

Kemcrete PU

Ultra-Heavy-Duty Polyurethane - Cement Self Smoothing Mortar Floor Screed

Description	Kemcrete PU is three components Polyurethane with a very special cement binder, performs self-smoothing mortar screed, designed to be applied in thickness of 3 - 6 mm. It is ultra-heavy duty, wear and abrasion resistant, and resists temperature between - 25 °C up to 80 °C. The material is hygienic and chemical resistant, HACCP certified and suitable for use in industries that employ the same procedures	
Where to use	Kemcrete PU floor find their widest use in the following: • Food & beverage industries • Pharmaceutical & medical industries • Hospitals & laboratories • Chemicals industries • Cold stores & freezers	
Advantages	• Fast hardening • Slip resistant & easy to clean • Freeze / thaw resistant -25° C • Heat resistant up to 80 °C hot oils and water vapor • Non –Tainting, non-dusting • Nontoxic, antimicrobial – does not support the growth of bacteria • impermeable to liquids • High wear and abrasion resistance • High resistance to impact • Withstands high mechanical stress • Chemical resistant to most alkalis, acids and solvents including (100% lactic acid, 100% oleic acid, 100% methanol, conc. Citric acid, hot oils, sugar and boiled water)	
Properties	Samples cured for 7 days and tests at 23 °C and R.H. 50 – 60%	
Color	Default grey	Different shades of grey are available
Density	1.8 ±0.2 Kg/L	
Pot life @20 °C	15 - 20 minutes	
Fully cured	4 Days	
Temperature Resistance		
System thickness 3 - 4 mm	- 15 °C / + 60 °C	
System thickness 5 mm	- 20 °C / + 70 °C	
System thickness 6 mm	- 25 °C / + 80 °C	
Compressive strength	45 - 50 N/mm ²	ASTM C579
Tensile strength	7 - 8 N/mm ²	
Flexural strength	17 - 19 N/mm ²	
Adhesion strength	Concrete failure	
Impact resistance	No crack	ASTM D5420
Abrasion resistance	83.7 mg weight loss – CS17	ASTM D4060
Water absorption	0.129 – 0.167 %	ASTM D570
Water permeability	No penetration at 1 bar	EN 12390-8
Liner shrinkage	At 150 °C 0.028% At 0 °C 0.414%	ASTM C531
Food Safety Compliance	HACCP Certified EU regulation 10/2011 - OM=3.2 mg/dm ²	HAC260030079UK EN 1186-3
Fire resistance	Class A*	ASTM E108 & BS EN 13501-1
Slip resistance	18° - 24° Class B	DIN 51130
Potable water	Passed	BS 6920-2.1

Surface Preparation	For new poured concrete: • Allow to fully cure 28 days prior to application – allowed after 7 days in case concrete reached to a compressive of 25 N/mm² • Remove any curing membrane by sanding and remove the etching with a strong detergent • The compression strength should not be less than 25 N/mm² and the tensile strength is at 1.5 N/mm² For old concrete: • Thoroughly clean the surface with a grease-cutting detergent to remove grease and Oils, and remove any loose or unsound concrete by chipping, scarifying, shot blasting, sanding or grinding, then proceed as for newly poured concrete Previously coated concrete: • Remove any peeling or degraded paint by sanding or using a paint stripper • For intact paint, thoroughly clean the surface with a strong detergent, then lightly sand to remove any gloss • Treat any areas worn down to the original concrete as bare concrete • All damaged areas, cracks and surface irregularities must be repaired and smoothed first by using Kemrepair EP and bonding layer using Kembond EP, or by making a scratch coat using Sealer E43 and filled possibly with Kemfloor Aggregate #2 to be spread over using a proper squeegee Anchor groove • Termination grooves are nominally square in section with each side twice the thickness of the floor • Termination grooves must be present in the surface of the concrete within 75 mm of all free edges • Free edges include all joints, column bases, perimeter walls, drainage channels, door thresholds • Control Joints are also required wherever movement is expected including adjacent to stainless steel channels, machine bases, around columns and at any construction joint in the substrate Expansion joints: • Shall be installed in accordance with local building codes • Never bridge an expansion, contraction or construction joint
Priming	• Prime the prepared concrete substrate using Sealer E45 at a coverage rate 0.2 – 0.25 Kg/m² • Mix components A and B together using a slow speed drill and paddle until it is streak free • Using a paint brush or medium pile paint roller, apply the mixed primer to the prepared substrate • If the concrete absorbs the primer, leaving the surface matt instead of glossy, the surface should be re-primed • For green concrete or wet concrete moisture content >4% use Wetseal at a coverage rate of 0.2 - 0.25 Kg/m² • Scatter Kemfloor Aggregates #3 over the wet primer and leave it over night to dry • Swipe the loose aggregates on the next day and make sure the surface is cleaned • The scratch coat should be checked for any pinholes and make sure the surface is touch to dry before applying subsequent layers and perfectly sealed • Scratch coat should not be left for more than 48 hours, or else a mechanical preparation will be required
Mixing	It is important to remember that this coating has a limited pot life of 15 - 20 minutes, therefore, it is wise to check and make sure everything is in order before starting the mixing sequence • Mix the Kemcrete PU components part A and part B together for 1 minute with a slow speed drill and paddle (300 – 350 rpm) to create a uniform dispersion • The mixed material should then be transferred into a suitable mixing container and then gradually add the part C whilst mixing continues for typically 3 – 4 minutes • Only whole units are to be mixed • Transport and discharge the mixed material on to the substrate as quickly as possible

Application	• Pour all of the mixed Kemcrete PU on to the floor immediately after mixing and spread by steel trowel to the desired thickness • All termination and anchor grooves cut in the concrete should be filled with the Kemcrete PU • Lightly use a spiked roller to assist flow and to release any trapped air • To ensure an even finish, the troweling and spike roller should be completed before the mix is more than 10 minutes' old • Allow 24 hours before light traffic
Cleaning	• Cleaning all tools and equipment immediately after use with Prosolve PU
Limitation	• Expansion joints in the existing substrate should be continued through Kemcrete PU and filled to the required level with a suitable sealant from Proflex® range • Substrate temperature must be at least 3°C above the dew point • Relative humidity of the air must be lower than 80% • The ambient temperature must be between +10 °C and +30 °C
Theoretical Coverage	• Primer Sealer E45 for dry concrete and Wetseal for green concrete at coverage rate of 0.2 - 0.25 Kg/m² depending on substrate porosity • Top coat Kemcrete PU: 5.4 Kg / m² / 3 mm thickness Where 1.8 Kg for each 1 mm without wastage and on even substrates
Packaging	Part (A+B+C) 10 Kg
Shelf life & storage	12 months if stored in unopened containers in cool, dry condition
Health and Safety	• Use gloves and a breathing mask when applying • Apply forced ventilation in confined spaces • Skin splashes to be removed with hand cleanser, soap, and water • Eye splashes are to be removed with plenty of water • If ingested seek medical advice
Additional Information	PROKEM provides the construction industry with a comprehensive range of construction chemicals and specialty products answering the queries of modern engineers for trouble free durable structures PROKEM designs tailor made products should there be a critical application that requires specific properties rather than our main range. For our customer's satisfaction PROKEM reserves the right to change the properties of its products All orders are accepted subject to our current terms of sale & delivery Users must always refer to the most recent issue of the local product data sheet for the product concerned, copies of which will be supplied on request PROKEM extends technical services to include after sales support to assist users in the proper handling of our products