MAXRITE® FLOOR

FIBER-REINFORCED FLUID MORTAR FOR STRENGTHENING AND STRUCTURAL CONCRETE REPAIR

CE

DESCRIPTION

MAXRITE® FLOOR is a one component fluid shrinkage-compensated mortar made of special cements, selected aggregates, and reinforced with both metal and polypropylene fibers. It is specially designed for structural concrete repair where high strength is required, strengthening of slabs at the top by increasing of compression layer, and for anchoring rods and rebars in concrete.

MAXRITE® FLOOR meets the requirements of R4 Class according to EN-1504-3 and the requirements for rebars anchoring according to EN-1504-6.

APPLICATION FIELDS

- Repair and strengthening of slabs, which require an increase of thickness or section recovery.
- Anchoring of rebars and steel bars in concrete and prefabricated elements.
- Structural reinforcement by pouring in reinforced concrete slabs, ceramic vault slabs, wooden slabs, mixed slabs, etc. by increasing of compression layer.
- All kind of structural concrete repair by pouring into formwork with high thickness or high volume, such as columns, beams, retaining walls, piles, etc.
- Installation and grouting of wind turbines.
- Filling of steel column bases and beam support in bridges.
- Repair and strengthening of compression layers on slabs.
- Reconstruction and levelling by the top of abacuses and pillar bases.
- Repair of concrete pavements.
- Anchoring of bolts, cables, etc.
- Filling of machinery foundation between concrete and steel plates.

ADVANTAGES

- No welded wire mesh required for structural reinforcements placed at the top of the slab.
- High early mechanical, flexural and compressive strengths.
- High abrasion and impact resistance.
- Good adhesion on substrate, i.e. structurally integrated, and withstands repeated loads.
- Great cohesion for mixed product.
- Waterproof and very good resistant to water, oil, grease, and other chemicals.
- Unchangeable at extreme temperatures once set.
- Shrinkage-compensated mortar with no risk of cracks.
- It does not contain chlorides or others corrosive agents for reinforcements.

APPLICATION INSTRUCTIONS

Preparation of the surface

Concrete to be repair must be structurally sound, firm, without cement laitance and as uniform as possible, and preferably with a slight roughness. Remove all damaged and loose concrete until getting sound concrete and, sawcut the edges perpendicularly to the surface to a minimum depth of 10 mm.

Expose all corroded reinforcement, removing all the concrete until the edges of the bars are not affected by rust. Remove concrete all around the reinforcement for an efficient cleaning and to surround it with a minimum thickness of at least 1 cm. of ***MAXRITE® FLOOR***. Eliminate rust by wire brush, needle gun, sand or shot blasting, etc. Apply by brush the oxide converter and anti-corrosion protector ***MAXREST® PASSIVE*** (Technical Bulletin No. 12).

Surface must be clean and free of dust, grease, salts, curing or de-moulding agents, paints or other films, etc. Prior to application of ***MAXRITE® FLOOR***, dampen the exposed surface until saturated but do not leave free-standing water.

Mixing

MAXRITE® FLOOR is mixed only with clean water, free from contaminants, a 25 kg bag of ***MAXRITE®***

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FLOOR requires about 2,75 to 3,25 litres (11-13% by weight). Place all the mixing water in a proper recipient and then pour the powder gradually while mixing mechanically for 7 minutes by low-speed drill (400-600 rpm) equipped with disc ***MAXMIXER***, until achieving a lump free homogeneous mortar. These mixing ratios are only indicative and should be checked depending on the desired consistency and the existing temperature conditions. Place the mortar within 10-15 minutes after mixing.

Application

Applications of ***MAXRITE® FLOOR*** for structural reinforcements by increasing of compression layer require the use of a previous structural epoxy bonding agent such as ***MAXEPOX® BOND***, applied on the prepared concrete surface by brush or roller with a consumption of about 0,3-1,0 kg/m^2. Place ***MAXRITE® FLOOR*** in the open time interval of ***MAXEPOX® BOND*** (2 hours at 20°C). If open time of the epoxy bonding agent is exceeded and the product is dry, it must be removed by mechanical means and be applied again.

For non-structural applications, prime the surface with ***MAXPRIMER® FLOOR*** for best bond before the placement of ***MAXRITE® FLOOR.*** Dilute 1 part of ***MAXPRIMER® FLOOR*** and 3 parts of water and apply a homogenous and continuous coating. Very porous surfaces may require the application of two or three coats, allowing a setting time between coats of about 10-15 minutes. Allow the primer to set completely and become tack-free (3-4 hours at 20°C approximately) and then place ***MAXRITE® FLOOR.***

MAXRITE® FLOOR is placed simply pouring by gravity directly from the mixing container. In order to avoid cold joints and minimize the chance of air entrapment, ***MAXRITE® FLOOR*** should be placed in a continuously way and also in one direction from one side to the other. If it is necessary, a manual vibration element can be used in order to help to fill the volume, but an excessive vibration must be avoided as it may cause bleeding and air entrapment. It is highly recommended to use a spiked roller before the initial setting of the product to remove entrapped air on surface. In fillings under plates, air vents should be provided to facilitate the exit of air from the space to be filled.

