



# MAXROAD®

## VERY FAST-SETTING, CEMENT-BASED REPAIR MORTAR FOR CONCRETE PAVING IN EXPRESSWAYS, BRIDGE DECKS AND INDUSTRIAL PAVEMENTS EXPOSED TO WHEEL TRAFIC

### DESCRIPTION

**MAXROAD®** is a one-component mortar formulated with special cements, well-graded aggregates, additives and synthetic fibre-reinforced. Once mixed with water, a high performance mortar is achieved, suitable for urgent repairs and patching, allowing putting into service to traffic in two hours.

### APPLICATION FIELDS

- Urgent repairs of concrete paving exposed to heavy wheel traffic in expressways, bridge decks, parking areas, etc.
- Indoor and outdoor repairs of concrete floors in industrial plants, truck docks, warehouses, ramps, etc.
- Concrete floor repair, filling of voids and defects prior to levelling surface by application of self-levelling mortars.

### ADVANTAGES

- High mechanical resistance; both compressive and flexural strength, and excellent impact resistance being fibre-reinforced.
- Good adhesion to concrete.
- Fast-setting: rapid return to service of repaired area after 2 hours.
- Can be applied on damp surfaces.
- Allows layers from 30 to 50 mm thickness.
- Chloride-free.
- Withstands freeze-thaw cycles.
- Easy to apply, one-component product.

### APPLICATION INSTRUCTIONS

#### Surface preparation

Remove all disintegrated and unsound concrete so that only solid structure remains. Square cut or undercut the perimeter of the area to be patched to a depth of at least 30 mm. Avoid small or sharp angles in the edge of the patch.

Surface must be thoroughly cleaned, free of dust, dirt, coatings, efflorescences, oil, grease or any other foreign material that could affect to adhesion of the mortar. Use water blasting or equivalent mechanical means in order to clean concrete and provide a porous and open texture surface.

#### Mixing

A 25 kg bag of **MAXROAD®** is mixed with between 4,0 to 4,5 litres (16–18 %) of clean water, depending on the ambient conditions and the consistency required. Pour the mixing water into a clean container and then add the powder. Mix mechanically using a slow speed drill (400-600 rpm) until achieving a homogeneous mortar in colour and appearance with no lumps. Small quantities of product can also be mixed by hand. **MAXROAD®** sets very quickly, so mix only the amount of material that can be placed in the next 15 minutes. Do not mix for prolonged period nor use high-speed mixer. For optimum adhesion and curing, a mixing liquid of 2 parts of **MAXCRYL®** (Technical Bulletin n°.: 3) and 1 parts of water can be used.

#### Application

Areas to be patched must be saturated with clean water but free of standing water prior to application.

For an optimum adhesion prepare a bonding slurry, mixing 5 parts of **MAXROAD®** and 1 part of mixing liquid or water, and apply it on surface using a brush or broom such as

**MAXBRUSH®** or **MAXBROOM®**, filling all voids and pores.

*Patches up to 50 mm deep.* Once the bonding slurry loses its bright, immediately apply **MAXROAD®** by trowel on the bottom and sides of patch, with layers up to 50 mm thickness. If the previous bonding slurry sets or hardens, a new slurry must be applied. Level the repair to the surrounding pavement with a suitable screeding mean.

If several layers are required, provide a roughened surface to improve the adhesion of successive layers, i.e. each lift should be scored and allowed to set for 15 - 30 minutes before applying the next one.

Provide the desired finish before hardening, for example a non-slip surface using the **MAXBRUSH®** brush. Do not overwork surface after initial setting-time as it may cause cracks.

*Patches deeper than 50 mm.* Add 8 kg of clean silica sand, free of fine particle fillers, and with maximum size up to 10 mm, per each 25 kg of **MAXROAD®**. Mix dry both compounds before adding the water. Add the enough water to achieve a workable consistency mortar, but avoiding any excess which may cause bleeding or segregation, taking into account that the addition of sand reduces the water demand per sack. Apply by trowel to the desired thickness.

#### **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.

Ensure to saturate completely with water the surface under high temperature, moderate to high winds or low humidity conditions. Do not apply at ambient temperatures above 35 °C.

#### **Curing**

For applications with high temperature, moderate to high winds or low humidity conditions, i.e. summer time, begin curing procedures immediately after application, such as with fine mist of water, covering with wet burlap or polyethylene sheet.

#### **Cleaning**

Before **MAXROAD®** sets, all tools and equipment should be cleaned immediately

with water. Once it hardens, can only be removed by mechanical means.

#### **IMPORTANT INDICATIONS**

- Do not apply **MAXROAD®** on asphalt surfaces, coatings, metal supports or very cold surfaces.
- Do not use curing compounds.
- Do not exceed the maximum thickness per layer recommended.
- For further information or other uses not specified in this Technical Bulletin, consult our Technical Department.

#### **CONSUMPTION**

Pure product application: A 25 kg bag of **MAXROAD®** fills a volume of about 15,5 litres. Approximately 2,0 kg/m<sup>2</sup> mm thickness of **MAXROAD®**.

Mixture application: A mixture consisting of 8 kg of sand per 25 kg bag of **MAXROAD®** fills a volume of about 20 litres. Approximately 1,4 kg of **MAXROAD®** per square meter and mm of thickness.

These figures may vary depending on substrate conditions. A preliminary test on-site will determine the coverage exactly.

#### **PACKAGING**

**MAXROAD®** is supplied in 25 kg bags or metal drums. It is available in standard grey colour.

#### **STORAGE**

24 months or 36 months when supplied in bags and metal drums respectively. It must be stored in its original unopened packaging, in a dry and covered place protected from humidity and frost, with temperatures above 5 °C.

#### **SAFETY AND HEALTH**

**MAXROAD®** is an abrasive product, so protective rubber gloves and safety goggles must be used to mix and apply it. In case of eye contact, rinse thoroughly with clean water, but do not rub. In case of skin contact,

wash affected areas with soap and water. If irritation continues, seek medical attention. For further information, Safety Data Sheet of **MAXROAD®** is available by request.

Disposal of the product and its empty containers must be made by the final user and according to official regulations.

#### TECHNICAL DATA

Characteristics of the product			
Appearance and colour	Grey powder		
Density (g/cm <sup>3</sup> )	1,22 ± 0,05		
Chloride content (% by weight)	0		
Application and curing conditions			
Mixing ratio (% by weight)	16 - 18		
Pot time at 20 °C (minutes)	10 - 15		
Setting time at 20 °C (minutes)	Initial	15 - 20	
	Final	20 - 25	
Characteristics for the cured product			
Density (g/cm <sup>3</sup> )	2,04 ± 0,05		
Mechanical strengths at 28 days (MPa)	Flexural	Compressive	
	2 hours	1,5	4,7
	4 hours	1,9	7,3
	1 day	2,8	10,5
	7 days	5,5	40,4
	28 days	8,9	42,8
Adhesion on concrete (MPa)	1,8		
Resistance to freeze-thaw cycles	Flexural	Compressive	
	Mechanical strength (MPa) after 20 freeze-thaw cycles	7,3	52,5
	Appearance after test	Without physical changes	
Consumption / Thickness			
Consumption* pure product (kg/m <sup>2</sup> per mm thickness)	2,0		
Minimum - maximum thickness per layer pure product (mm)	30 - 50		

(\*)These figures may vary depending on the roughness and the surface conditions. A preliminary test on-site will determine the coverage exactly.

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