



# MAXFLOOR<sup>®</sup> CEM



## SELF-LEVELLING EPOXY-CEMENT MORTAR FOR REPAIR AND PROTECTION OF CONCRETE PAVEMENTS

### DESCRIPTION

**MAXFLOOR<sup>®</sup> CEM** is a self-levelling mortar composed of a cementitious base and water-based epoxy resins. It is designed for repair and protection of both indoor and outdoor concrete pavements, in thickness between 1,5 and 3 mm, exposed to high abrasion and chemical aggressive environment.

### APPLICATION FIELDS

- Repair and protection of floors affected by wheel traffic in industrial areas, parkings, decks, etc.
- Protection against chemical attack in manufacturing plants, industrial facilities, waste water treatment plants, etc.
- Smoothing and levelling floors, prior to installation of finishes with parquet, linoleum, carpet, vinyl, etc.
- Repair and patch of floors by trowel with the addition of sand.
- Preparation over damp substrates prior to finishing with epoxy or polyurethane top coatings.

### ADVANTAGES

- Self-levelling. Its fluidity provides a quick and easy placing.
- Very high abrasion and wearing resistance.
- Excellent adhesion on concrete, even on damp surfaces.
- It acts as a water vapour barrier on wet substrates, prior to application of epoxy or polyurethane top coatings.
- Higher chemical resistance than concrete.
- Solvent-free and non-flammable. Suitable for use in poor ventilation areas.
- Waterproof.

### APPLICATION INSTRUCTIONS

#### Surface preparation

Remove all damaged concrete until achieve a structurally resistant and sound surface. Cracks, defects and holes deeper than 3 mm must be cut the edges perpendicularly and repair with **MAXROAD<sup>®</sup>** (Technical Bulletin nº.: 27). Surface must be free of all dirt, dust, oil, grease, paints, gypsum, slurries, plasters, low strength mortars, etc. Do not use chemical cleaners. Wet surface until saturation, but do not leave free standing water prior to application.

In case of porous substrates, a primer coat can be applied previously to reduce the surface porosity and prevents air bubbles from voids to appears on surface of fresh mortar. The primers epoxy-base **MAXEPOX<sup>®</sup> PRIMER** (Technical Bulletin nº.: 174) or acrylic-base **MAXPRIMER<sup>®</sup> FLOOR** (Technical Bulletin nº.: 220) are recommended.

#### Mixing

Shake component A of **MAXFLOOR CEM**, and pour it on component B. Mix both components for 1 - 2 minutes using a low speed drill (400 – 600 rpm) in an appropriate container. On the resulting mixture, pour component C and mix until achieving a completely homogeneous mortar free of lumps.

#### Application

Place and spread **MAXFLOOR<sup>®</sup> CEM** in a single step with a rubber squeege or toothed trowel, in layers from 1,5 to 3 mm thickness. While mortar is still flowable, within 5 - 10 minutes after placement at 20 °C, use a spiked roller to eliminate entrapped air on surface. In order to level a thickness greater than 3 mm, pour a next layer of **MAXFLOOR<sup>®</sup> CEM** when the previous one can take foot traffic.

For making patches of thickness between 3 to 8 mm in a single layer, add between 5 to 10 kg of silica sand with maximum size up to 2 mm, per each set of **MAXFLOOR® CEM** thus obtaining a more thixotropic mortar with less levelling properties, to be applied by toothed trowel in a single layer to the desired thickness.

Apply in delimited sections in advance, allowing a continuous mixing and pouring beside the previous fresh layer, that should be finished completely to avoid cold joints in non desired places. Limits of each section should coincide with contraction or concrete joints of the pavement. Twenty four hours after application, sawcut contraction joints on each limit or every 36 m<sup>2</sup> maximum if there are not present on concrete base. Isolation joints must be provided on the perimeter between ad-joining parts. Expansion joints must not be covered by **MAXFLOOR® CEM** and should be sealed with a suitable flexible sealant such as **MAXFLEX® 100 LM** (Technical Bulletin n°. 63).

#### **Application conditions**

Do not apply on asphalt, wood, metal, gypsum, dusty or frost surfaces. Allow 28 days of curing time to apply on new concrete. Minimum bond strength of substrate must be above 1 N/mm<sup>2</sup>. Do not apply below 8 °C or if lower temperature and R.H. higher than 80% is expected the following 24 hours. Do not apply with windy conditions, rain or temperature above 35 °C.