Application conditions

Optimum working temperature is between 10°C and 25°C. At high temperature conditions it is recommended to mix with cold water and keep the material in shade. Cool the formwork with cold water.

Do not apply to substrate or ambient temperatures below 5°C or 24 hours after application. Do not apply the grout on frozen or frosted surfaces.

Curing

Curing procedures should begin immediately after placement. Provide a moist curing by fogging at least the first 24 hours, protecting with wet burlaps or rags covered with plastic sheeting, or using a quality curing agent such as ***MAXCURE®*** (Technical Bulletin No. 49). These curing procedures must be observed mainly with high temperature (>25°C), low relative humidity (<50%) and/or windy days. Protect against freeze during curing-time.

Cleaning

Tools and equipments should be cleaned immediately with water after use. Once it sets, can only be removed by mechanical methods.

CONSUMPTION

A 25 kg bag of ***MAXRITE® FLOOR*** fills a volume from about 12,5 to 13,5 litres, depending on the mixing water (0,5-0,54 l/kg). About 1,85-2,0 kg per square meter and mm of thickness.

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

IMPORTANT INDICATIONS

- Do not use leftovers to prepare a new mix.
- Do not use high speed mixers which may cause a violent mix. Do not over mix.
- Do not add cement, aggregates or other compounds.
- Do not exceed maximum thickness recommended per layer.
- Do not apply on substrates vitrified or enamelled or treated with water repellent agents. Do not apply on bituminous materials, metals, wood, plasters or paints.
- Observe at least 28 days of curing time for new concrete and mortar before application.
- Setting-time is measured at 20°C, higher temperature reduces setting-time and lower temperature delay setting-time.
- In contact with water or ground with sulphates, residual water, or sea water, use the type ***MAXRITE® FLOOR ANTISULFAT***.
- For any other application not specified in this technical bulletin consult our Technical Department.

PACKAGING

MAXRITE® FLOOR is supplied in 25 kg bags.

STORAGE

Twelve months in its original unopened packaging, in a dry and covered place, protected from frost and humidity with temperature above 5°C.

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SAFETY AND HEALTH

MAXRITE® FLOOR is non-toxic but it is an abrasive compound. Avoid eye and skin contact. Rubber gloves and safety goggles must be used during the application. 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 ***MAXRITE® FLOOR*** is available by request.

Disposal of the product and its empty packaging must be done by the final user and according to national regulations.

TECHNICAL DATA

Product characteristics	
CE Marking, EN 1504-3 Description. Structural repair mortar for concrete structures in building and civil engineering works. Type CC and Class R4. Principles / Methods. Concrete restoration by recasting with concrete or mortar (Principle 3-CR/3.2). Structural strengthening by adding mortar (Principle 4-SS/4.4). Preserving or restoring passivity by increasing cover to reinforcement with mortar (Principle 7-RP/7.1), and by replacing contaminated concrete (Principle 7-RP/7.2). *CE Marking, EN 1504-6* Description. Structural repair mortar for concrete structures in building and civil engineering works. Type CC for anchoring of rebars. Principles / Methods. Installing bonded rebars in preformed or drilled holes in concrete (Principle 4-SS/4.2).	
Appearance and colour	Grey powder
Maximum aggregate size, (mm)	1,2
Apparent density for powder, (g/cm^3)	1,30 ± 0,10
Mixing water, (%, by weight)	12 ± 1
Application and curing conditions	
Minimum application temperature for substrate and ambient, (°C)	> 5
Pot life, (min)	45 - 60
Setting time at 20ºC and 50% R.H., (h)	2 – 3
Bleeding	None
Expansion, (%)	0,05
Cured product characteristics	
Cured product density, (g/m^3)	2,10 ± 0,1
Compressive strength at 1 and 28 days, EN 12190 (MPa)	69,7 / 116,2
Flexural strength at 1 and 28 days, (MPa)	9,8 / 13,1
Chloride content, UNE-EN 1015-17:2001, (%, by weight)	≤ 0,05
Adhesion on concrete, EN1542, (MPa)	≥ 2,0
Elasticity modulus, EN 13142, (GPa)	≥ 20
Consumption*/ Thickness	
Minimum/Maximum thickness per layer, (mm)	10 / 100
Estimated consumption, (kg/m^2 per mm thickness)	2,2 ± 0,1

* 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

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. 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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