



**RAND**  
POLYPRODUCTS PVT. LTD.

**PU<sup>U</sup>CRETE<sup>®</sup>**



**POLYCRETE<sup>®</sup>**

Heavy duty PU-concrete floor overlays with cementitious floor finish





POLYCRETE®, from RPPL's PUCRETE® range of seamless floor overlays, is a self-levelling screed formulated using a PU-concrete network. The cured overlay results in a heavy duty, strong and tough floor; with a completely impervious network.

A combination of reaction-chemistry between the Polyurethane and Concrete network results in a matrix that exhibits excellent compressive strength with high toughness and impact resistance; without compromising on the ability to resist shocks and cyclic loads. Unlike conventional Epoxy floors, PU-concrete floors exhibit superior resistance to abrasion and wear-tear under heavy movement.

This makes Polycrete® the perfect solution for floors that are subject to heavy loads and high impact loads.

The cementitious finish attained by the finished floor is equally appealing for new-age interior spaces, where the floor can be buffed to get a cloudy-cementitious floor that is superior in quality to conventional concrete floor overlays.



## Product Options -

Polycrete® is available in two overlay specifications, depending upon the required floor strength

**Polycrete® RP 3000** – Overlay with a DFT of 4mm, with a high compressive strength; suitable for floors with heavy loads and heavy-duty movement.

**Polycrete® RP 2000** – Overlay with a DFT of 3mm, with a lower compressive strength; suitable for floors with lower strength requirements and interior floor finishes





**Polycrete®** is a specially formulated polyurethane Terrazo system. The polyurethane matrix is mixed with granite, quartz and flint aggregate to provide a solvent free and seamless floor finish.

The **Polycrete® terrazzo** flooring is an ideal floor overlay where good aesthetics, hygiene, durability, chemical and water resistance are of vital importance.

#### Salient Features -

The short curing time makes it ideal for quick conversions and extensions. Chemical-resistant makes it suitable for use in laboratories, practices and workshops.

Polycrete® is impact-resistant, shockproof and resistant to scratches, abrasion and peeling off.

Can be used in many facilities due to a wide resistance to temperatures ranging from sub-zero to 130 °C; continuous exposure up to 65 °C.

Good resistance to Thermal Shocks.

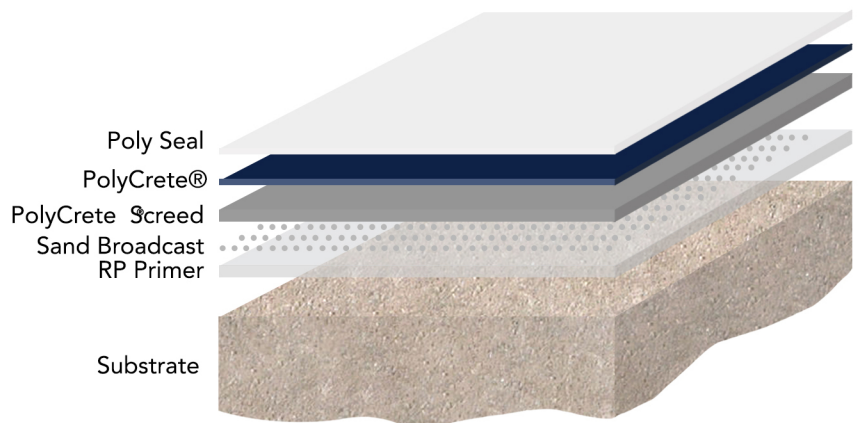
Easy to clean and disinfect.

Non-slip surface finish.

#### Standard Color Chart



#### System Design



## Substrate Pre-requisites:

Concrete or Cement screed surface is suitable for application of Polycrete®. The moisture content of the subfloor should be below 5%. Use of moisture barrier membranes under the sub-floor is strongly recommended to prevent the rising moisture. The substrate should be prepared to make it dust free, free of laitance and other contamination. The floor level shall be checked and should to SR1 standard preferably.

