



MAXROAD®



VERY FAST-SETTING, CEMENT-BASED REPAIR MORTAR FOR CONCRETE PAVING IN HIGHWAYS, BRIDGE DECKS AND INDUSTRIAL PAVEMENTS EXPOSED TO CAR TRAFFIC

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.

MAXROAD® meets the requirements of class R3 according to the European standard EN-1504-3

APPLICATION FIELDS

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

ADVANTAGES

- Fast-setting: rapid return to service of repaired area after 2 hours.
- High mechanical resistance and excellent impact resistance, being fibre reinforced.
- Good adhesion to concrete
- Suitable for damp surfaces.
- Allows layers from 10 to 50 mm thickness applied in pure form.
- Withstands freeze-thaw cycles.
- Chloride-free.
- Environmentally friendly: non-toxic, cement-base and solvent-free product.

APPLICATION INSTRUCTIONS

Surface preparation

Remove all disintegrated and unsound concrete until achieving a structurally resistant substrate. Square cut or undercut the perimeter of the area

to be patched to a depth of at least 10 mm. Avoid small or sharp angles in the edge of the patch. The concrete substrate must have a Concrete Surface Profile CSP 6 or higher, in accordance with the classification of the ICRI (*International Concrete Repair Institute*).

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

Prior to applying **MAXROAD®** saturate the surface with water, avoiding puddle formation, and begin application once the surface acquires a matte appearance. If it dries, proceed to saturate it with water again.

Mixing

A 25 kg bag of **MAXROAD®** is mixed with 3,5 to 4,0 litres (14-16 %) of clean water, depending on the ambient conditions and the consistency required.

To optimize adhesion and curing, it also can be used as mixing liquid a dilution of 1 part of **MAXCRYL®** (Technical Bulletin No. 3) and 3 parts of water. Pour the water or dilution in a clean container and then slowly add **MAXROAD®** mixing by a slow speed electric drill (400-600 rpm) fitted with a disc mixer, for about 2-3 minutes until achieving a smooth, lump-free and homogeneous mortar. Allow the mixture to rest for 1 minute to fully wet out all the powder and remix briefly before applying.

Mix only the amount of **MAXROAD®** that can be placed in 10-15 minutes. After this time, mortar will have started its setting and will no longer be workable. To keep the workability of the fresh mortar, remix again but do not add more water.

Application

For an optimum adhesion prepare a bonding slurry by mixing 5 parts of **MAXROAD®** and 1 part of mixing liquid or water, until achieving a

homogeneous consistency without any lumps. Apply the bonding slurry by brush **MAXBRUSH®** or broom **MAXBROOM®**.

Patches up to 50 mm thick:

When bonding slurry begins to lose brightness but is still fresh, start application of **MAXROAD®** by trowel with a maximum thickness per layer up to 50 mm. If slurry dries up, or the previous layer is completely set, apply a new slurry coat to continue the job.

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. If bonding slurry dries, or if the previous coat is fully set, a new bonding slurry should be applied to continue the work. Levelling can be done with a trowel or ruler, although to avoid the formation of cracks, do not overwork or review the application of the material once it has begun to set. Conveniently finish the last coat, e.g. with a non-slip finish with a brush, before the hardening of **MAXROAD®** begins.

Applications with thicknesses greater than 50 mm in a single stage. 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, considering that the addition of sand reduces the water demand per sack. When the bonding slurry becomes matt, begin the application of the mortar as mentioned above.

Application conditions

The optimal working temperature range is 10°C to 30°C. Do not apply with support and/or ambient temperatures below 5°C or if lower temperatures are expected within 24 hours of application. Likewise, do not apply on frozen surfaces.

For applications at hot temperatures, low relative humidity and/or windy conditions, i.e. summertime, surface must be wet thoroughly with plenty of water prior to application, keep product stored under shadow and use cold water for mixing.

Curing

With hot temperature, windy conditions, and/or direct sunlight, protect immediately from quick drying the first 24 hours by spraying a fine mist of water or by covering it with polyethylene sheeting and damp burlaps.