#### **Curing conditions**

Protect from rain, dew and water the first 24 hours after application. With hot temperature conditions (> 30 °C), protect from a excessive quick-drying covering with a plastic sheet. Do not wet surface nor use curing compounds. Epoxy or polyurethane-based topcoats can be applied after a curing time of at least 24 hours at 20 °C (surface moisture content must be less than 4 %). Low temperatures with high relative humidity and/or sites with poor ventilation will require longer curing time.

#### **Cleaning tools**

Tools and equipments can be clean with water immediately after use. Once it hardens, can only be removed by mechanical methods.

## **CONSUMPTION**

Estimated consumption of **MAXFLOOR® CEM** is 2,25 kg/ m<sup>2</sup> / mm thickness approximately. An addition of 10 kg of sand per set, requires 1,7 kg/ m<sup>2</sup> / mm thickness approximately of **MAXFLOOR® CEM** and 0,55 kg/ m<sup>2</sup> / mm thickness approximately of sand depending on its proportion and size. Consumption can vary depending on porosity and texture of surface. A preliminary test on-site is recommended to determine consumption exactly.

## **IMPORTANT INDICATIONS**

- Do not use not specified compounds to the mix.
- Do not exceed the thickness per layer in the application.
- Different water ratio, surface porosity and temperature conditions can produce light differences of colour intensity.
- It can be affected by a superficial colour change over a long period of time exposed to UV rays, but it does not affect the mechanical properties.
- For any other application not specified in this Technical Bulletin consult our Technical Department.

## **PACKAGING**

**MAXFLOOR® CEM** is supplied in three-component set, with total weight 30,55 kg. Component A in plastic can of 1,40 kg. Component B in jerrican of 4,15 kg. Component C in bag of 25 kg.

## **COLOURS**

**MAXFLOOR® CEM** is available in grey and white colour.

## **STORAGE**

Twelve months in its original unopened packaging, in a dry and covered place, protected from frost and humidity with temperatures above 5 °C. Temperatures below 5 °C lead the crystallisation of the product. Should this happen, it must be heated slowly between 80 - 90 °C while is regularly stirred until achiving its

homogeneous and original lump-free conditions.

## SAFETY AND HEALTH

**MAXFLOOR CEM** is non-toxic but it is an abrasive compound. When mixing and applying do not work without the protection of rubber gloves and safety goggles. In case of

skin contact, wash the affected areas with abundant water and soap. In case of eye contact, rinse immediately and thoroughly with clean water without rubbing and seek medical assistance. For further information, Safety Data Sheet of **MAXFLOOR® CEM** is available by request. Disposal of the product and its empty packaging must be made by the final user and according to official regulations.

## TECHNICAL DATA

<b>Product characteristics</b>	
Colour and appearance: Component A Component B Component C	Milky liquid Yellowish liquid Grey or white powder
<b>Application and curing conditions</b>	
Density hardened mortar (g/cm <sup>3</sup> )	2,0 ± 0,05
Open time, at 20°C (min)	20
Application minimum temperature (°C)	> 8
Curing time for pedestrian traffic and re-coat, at 20 °C (h)	24
Curing time for light wheel traffic, at 20 °C (d)	3
Total curing time and full service, at 20 °C (d)	7
<b>Hardened product characteristics</b>	
<b>MAXFLOOR® CEM</b> meets specifications of CE mark for self levelling mortars according to EN – 13813, and it is classified as EN 13813 CT-C25-F7	
Compressive strength, at 28 days (MPa)	30
Flexural strength, at 28 days (MPa)	7
Hardness superficial SH (N/mm <sup>2</sup> )	88,4
Impact resistance IR / height ( N • m / mm)	7,85 / 800
Taber abrasion resistance (wheel H-22) Wear Index after 500/1000 cycles	4,4 / 2,2
Böhme wearing resistance (cm <sup>3</sup> / 50 cm <sup>2</sup> )	4,5
Adhesion on concrete, at 28 days (MPa)	> 2,5
Chemical resistance against sewage, sea water, salts, industrial oil and greases.	Very good
<b>Consumption / Thickness</b>	
Estimated consumption pure / with sand (kg/m <sup>2</sup> per mm thickness)	2,25 / 1,7
Minimum and maximum thickness pure / with sand (mm)	1,5 – 3 / 3 - 8

## GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO®, S.A.** reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorised by us. We shall not accept responsibility exceeding the value of the purchased product. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.



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n° 6003176 / 6003176-MA