

NON-SHRINK, QUICK-SETTING STRUCTURAL REPAIR MORTAR FOR CONCRETE AND MASONRY

Description

MAXREST is an one-component structural repair mortar, made of special cements, additives and selected aggregates, which provides a thixotropic product with quick-setting that does not shrink. It firmly adheres to the surface which it is applied on, and restores concrete to its original condition

Application Fields

- For general repair and restoration work on structural concrete. Repairs honeycombs, cracks and fissures.
- Patching and protective covering of superficial reinforcing rods affected by corrosion.
- To repair lintels, raincaps, water tanks and to restore architectural concrete permanently exposed to climatic conditions.
- Sealing of construction joints previous to waterproofings works in tanks, swimming pools, basements, etc.
- For restoration of lines and shapes of damaged pre-fabricated concrete elements.



APPLICATION FIELDS

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Advantages

- Its quick-setting time, from 15 to 20 minutes, allows for an agile repair process.
- It forms part of the substrate and the repairs are structurally sound, with properties comparable or higher than concrete.
- Very good thixotropy without slump or the need for using form work.
- It does not shrink, avoiding risk of cracks when sets.
- Odour-free and non-toxic, making it the ideal material to use in badly ventilated places, such as water tanks, shafts, sewers, etc.
- Does not contain any chloride.
- Only needs the addition of water for mixing.

Product Recommendations

At high temperatures keep the product in a cool place.
Use fresh, clean cool water for the mix.
Wet the different layers.
Mix small batches of material and apply immediately.

At low temperatures keep the product in a warm place.
Use lukewarm water to accelerate the setting time.

Application Instructions

Surface preparation. Surface should be clean and free of dirt, grease and loose particles. Remove all damaged and unsound concrete to expose a structurally resistant substrate. Expose all reinforcements affected by corrosion, removing all the concrete until the edges of the bars are not affected by rust. Remove concrete all

around the bars for an efficient cleaning and to surround it with a minimum thickness of at least 1 cm of **MAXREST**. Eliminate rust by metal brush, needle gun, sand or shot blasting, etc. Apply the protector and oxide converter **MAXREST PASSIVE** (Technical Bulletin N° 12). After cleaning, wash the concrete with water. Before applying **MAXREST**, wet the surface but do not leave free-standing water.



Damp the surface



Apply the primer



Apply the mortar

Mixing. A 25 kg bag of **MAXREST** is mixed with between 3,5 to 4,0 litres of clean water, depending on the ambient conditions and the consistency required, either manually or mechanically by low speed drill (400 – 600 rpm). **MAXREST** takes fifteen to twenty minutes to set, depending on the temperature. Mix only the amount of **MAXREST** that can be applied within eight to ten minutes.

Application. For an optimum bonding, prepare a slurry mixing 5 parts of **MAXREST** with 1 part of water, mixing well until achieving a homogeneous consistency without any lumps. Apply the slurry using a **MAXBRUSH** type brush on the surface to be repaired and on the reinforcement bars, filling all voids and pores, allowing 5 to 8 minutes before continuing the application.

While the slurry is still fresh, start placing **MAXREST**. Add more powder to the slurry leftover until achieving the consistency of a repair mortar, and apply in successive layers up to 3 cm. each.

Between layers, wait ten to fifteen minutes, depending on the temperature. Scratch the surface with the trowel to make the next layer adheres firmly. If the different layers become warm wet the surface with cold water.

Application conditions. Do not apply with temperatures below 5 °C or if lower temperatures are expected during the 24 hours following the repair. Do not apply on frozen or frosted surfaces.

Curing. For better curing once the job is finished cover with wet cloth to protect from high temperature and sun.

Cleaning. Clean all tools and equipments immediately with water after use. Once **MAXREST** hardens only can be removed by mechanical methods.

How to Use

Surface Preparation.

