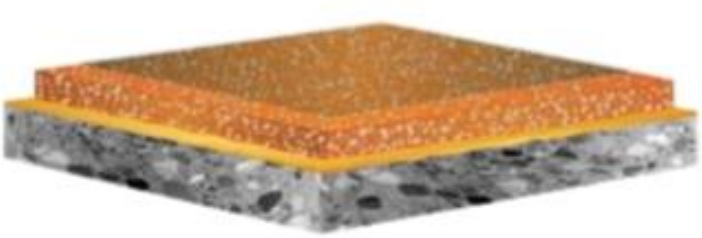
SYSTEM Build-up

Wear coat coloured
ROKrete-PU

Primer for cementitious substrates
SILPRIME-ROK / ROKrete-PU

Substrate : Concrete, Cementitious Screed and others

SYSTEM Thickness 3.0 – 4.0 mm



SYSTEM Highlights

- Contains antimicrobial additive which inhibits the growth of bacteria, fungi, moulds and mildew
- The finished system is assessed as non-hazardous to health and environment

APPLICATION Fields

- Dry or moderate wet processing zones
- Food & beverage production facilities
- Dairy production
- Warehouse & distribution centres
- Foodstuff preparation
- Dry production facilities

SYSTEM Benefits

- HACCP compliance
- Odourless, non-tainting to food
- Seamless finish
- Easy to clean and low maintenance
- Fast return to service
- Available in many colours
- High impact resistance
- High abrasion resistance

APPLICATION AND CONSUMPTION

Layer	Product	Consumption (kg/m^2)	Thickness mm	Application
Wear coat	ROKrete-PU	5.7 – 7.6	3.0 – 4.0	pin rake, notched trowel
Primer	SILPRIME-ROK	ca. 0.4	ca. 0.2	Roller or rubber squeegee
Primer	ROKrete-PU	1.0	0.5	Scratch coat
Substrate	Cementitious substrates according to the appropriate standards and approvals must be capable of bearing loads and be free of cracks and voids. Pull-off strength ≥ 1.5 N/mm^2, residual moisture content < 4%-CM, with higher residual moisture and on substrates with moisture from the slab special measures must be taken or a damp proof membrane must be installed. Substrate preparation e.g. grinding or shot blasting, sweeping and vacuum-cleaning is mandatory. Consumptions are calculated with quartz sands and fillers. Usage of other quartz sands and fillers can cause changes of consumption and technical data.			
Note	Detailed application instructions are available upon request or refer to the technical product data sheet.			

TECHNICAL DATA

Property	Standard	Result
Compressive strength	EN 196 / ASTM C190	Approx. 55 N/mm^2
Adhesive strength	EN ISO 4624	>1.5 N/mm^2
Shore-hardness	EN ISO 868	D 75 after 28 d
Heat resistance		0°c to +90°c (4mm)
Impact strength	EN 13813	≥ 4 Nm (IR4)
Anti-microbial	Japanese Industrial Standard JIS Z 2801:2000	After 60 wash cycles 99.9% microbial growth reduction
Flexural strength	ASTM C 348	>20 N/mm^2
Tensile strength	EN 196 / ASTM C109	>10 N/mm^2

APPLICATION AND SUPPLY FORMAT

Layer	Product	Supply format	Cure time and permissible trafficking
PU screed	ROKrete-PU	20kg	10°c 20°c 30°c Light traffic 36h 24h 12h Full traffic 72h 48h 24h Full chemical cure 10d 7d 6d
Primer	SILPRIME-ROK	25kg	Tack free after 8h
Primer	ROKrete-PU	20kg	10°c 20°c 30°c Tack free 36h 24h 12h
Note	Detailed application instructions are available upon request or refer to the technical product data sheet.		

Customer Service
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