DRIZORO® Construction Products

CONCRESEAL® -5

EPD® CE
ENVIRONMENTAL PRODUCT DECLARATION

LEVELLING AND REPAIR MORTAR FOR COSMETIC RESTORATION OF MORTARS AND ARCHITECTURAL CONCRETE UP TO 5 mm

DESCRIPTION

CONCRESEAL®-5 is a polymer-modified and cement-based single component mortar. It is specially designed for both superficial cosmetic repair and levelling of renders and concrete surfaces in very thin layers and feather edging, with a maximum thickness up to 5 mm. Meets Class R3 according to European Standard EN-1504-3.

APPLICATION FIELDS

- Restoration and levelling of deteriorated surfaces in concrete and prefabricated elements: damages produced for de-moulding, breaks in the edges, small fissures, filling of honeycombs and small voids, gravel pockets, plasters, etc.
- Cosmetic/non-structural repair of concrete elements with surface finish defects.
- Restoration on masonry and bricks.
- As base for fixing of isolation boards over concrete, screeds and masonry.
- Protective coating on concrete and mortars against abrasion and mechanical damages.

ADVANTAGES

- Good adhesion on all cement-based surfaces. No primer or bonding agent is required.

- Surface appearance similar to the original concrete.
- Good thixotropic behaviour. It can be used on vertical or horizontal substrates.
- Odourless, non-toxic formula.
- Water and weather resistant.
- Only requires water for mixing.
- It can be coated with waterproofing mortars and decorative protective coating such as ***MAXSEAL***® range products and ***MAXSHEEN***® range products, respectively.

APPLICATION INSTRUCTIONS

Surface preparation

The substrate to be repaired or levelled must be sound, clean, and free from dirt, remains of paints, gypsum, efflorescence, as well as form de-moulding agents, curing agents or any product, which could affect the adhesion. Before the application of ***CONCRESEAL***®***-5***, all cracks and fissures must be opened up at least 2 cm in depth and filled with any repair mortar.

In case of superficial non-structural steel elements are present, concrete around must be removed and the steel elements cut to a depth of 2 cm and finally, the opened area must be patched or repaired. For an efficient treatment, expose all structural reinforcement affected by corrosion, removing all concrete around them at a depth of 2 cm. These reinforcements should be cleaned of rust and scale and then, coated with ***MAXREST***® ***PASSIVE*** (see Technical Bulletin No. 12) oxide converter and anti-corrosive protection. In order to fill the area, repair mortars such as ***MAXREST***®***, MAXRITE***® ***500*** or ***MAXRITE***® ***700***.

Dampen the surface to be repaired thoroughly with clean water in order to saturate it before applying ***CONCRESEAL***®***-5***, but leave no free standing water.

Mixing

Pour clean fresh water in a container and gradually add ***CONCRESEAL***®***-5***. A 25 kg bag requires from 4 to 5 litres of water, according to both weather conditions during application and desired consistency. Mix until a homogeneous -free of lumps-thick mortar is achieved.

Mix the amount of ***CONCRESEAL***®***-5*** that can be applied within 40 minutes. Mixing is best done by mechanical means such as a slow speed mixing drill (400-600 rpm) or manually. Allow the mixture to rest for two to three minutes and then, remix briefly prior to application.

If ***CONCRESEAL***®***-5*** losses its workability during its application, remix it again but do not add water.

Application

CONCRESEAL®***-5*** must be applied by trowel. For large areas, it can be applied also by spray equipment. The recommended application are layers with maximum thickness up to 5 mm.

If it is required, when ***CONCRESEAL***®***-5*** starts to set (from 1 to 3 hours, depending on ambient conditions) the surface can be finished with a sponge, wood, or plastic float.

Application conditions

Do not apply ***CONCRESEAL***®***-5,*** if rain or contact with water, humidity, condensation, dew, etc. is expected during the 8-24 hours following the application.

The optimum temperature range for application is from 10 to 25°C. In winter, do not apply ***CONCRESEAL***®***-5*** below 5°C or if such temperatures are expected within 24 hours after the application. Do not apply the mortar on frozen or frosted surfaces.

In environmental conditions with cold temperatures, do not wet the surface excessively, as a precautionary procedure.

