

ARMOCRETE PU

High Performance Heavy Duty Polyurethane Floor Screed System

Description:

ARMOCRETE PU is a multi-layer heavy duty polyurethane floor screed system designed to provide high mechanical, and chemical resistance for heavy industrial flooring.

The system is developed based on high quality durable polyurethane resins, manufactured to deliver especially high mechanical strength with the addition of specially selected fillers.

The ARMOCRETE PU system can be utilized in dry and wet working spaces, in addition to low temperature work areas or stores.

Uses:

ARMOCRETE PU is generally used for industrial flooring characterized with high mechanical and chemical resistance. Wider range of applications include:

- Hygiene, maintenance free flooring such as food processing, dairies, etc.
- Heavy duty industrial facilities.
- Stores and warehouses flooring and loading bays.
- Mechanical and chemical workshops.
- Hangers and heavy equipment stores.
- Army vehicles hangers.
- Chemical and oil plants.
- General repairs for floors subject to heavy traffic.
- Coving filling in manholes and sewage works.

Advantages:

- High impact resistant, with excellent abrasion resistance.
- Excellent mechanical resistance with high compressive, flexure strength.
- Durable with long life span and low maintenance cost.
- Excellent resistance to a wide range of chemicals.

- Excellent adhesion with substrate, with bonding strength greater than concrete cohesive strength.
- Anti-slip characteristics.
- Withstand elevated temperature exposure
- Can be steam cleaned

Chemical Resistance:

ARMOCRETE PU system is resistant to wide range of chemicals:

CHEMICAL RESISTANCE		
Material	Concentration	Resistance
Citric Acid	10%	Excellent
Hydrochloric Acid	20%	Excellent
Sodium Hydroxide	50%	Excellent
Acetic Acid	10%	Excellent
Butanol	-	Excellent
Nitric Acid	20%	Excellent
Sulphuric Acid	20%	Excellent
Mineral Oil	10%	Excellent
Ammonia	10%	Excellent
Seawater		Excellent
Jet Fuel		Excellent

ARMOCRETE PU cured floor can be steam cleaned and withstands hot water exposure up to 120 degrees

ARMOCRETE PU SYSTEM COMPONENTS:

PRIMER	ARMOPRIME PU	8-10 m ² /lit
Intermediate layer	ARMOCRETE BASECOAT	Dependant on thickness
TOP COAT	ARMOCRETE TOPCOAT	500-1000 micron WFT

COLORS:

ARMOCRETE PU TOPCOAT is available in the following colours: light grey, grey, dark grey, green, blue, brick red, beige and light green.

In areas of direct prolonged exposure to UV from sunlight, some yellowing might occur, more clearly in light colours.

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Application Thickness:

ARMOCRETE PU is a resilient system that can be applied from 4 mm up to 10 mm, dependant on the service of the floor. The system can withstand heavy loads and mechanical stresses depending on the total thickness:

4mm: heavy loads and traffic, chemical exposure

8 mm -10 mm: heavy loads and extreme traffic, chemical exposure

All thicknesses of ARMOCRETE PU can be steam cleaned and withstands high temperature exposure up to 120°C.

Instructions for Use:

Surface Preparation:

All surfaces should be sound, clean, dry and free from loose material, efflorescence, laitance, curing compounds, dirt, oil and grease. Concrete floors should be fully cured.

The right surface preparation will ensure proper bonding between the screed and the substrate. It is always recommended to prepare the floor utilizing mechanical preparation method: grinding, captive blasting, or sand blasting. If the substrate is restricted to access, utilise preparation by handy mechanical tools. Perform repairs to cracks, levelling of floor; voids filling by means of LAVAPOXY range epoxy based repair products.

Mixing:

Mixing of Primer:

ARMOPRIME PU must be mixed mechanically with low speed drill mixer fitted with suitable paddle. To prepare the mix, add the contents of Part B (hardener) to Part A (base) container, and mix for minimum of 1 minute till obtaining a homogeneous mix. Then add component C and mix for further 2-3 minutes till a homogeneous mix is achieved. Do not mix partially. Mix complete kit at a time.

Mixing of ARMOCRETE PU BASECOAT:

Mix the contents of component A (Base) with a low speed mixer for one minute to homogenize the content of the container. Slowly add the contents of part B (Hardener) to Part A container and mix thoroughly for 1 minute. Then slowly add the contents of Part C (Filler) while ensuring continuous mixing for an interval of 2-3 minutes confirming a homogenous color consistent,

lump free, mixture is reached. Transfer the mix into a clean container and mix for further 30 seconds.

ARMOCRETE PU BASECOAT is supplied as a three parts kit. It is strongly recommended to mix the content of the kit and not to do partial mixing. Use a heavy duty low speed drill fitted with a suitable paddle for mixing. Note that the mixing process is exothermic (heat generating). If excess heat is noticed, avoid excessive mixing, and/or control the speed of mixing machine.