Concrete should be free of all loose particles and dirt; reinforcing rods must be rust free. To clean these surfaces, sandblast or use a wire brush to clean the rust. The concrete to be repaired must be structurally sound. After cleaning wash the concrete with water. Before applying maxrest wet the surface.

How to mix maxrest.

To prepare the material mix with water only. With a brush give the surface a primer coat and allow it to set for five to eight minutes. Continue the patchwork with a trowel. Make the maxrest mix thicker, the consistency of mortar, and apply successive layer of 2,5 to 3 cm. Between layers, wait ten to fifteen minutes, depending on the temperature. Scratch the surface to make the next layer adhere firmly Setting. Once mixed with water, maxrest

takes ten to twenty minutes to set, depending on the temperature. Make sure that whatever quantity of maxrest you mix can be applied within eight to ten minutes.



Scratch the surface



Finish the edge



Final finish

Consumption

Estimated consumption of **MAXREST** are approximately 1,67 kg/m² per mm thickness. One kilogramme of **MAXREST** will fill approximately 0,6 litres.

Caution

As all cement products, maxrest is abrasive and protective rubber gloves must be used to prepare the mixture and apply it. If any of the mixture gets into the eyes, rinse thoroughly with clean water, but do not rub. If irritation continues, consult a doctor.

Packaging

MAXREST is supplied in 25 kilogram drum and bag, and 5 kilogram can.

Storage

Nine months in bags, twelve months in drums and cans, in their unopened original packaging, in a dry and covered place protected from damp and frost, with temperatures above 5 °C.



Important Instructions

- Do not use leftover mixed material to prepare a new batch.
- Do not add sand, aggregates or cement to increase volume.
- Do not use high speed mixers or which may cause violent mix, and do not mix for prolonged periods.
- Do not apply on painted or structurally weak surfaces.
- Do not apply in layers exceeding 3 cm. thickness.
- Do not allow the layers to heat up; water continuously with cold water.
- Setting time is measured at 20 °C. Higher temperatures reduce the setting time and lower temperatures delay the setting time.
- With low temperatures keep the product in a warm place and use lukewarm water to accelerate the setting time.
- With hot temperatures keep the product in a cool place and use fresh clean water for the mix. Wet the different layers. Mix small batches of material and apply immediately.
- For further information consult our Technical Department.

Safety and Health

MAXREST is non-toxic but as all cementitious product it is an abrasive compound. Rubber gloves and safety goggles must be used to mix and apply the mixture. In case of skin contact, wash affected areas with soap and water. In case of eye contact, rinse with clean water but do not rub. If irritation continues, seek medical attention. Safety Data Sheet of **MAXREST** is available by request. Disposal of the product and empty packaging must be done according to national regulations by the final user.

Technical data

Tests in general at 28 days. Percentage of mixing water: 15%

TECHNICAL DATA	
Appearance and colour	Grey powder
Apparent density in powder (kg/cm ³)	1,045 ± 0,05
Mixing water (% in weight / weight prod.)	15 ± 1
Pot life (minutes, 20 °C)	15
Apparent dry density (kg/cm ³)	1,98 ± 0,05
Adhesion on concrete (MPa)	1,8
Setting (minutes 20 °C) Beginning Final	20 25
Flexotraction strength (MPa) 7 days 28 days	5,0 7,7
Compressive strength (MPa) 7 days 28 days	29,0 45,5
Capilarity (c) (g /dm ² min ^{1/2})	1,24
Elasticity modulus (MPa)	21.000

Product Requirements

One kilogram of MAXREST will fill approximately 0,6 litres.

Guarantee

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO** reserves the right to introduce changes without prior price. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorised by us. 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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Address: PO Box 649, Padstow, NSW 2211, AUSTRALIA
Tel: +61 2 9771 0011 Fax: +61 2 9771 0111
Email: [Click here](#) ABN: 80 003 944 803
National Hotline: 1300 303 301 National Faxline: 1300 369 932