

# ARMOFLOOR S1000

## Heavy Duty Multi-layer Epoxy Flooring System

### Description:

ARMOFLOOR S1000 a multi-layer, heavy duty epoxy floor system designed to provide high mechanical, and chemical resistance for concrete flooring, supported with UV protection top coat. Based on the aggregate size broadcasted within the system, anti-skid properties can be controlled.

ARMOFLOOR S1000 is recommended for indoor and outdoor application, providing a practical and cost-effective system for floor protections.

### Uses:

ARMOFLOOR S1000 is generally used for car parks and industrial flooring characterized with high mechanical and chemical resistance. Wider range of applications include:

- Car parks for multi store buildings.
- Heavy duty industrial faculties.
- 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.

### 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.
- UV Resistant System
- Excellent adhesion to substrate. Bonding strength with substrate is greater than concrete cohesive strength.
- Anti-slip characteristics

### Chemical Resistance:

ARMOFLOOR S1000 system is resistant to wide range of chemicals:

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

### ARMOFLOOR S1000 SYSTEM:

ARMOPRIME EP100	Two component solvent based, low viscosity epoxy primer.
ARMOFLOOR EP500	Epoxy floor coating based on solvent free technology in colored dual pack system.
*ARMOFLOOR UVR	Two parts aliphatic solvent based pigmented top coat
QUARTZ	Dry, graded silica sand to create anti-slip characteristics.
ARMOFLOOR LM	Line marking coating

*\*For outdoor application*

### Colors:

ARMOFLOOR S1000 system is available in various colors including: light grey, grey, dark grey, green blue, brick red, beige and light green. Refer to MATEX Flooring Colour Chart.

### Instructions for Use:

ARMOFLOOR S1000 should be applied by specialist contractors who must follow the Product Method Statement. Consult with MATEX Technical Department for a list of approved applicators.

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## 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, 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-epoxy based repair products.

## Mixing:

ARMOFLOOR S1000 products are 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. Transfer the mixed material into a separate container and mix further for 30 seconds. Do not mix partially the base and the hardener. Mix the complete kit at a time.

## Application:

### Priming:

Apply a rich coat of ARMOPRIME EP100 to the substrate prior to application of subsequent layers; the prime can be applied in a spread rate of 8.0-10.0 m<sup>2</sup>/Ltr. depending on substrate porosity.

### Epoxy layer:

Within 12-16 hours from application of primer, apply a layer of ARMOFLOOR EP500 with a nominal thickness of 250 microns. While the coat is still tacky, broadcast the QUARTZ or QUARTZ 3 uniformly at a rate of 1.5 to 2.5 kg per square meter to achieve anti-slip properties.

After 24 hours, swipe the excess aggregates and clean the surface properly. Apply second coat of epoxy ARMOFLOOR EP500 at a rate of 250 microns per sqm. If the requirements is to apply a protective coat against sun light, apply protective coat of ARMOFLOOR UVR in a thickness of 100-150 microns DFT per coat.

Interior applications does not require application of ARMOFLOOR UVR.

**In RAMP areas:** apply a second broadcast of QUARTZ while second coat of epoxy is tacky, wait then for 24 hours, sweep the ramp clean from the excess aggregates and apply a third coat of ARMOFLOOR EP500 to the ramps with final Top Coat ARMOFLOOR UVR. Allow the system to cure for a least 3 days then apply line marking to the drawings utilizing ARMOFLOOR LM.

## Application Thickness:

**ARMOFLOOR S1000 can be applied in the following thickness to achieve desired results:**

PRIMER	ARMOPRIME EP100	Approx. 100 micron
Epoxy Layer	ARMOFLOOR EP500	Approx. 250 micron
Aggregate	QUARTZ	1.5 – 2.5 Kg/m <sup>2</sup>
2 <sup>nd</sup> Epoxy Layer	ARMOFLOOR EP500	250 micron
UV Protection*	ARMOFLOOR UVR	75 - 100 micron
Line Marking	ARMOFLOOR LM	As per drawing