Mixing of ARMOCRETE PU TOPCOAT:

ARMOCRETE PU TOPCOAT must be mixed mechanically with low speed drill mixer fitted with suitable paddle. To prepare the mix, add the contents of Part B (hardener) to Part A (base) container, and mix for minimum of 3 minutes till obtaining a homogeneous mix and uniform color. Do not mix partially the base and the hardener.

Application:

Priming:

Apply a rich coat of ARMOPRIME PU to the substrate prior to application of subsequent layers; the primer can be applied in a spread rate of 8 to 10 m²/Lt depending on substrate porosity.

Basecoat:

Prepare the working area by dividing the floor into bays, governed by guides (metallic or wooden) to the desired thickness of the application. The level required should be measured by the upper top of the guides to level the floor evenly. Once mixed, ARMOCRETE PU BASECOAT must be used within its pot life. Pour the mixed mortar on the floor when the primer is still in a tacky condition.

Pour the ARMOCRETE PU BASECOAT to the floor within the work area, and spread the materials by trowel. After pouring the proper quantity to the governed area, level the screed to the top level of the guides using a clean smooth metallic trowel. Apply pressure to compact the ARMOCRETE PU BASECOAT while leveling to avoid gaps or air pockets in the finished floor.

Smoothing the surface of the screed with a smooth trowel is essential to produce a fair leveled surface.

Apply a rich coat of ARMOCRETE PU TOP COAT. The nominal thickness of the TOPCOAT varies from 500 to

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1000 micron. Apply the ARMOCRETE PU TOPCOAT within an interval of 8-24 hours from the application of the ARMOCRETE PU BASECOAT.

Allow the system to cure for at least 3 days before direct access and usage.

Standards:

- ASTM C579, C580, D4541, D638

TECHNICAL PROPERTIES	
Color	Standard Colors
Density (Mixed)	2.0 ± 0.03 kg/lit
Potlife time at 25°C	15 minutes
Foot Traffic	After min. 24 hours
Vehicular Traffic	After min. 48 hours
Completely Hardened	7 days
Adhesion Strength (ASTM D4541-02)	2.5 N/mm ²
Compressive Strength (ASTM C579)	75 N/mm ²
Flexural Strength (ASTM C580)	40 N/mm ²
Tensile Strength (ASTM D638)	6.5 N/mm ²
Elastic Modulus (ASTM D412)	1,350 N/mm ²

*Values indicated may vary depending on the environment and conditions of the material. Figures given are tested according to standard laboratory conditions.

Coverage:

ARMOCRETE PU system consumption as follows:

ARMOPRIME PU	8-10 m ² /lit@100 micron thickness
ARMOCRETE BASECOAT	2 kg /1 mm / 1.0 sq.m
ARMOCRETE TOPCOAT	0.7-1.4 kg/sq.m

*Coverage rate is an approximate value, and subject to actual site conditions.

Storage:

Store in original packing in dry conditions away from direct sunlight. Store at +15°C to 25°C.

Packaging:

ARMOCRETE PU System is available as:

ARMORIME PU	4 litre kit
ARMOCRETE BASECOAT	30 kg kit
ARMOCRETE TOPCOAT	15 litre kit

Shelf Life:

ARMOCRETE PU can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

Cleaning:

Tools used to mix and apply ARMOCRETE PU can be cleaned with water and soap solution. Hardened materials can only be removed mechanically.

Remarks:

- ARMOCRETE PU should not be applied onto surfaces likely to suffer from rising dampness or moisture content.
- ARMOCRETE PU should not be applied at ambient temperature less than 5°C.
- ARMOCRETE PU should not be applied to asphalt, weak or friable concrete, PVC tiles or asphalt sheet substrates.
- ARMOCRETE PU should not be applied if the surface relative humidity is more than 75%.
- All existing expansion or movement joints should be followed through the new floor surface.
- ARMOCRETE PU may change color or fade if exposed to sunlight but this has no effect on its performance characteristics.
- Pay attention to aggressive cleaning cycles and temperatures of both chemicals and cleaning regimes.

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- Prior to application of ARMOCRETE PU, kits should be stored under cover in air conditioning and protected from extremes of temperature which may cause inconsistent workability, finish and cure times of the mixed material.

Health and Safety:

Avoid contact with eyes and skin. Wear suitable protective clothing such as coveralls, goggles, dust mask and gloves. Use barrier cream. Ensure that there is adequate ventilation. Do not breathe vapour or spray mist.

FIRST AID:

- Eyes: In the event of accidental splashes, flush with warm water and seek medical advice.
- Skin: Wash skin thoroughly with soap and water
- Inhalation: Remove to fresh air, keep patient rested
- Ingestion: Do not induce vomiting. Seek immediate medical attention.

For further safety information, please refer to the individual Material Safety Data Sheet of each product in the system.

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