Allow **MAXROAD®** to cure for 2 hours (20°C and 50% R.H.) before opening to road traffic. Lower

temperatures and/or higher R.H. values will lengthen the curing time.

Cleaning

All mixing and application tools must be cleaned immediately with water after use. Once product hardens, this can only be removed by mechanical means.

CONSUMPTION

Estimated consumption of **MAXROAD®** is 2,0 kg/m² per mm thickness. A 25 kg bag fills a volume of about 12,5 litres.

Patches deeper than 50 mm thick: adding 8 kg of sand (3-10 mm size) per 25 kg bag of **MAXROAD®** fills a volume of about 20 litres, i.e. about 1,4 kg/m² per mm thickness of **MAXROAD®**.

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

IMPORTANT INDICATIONS

- Do not add cement, admixtures or any other non-specified compounds.
- Use the recommended amounts of mixing liquid.
- Observe the recommended consumptions and thickness per layer.
- To keep the workability of fresh mortar, remix again but do not add more water. Do not mix more material than can be applied in 15 minutes.
- Do not use leftovers from previous mixes.
- Do not apply on surface previously treated with water-repellent agents, bituminous materials, plasters, paints and/or metal supports.
- For other uses not specified on this Technical Bulletin or further information, consult the Technical Department.

PACKAGING

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

STORAGE

Twelve months in bag and eighteen months in drum respectively, in its unopened original packaging. Store in a cool, dry and covered place, protected from moisture, freezing and direct sunlight, at temperatures above 5 °C.

SAFETY AND HEALTH

MAXROAD® is not a toxic product but is an abrasive compound. Avoid direct contact with skin and eyes, and breathing dust. Use rubber gloves and safety goggles during application. 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.

Consult the Material Safety Data Sheet for **MAXROAD®**.

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

Product characteristics	
<i>CE Marking, EN 1504-3</i>	
Description. Hydraulic cement mortar (CC) for non-structural repair of concrete. Uses: Building and civil engineering works	
Principles / Methods. Concrete restoration by applying mortar by hand (Principle 3-CR / 3.1)	
General appearance and colour	Grey powder
Density of powder, (g/cm ³)	1,20 ± 0,10
Mixing water, (% by weight)	15 ± 1
Application and curing conditions	
Minimum application temperature for substrate and ambient, (°C)	> 5
Setting time at 20 °C & 50 % R.H., (min)	
- Initial	15-20
- Final	20-25
Curing time for road traffic at 20 °C & 50 % R.H., (h)	2
Cured product characteristics	
Density for cured and dry mortar, (g/cm ³)	2,04 ± 0,10
Requirement for repair products, EN 1504-5 (Class)	Class R3 / Structural
Compressive strength at 2/4 hours and 1/7/28 days, (MPa)	16,0/25,0/30,0/40,4/42,8
Flexural strength at 2/4 hours and 1/7/28 days, (MPa)	4,0/5,0/5,5/6,1/6,5
Chloride ion content, EN 1015-17 (% by weight)	0,003
Adhesive bond on concrete at 28 days, EN 1542 (MPa)	2,0
Carbonation resistance, EN 13295, d _k (mm). Control concrete 4 mm	2,3
Elastic modulus, EN 13412 (GPa)	15,6
Thermal compatibility	
- Part 1: Freeze-thaw, EN 13687-1 (MPa)	2,3
- Part 2: Thunder shower, EN 13687-2 (MPa)	2,9
- Part 4: Dry cycling, EN 13687-4 (MPa)	2,5
Capillary absorption, EN 13057 (kg/m ² ·h ^{0,5})	0,01
Reaction to fire, EN 13501-1 (Euroclass)	A1
Resistance to freeze/thaw cycling	
Flexural/Compressive strength after 20 cycles, (MPa)	7,3 / 52,5
Appearance	No physical changes
Thickness / Consumption*	
Thickness per layer as pure product, (mm)	10-50
Consumption per layer as pure product, (kg/m ² ·mm)	2,0

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

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. 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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