*\*For outdoor application*

**Average thickness of the above system will vary between 700-1200 micron, depending on aggregate application.**

## Technical Properties:

### ARMOPRIME EP100

PROPERTIES	RESULTS
Appearance	Liquid
Color	Transparent, pale
Density	1.05±0.03 Kg./Lt.
Pot-life time at 25°C	60 minutes
Hardening at 25°C recoat interval	12-16 hours
Bond Strength (ASTM D4541)	>2.0 N/mm <sup>2</sup> (greater than cohesive strength of concrete substrate)
Compressive Strength (ASTM C579)	70 N/mm <sup>2</sup>
Flexural strength (ASTM C580)	15 N/mm <sup>2</sup>

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## ARMOFLOOR EP500

PROPERTIES	RESULTS
Color	Standard Matex Flooring Color Chart
Density	1.55 ± 0.03 Kg /Lt.
Viscosity at 25°C	1200 – 1800 Mpa.S
Pot-life time at 25°C	60 minutes
Solid Content	100%
Application Temperature	+5°C to 40°C
Bond strength (ASTM D4541)	greater than cohesive strength of concrete
Compressive Strength (ASTM C109)	>80 N/mm <sup>2</sup>
Flexural Strength (ASTM C580)	>40 N/mm <sup>2</sup>
Tensile Strength (ASTM C307)	>20 N/mm <sup>2</sup>
Water Absorption	<0.1%

## ARMOFLOOR UVR

PROPERTIES	RESULTS
Color	Standard Matex Color Chart (further colors are available on request)
Density	1.30 ± 0.03 kg/lit
Pot-life time at 25°C	60 minutes
Drying time @23°C	Recoating: 12-24 hours Light traffic: 24-48 hours Vehicle traffic: 7 days
Dry Coat Thickness	75-100 µ
Application Temperature	+5°C to +40°C
Adhesion to Concrete (ASTM D4541)	>2 N/mm <sup>2</sup> (Cohesive failure within concrete)
Tensile Strength (ASTM D412)	>5 N/mm <sup>2</sup>
Abrasion Resistance (ASTM D4060)	90 mg/1000 cycles

## ARMOFLOOR LM

PROPERTIES	RESULTS
Color	White, yellow
Density	1.40 ± 0.03 kg/lit
Drying time @23°C	15 minutes @30°C
Application Temperature	+5°C to +40°C
Minimum dry thickness	100 micron

## Packaging:

ARMOFLOOR S1000 System is available as:

ARMOPRIME EP100	15 Liter Kit
ARMOFLOOR EP500	15 Liter Kit
ARMOFLOOR UVR	15 Liter Kit
QUARTZ	25 Kg Bag
ARMOFLOOR LM	20 Kg Metal can

## Storage:

Store the kits in original packing in dry conditions away from direct sunlight and in temperature-controlled warehouse.

## Shelf life:

If stored as recommended, products in the system will remain stable for 12 months from the manufacturing date.

## Cleaning:

Tools used to mix and apply ARMOFLOOR S1000 can be cleaned with ARMOSOLVENT before material hardens. Hardened materials can only be cleaned mechanically

## Remarks:

- ARMOFLOOR S1000 should not be applied onto surfaces likely to suffer from rising dampness or moisture content.
- ARMOFLOOR S1000 Should not be applied at ambient temperatures less than 5°C.
- ARMOFLOOR S1000 should not be applied to asphalt, weak or friable concrete, PVC tiles or asphalt sheet substrates.
- ARMOFLOOR S1000 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.
- Pay attention to aggressive cleaning cycles and temperatures of both chemicals and cleaning regimes.
- Prior to application, ARMOFLOOR S1000 kits should be stored under cover in air conditioning and protected from extremes of

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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. The product is flammable, keep away from sources of ignition. DO NOT SMOKE. Take precautionary measures against static discharge.

### 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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*MATEX warrants that its products are free from material and manufacturing defects. Instructions on how to use the product should be strictly followed to ensure effectivity and safe use. MATEX shall not be liable either directly or indirectly for any damages to personal, equipment or products that may occur as a consequence of the failure of any products application because it has no direct or continuous control over where or how its products are applied. It is the user's responsibility to acquire always the updated version of datasheets.*