## Overlay kit details:

RP Primer	2 component Epoxy primer, 2 coats recommended
	Epocoat 3144 - 30 kgs Hardener EP 35 - 30 kgs
	Coverage up to 6 Sqm/kg
<b>Sand Broadcast</b>	
Polycrete®	PU concrete screed, laid over the primed surface as an in-situ casting and troweled for finish.
	Enaqua 1141 - 2.8 kgs Hardener PU 23 - 3.0 kgs Pigment paste - 0.5 kgs Filler set - 2mm DFT 9.1 kgs Filler Set - 1mm DFT 4.1 kgs
	Coverage - DFT 2mm - upto 0.5 Sqm/kg DFT 1mm - upto 0.7 Sqm/kg
PolySeal	Two component Polyurethane sealer coat, is applied on top of the finished floor, as a pre- buffing film for interior spaces.

## Service Installation:

**Polycrete®** comes in pre-weighed kits which are mixed on site and can be laid as an in-situ casting, and finished by troweling and rolling with a pin-roller.

The overlay can be buffed post a sealer coat, for a cloudy appearance.

## Technical Data:

The following technical data is of Polycrete® samples cured for 7 days at ambient temperature, at an RH of 50%.

Density, gm/cc	1.8
Tensile Strength, N/mm <sup>2</sup> ASTM D638-14	4.82
Compressive Strength, N/mm <sup>2</sup> ASTM C579-18	41.4
Flexural Strength, N/mm <sup>2</sup> ASTM D790-17	13.80
Elongation at break ASTM D638-14	1.89%
Bond Strength N/mm <sup>2</sup> ASTM C882M-05	7.20
Impact Resistance ASTM D2794-10	
Steel ball-dia 16mm-drop ht 1meter	Passes
Steel ball-dia 16mm-drop ht 1.5meter	Passes
Steel ball-dia 16mm-drop ht 2.0meter	Passes
Drop Impact Strength - First crack, Joule/m	16000
Drop Impact Strength - Ultimate failure, Joule/m	23500
Taber Abrasion ASTM D4060 C5-17 wheel, 1000 cycles, 1000 gms	7.20
Weight - Loss %Loss	25 mg 0.042%
Thickness - Loss %Loss	82 micron 4.9%
Water Absorption, ml (CP.BM 2/67/2)	0.003
Chemical Resistance ASTM D1308 (Spot test covered)	Passes (No visual changes found) 16 hrs
UV resistance	Non Yellowing Sealer Coat
Temperature Tolerance	60 Deg. C
Toxicity (cured product)	Non-toxic



## **Curing:**

The screed of **Polycrete**® will cure for operation within 24 hrs. However, it will gain its complete strength in 7 days.

For best results, the application temp. should be within a range of 15 to 25°C.

The maximum temperature **Polycrete**® flooring overlay will withstand for continuous exposure will be 60 to 65°C.

## **Chemical Resistance:**

Most diluted and concentrated organic acids such as, Acetic acid, Lactic Acid, Oleic Acid and Citric Acid as commonly found in the food industry; diluted and concentrated acids such as Hydrochloric, Nitric, Phosphoric, Sulphuric acid, etc.; diluted and concentrated alkalis, such as Sodium Hydroxide to 50% concentration

It also resists animal fats and vegetable oils, sugars flavorings and essences. Mineral oils, kerosene, gasoline and brake fluids and a wide range of organic solvents including Methanol, Xylene, Ethers and Ketones

Note: Some staining or discoloration may occur with some chemicals depending upon the nature of the spillage and the standards of housekeeping employed.

## **Impact Resistance:**

**Polycrete**® inherently possesses extremely high impact strength due to its resilient and tough structure and will not chip off or flake due to brittleness. The excellent adhesion to the sub-floor normally results in prevention of failure of sub-floor under impact.

## **Permeability:**

**Polycrete**® is completely impervious to water and has absolutely zero absorption. Hence it is highly recommended for floor subject to continuous water exposure. It is also fairly tolerant to surface moisture and works well on new and old RCC flooring having more moisture but the sub-floor should have a good membrane moisture barrier underneath to prevent the entry of ground moisture into the sub-floor concrete.

For further details on the product, please contact us at

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