



# MAXEPOX<sup>®</sup>

## REPAIR



### EPOXY-BASED MORTAR FOR CONCRETE REPAIR IN THICK LAYER

#### DESCRIPTION

**MAXEPOX<sup>®</sup> REPAIR** is a solvent-free, three-component, epoxy-based mortar, specially designed for levelling, protection and concrete repair on horizontal surfaces up to 50 mm thickness per layer. Repaired areas provide a high performance surface with excellent mechanical and impact resistance, as well as high abrasion and chemical resistance.

#### APPLICATION FIELDS

- Restoration of paving and concrete floors, roads, loading areas and surfaces subjected to high wear in warehouses, parking garages, truck docks, hangars, industrial facilities, etc.
- Patching of horizontal surfaces to be levelled or lifted.
- Repair and finish of non-slip ramps with high resistance to traffic wear.
- Restoration of concrete steps and stairs, fixing of heavy machinery, etc.
- Repair and patching of cracks and other damages in floors, building of concave corners, etc.

#### ADVANTAGES

- High adhesion to concrete and reinforcements. Does not require special primers.
- High impact resistance and mechanical strengths. Long lasting repairs.
- Good thixotropy. Application in successive layers without slump or the need to use form work. Allows high thickness per layer: from 5 to 50 mm.
- Good chemical resistance against oils, greases, fuels, diluted acid and base solutions.
- Waterproofing product.
- Non-toxic, solvent-free, and non-flammable. Suitable to use in poor ventilated areas.

#### APPLICATION INSTRUCTIONS

##### Surface preparation

Substrate must be structurally sound, firm, without cement laitance. Sawcut edges perpendicularly to concrete surface with a minimum depth of 5 mm. Eliminate rust by wire brush, needle gun, sand or shot blasting, etc. For additional protection, use the oxide converter and protector **MAXREST<sup>®</sup> PASSIVE** (Technical Bulletin No. 12).

Surface must be clean and free of paints, old coatings, efflorescence, loose particles, grease, oils, curing agents, form release agents, dust, gypsum plasters, organic growth or any other contaminants that may affect to adhesion. Surface moisture content should not exceed 4%. Do not apply on substrates subject to rising damp or negative water pressure. Consult our technical note "*Preparation of concrete surfaces for application of epoxy-based coatings*" for further information.

Expansion joints or cracks subject to movements once opened up and clean, should be treated with a suitable elastomeric sealant from **MAXFLEX<sup>®</sup>** range.

##### Mixing

**MAXEPOX<sup>®</sup> REPAIR** is supplied as a pre-weighed three-component set. Premix the components A and B separately, and then the hardener, component B, is poured into the resin, component A. In order to ensure the proper reaction of the two components make sure all of component B is added.

Finally, pour the resulting mixture in a clean container and then slowly add component C to the liquid and mix, using a slow speed electric drill (400-600 rpm) fitted with a disc mixer for about 1-2 minutes until achieving a smooth, lump-free and homogeneous mortar of fluid consistency. Small quantities of product can also be mixed by hand. Do not mix for prolonged period nor use high-speed mixer, which may heat the mixture or introduce air bubbles.

Check Technical Data Table for product pot life (20 minutes at 20° C for a 35 kg set). Pot life is reduced greatly with higher temperatures.

## Application

Apply solvent-based primer **MAXPRIMER** (Technical Bulletin No. 45) by roller or brush with a recommended consumption from 0,20 to 0,30 kg/m<sup>2</sup>. Placing of **MAXEPOX® REPAIR** should be carried out after 30 minutes from the application of the primer, i.e., once solvent has evaporated and priming is still tacky. It can also be placed until following day, but never later than 24 hours. If a solvent-free epoxy primer is required, use **MAXEPOX® PRIMER** (Technical Bulletin No. 174) by brush or roller with a consumption from 0,25 to 0,30 kg/m<sup>2</sup>, and allow it to dry from 14 to 16 hours but no later than 24 hours. Primer in case that substrate may have residual humidity, apply one coat of the **MAXEPOX® PRIMER –W** water-based epoxy **MAXFLOOR®** (Technical Bulletin No. 372) with an estimated consumption from 0,20 to 0,30 kg/m<sup>2</sup>, depending on substrate porosity. Allow this priming coat to dry completely before applying **MAXEPOX® REPAIR**, i.e., about 12-24 hours, depending on temperature, relative humidity and ventilation conditions.

Apply evenly **MAXEPOX® REPAIR** using a metal trowel to the desired thickness in layers between 5 to 50 mm.

For applications of several lifts, scratch the surface of each previous layer with a trowel to improve the adhesion of the following one. Successive layers should be applied when the previous one is completely set, i.e., 8 h at 20°C and 50% R.H.

Finish the surface with a sponge, wood, plastic float or trowel, depending on the desired texture. Do not overwork the mortar; minimize trowelling.

To optimize an anti-dust finish, use as top coating sealer **MAXEPOX® FLOOR** (Technical Bulletin No. 239), **MAXURETHANE®** (Technical Bulletin No. 38), or **MAXURETHANE® 2C** (Technical Bulletin No. 38).

## Application conditions

Do not apply when rain, contact with water, condensation, dampness and dew is expected within the first 72 h after application.

Optimum application temperature range is from 10°C to 30°C. Do not apply with substrate and/or ambient temperature is at or below 10°C, or when are expected to fall below 10°C within 24 h after application. Do not apply to frozen or frost-covered surfaces.

Ambient and surface temperature must be at least 3°C higher than dew point. Do not apply with R.H. higher than 85%. Measure the relative humidity and dew point before applying the product.

With low temperatures, high humidity levels or both, use dry and warm air in order to get the suitable conditions, such as with an electric powered air blower system.

Temperatures above 30°C lead a quick-setting between components and heat production, so the pot life is greatly reduced.

## Curing

Allow **MAXEPOX® REPAIR** to cure 24 days at 20°C and 50% R.H. for pedestrian traffic and 72 hours for heavy wheel traffic. Application at lower temperature, high humidity and/or poor ventilation requires longer curing time.

## Cleaning

All tools and equipment must be cleaned immediately with **MAXEPOX® SOLVENT** after use. Once product cures, this can only be removed by mechanical means.

## CONSUMPTION

Estimated consumption for **MAXEPOX® REPAIR** is from 2,0 to 2,1 kg/m<sup>2</sup>·mm thickness. One 35 kg set fills approximately from 16,6 to 17,5 litres (from 0,50 to 0,47 litres per 1,0 kg of product).

These figures are for guidance only and may vary depending on porosity, texture, substrate conditions and application method. Perform a preliminary test on job-site to ascertain the total consumption.

## IMPORTANT INDICATIONS

- Exterior applications exposed to UV rays, must be protected with **MAXURETHANE® 2C** aliphatic polyurethane coating.
- Do not apply on substrates subject to rising damp or negative water pressure. Surface moisture content must be below 4%. Allow substrate to dry enough after rain, water contact, damp, dew, condensation, etc, as well as after cleaning of surface.
- Allow new concrete and mortar to cure a minimum of 28 days before application.
- Avoid water contact, damp, dew, condensation, etc for at least 72 hours after application. Relative humidity must not exceed 90%.
- Do not add cements, additives, solvents, non-specified aggregates or other compounds.
- Do not use leftovers from previous mixes.
- Component C must be fully dry before mixing with the binder (A+B).
- Do not exceed the recommended thickness per layer.
- For other uses not specified in this Technical Bulletin or further information, consult the Technical Department.

## PACKAGING

**MAXEPOX® REPAIR** is supplied in pre-weighed three-components sets of 35 kg: Component A in 3,4 kg can, Component B in 1,6 kg can, and Component C in 30 kg bags.

## STORAGE

Twelve months in its unopened and undamaged original sealed packaging. Store in a cool, dry and covered place, protected from moisture, frost and direct sunlight, with temperatures between 5°C and 30°C.

Storage at temperatures below 5°C may lead the crystallisation of product components. Should this happen, it must be heated slowly at moderate temperature while it is regularly stirred until achieving its homogeneous and original lump-free appearance.

## SAFETY AND HEALTH

**MAXEPOX® REPAIR** is not a toxic product but contact with skin and eyes must be avoided. Use rubber gloves and safety goggles when handling, mixing and applying the product. In case of skin contact, wash affected area with soap and water. In case of eye contact, rinse immediately thoroughly with clean water but do not rub. If the irritation persists, seek medical assistance.

Do not inhale vapours from heating or burning. Observe the usual precautions for the handling and the application of this type of products.

Consult the Material Safety Data Sheet for **MAXEPOX® REPAIR**.

Disposal of the product and its packaging should be carried out according to the current official regulations and it is the responsibility of the final user of the product.

## TECHNICAL DATA

<i>CE Marking, UNE-EN 13813</i>	
Description. Solvent-free epoxy-based thixotropic mortar. <i>EN 13813 SR-C80-F30-B2,0-AR0,5-IR14,7</i>	
Uses: Repair, levelling and protection on horizontal concrete surfaces in thick layer.	
<b>Product characteristics</b>	
General appearance and colour for component A	Transparent clear liquid
General appearance and colour for component B	Yellow clear liquid
General appearance and colour for component C	Silica aggregate
A:B:C mixing ratio, (by weight)	3,4:1,6:30
A+B+C mixture solid content, (% , by weight)	100
A+B+C mixture density at 20°C, (g/cm <sup>3</sup> )	2,05 ± 0,1
Flash point, (°C)	Non flammable
<b>Application and curing conditions</b>	
Application conditions, T(°C) / R.H. (%)	8 - 30 / < 85
Pot life for a 10 kg set at 10°C/ 20°C/ 30°C, (min)	35 / 20 / 10
Drying-time to touch at 20°C depending on application thickness, (hours)	8
Total curing time at 20°C, (d)	
- Pedestrian traffic	1
- Road traffic	3
<b>Cured products characteristics</b>	
Compressive strength at 28 days, EN 13892-2 (N/mm <sup>2</sup> )	90,3 – C80
Flexural strength at 28 days, EN 13892-2 (N/mm <sup>2</sup> )	37,9 – F30
Elasticity modulus, EN ISO 178 (kN/mm <sup>2</sup> )	0,8 – E1
Coefficient of linear expansion, (cm/°C)	3,5·10 <sup>-6</sup>
Adhesion on concrete at 28 days, EN 13892-8 (N/mm <sup>2</sup> )	> 3,6 (substrate break) – B2,0
Impact resistance, EN ISO 6272 (N·m)	IR 14,7
Resistance to water, sewage and marine water	Excellent
Resistance to fats, salts, diluted acids and alkalis	Excellent
Release of corrosive substances	SR
<b>Thickness / Consumption*</b>	
Thickness per application, (mm)	5 - 50
Consumption per application, (kg/m <sup>2</sup> ·mm)	2,0 - 2,1

\* These figures are for guidance only and may vary depending on porosity, texture, substrate conditions and application method. Perform a preliminary test on job-site to ascertain the total consumption exactly.

## 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.U.** 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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