For applications with both hot temperatures and/or windy condition, i.e., summertime, the surface must be dampen with plenty of water and use ***MAXCRYL***® to mix the mortar. Avoid direct sun exposure in extreme heat.

Curing

Avoid fast drying of ***CONCRESEAL***® ***-5***, keeping the mortar moisture for at least 24 hours after application, by spraying a fine mist water spray, without washing it, or by using polyethylene sheets or wet burlap.

A curing time of at least 7 days is estimated under environmental conditions of 20°C and 50% R.H. Lower temperatures and/or higher. H. values will increase curing time.

Cleaning
All tools and equipment should be cleaned immediately with water after use. Once it hardens, can only be removed by mechanical means.

CONSUMPTION

Estimated consumption for ***CONCRESEAL®* -5** is 1,5 kg/m^2·mm thickness.

This consumption is 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.

IMPORTANT INDICATIONS

- Allow new concrete and mortars a curing time of 28 days before application.
- Do not apply on water-repellent, vitrified, or enamelled substrates, nor on bituminous materials, metal, wood, plaster, or paint.
- Do not add cements, additives, aggregates, or other compounds.
- Use the recommended mixing ratios. Otherwise, colour differences may occur on the coated surface.
- Do not mix more material than can be used within 40 minutes.
- Do not use leftovers from previous mixes.
- To keep the workability, remix the fresh mortar but never add more water.
- Observe the minimum and maximum recommended figures for consumption and thickness.
- For better curing, keep ***CONCRESEAL® -5*** moist for 24 hours after application.
- For other uses not specified on this Technical Bulletin or further information, consult the Technical Department.

PACKAGING

CONCRESEAL®-5 is supplied in 25 kg bags. It is available in grey and white colour.

STORAGE

Twelve months in its original unopened and undamaged packaging. It must be stored in a dry and covered place, protected from humidity, freezing, and direct exposure to sunlight, with temperatures above 5°C

SAFETY AND HEALTH

CONCRESEAL® -5 is not a toxic product but is an abrasive composition. 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 ***CONCRESEAL® -5.***

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

TECHNICAL DATA

Product characteristics	
CE Marking, EN 1504-3 Description. Non-structural repair mortar for concrete structures in building and civil engineering works. Type PCC and Class R3. Principles / Methods. Concrete restoration by applying mortar by hand (Principle 3CR/3.1)	
General appearance and colour	White or grey powder
Maximum aggregate size, (mm)	0,5
Mixing water, (%, by weight)	18 ± 2
Application and curing conditions	
Minimum application temperature for substrate and ambient, (ºC)	> 5
Pot life at 20 ºC & 50 % R.H., (min)	40 - 45
Setting time at 20 ºC & 50 % R.H., (h) - Initial - Final	 2 - 3 4 - 5
Curing time at 20 ºC & 50 % R.H., (d)	7
Cured product characteristics	
Density for cured and dry mortar, EN 1015-10 (g/cm^3)	1,8 ± 0,1
Requirement for repair products, EN 1504-5 (Class)	Class R3
Compressive strength at 28 days, EN 12190 (MPa)	> 25 (34,7)
Flexural strength at 28 days, EN 1015-11 (MPa)	6,0
Chloride ion content, EN 1015-17 (%, by weight)	≤ 0,05
Adhesion on concrete at 28 days, EN 1542 (MPa)	≥ 0,8 (2,0)
Elastic modulus, EN13412 (GPa)	> 10,0 (15,6)
Thermal compatibility. Bond strength after 50 cycles (MPa) Part 1. Freeze-thaw, EN 13687-1 Part 2. Thunder shower, EN 13687-2 Part 4. Dry cycling, EN 13687-4	 ≥ 0,8 (2,7) ≥ 0,8 (3,1) ≥ 0,8 (2,1)
Elasticity modulus, EN 13142 (GPa)	>10
Capillary absorption, EN 13057. w (kg/m2·h0,5)	≤ 0,5 (0,1)
Abrasion resistance. Taber abrasion Test. ASTM D-4060 Weight loss (g)/Wear Index H-22 Wheel, 1 kg load and 500 cycles H-22 Wheel, 1 kg load and 1000 cycles	 2,2 / 4,4 4,7 / 4,7
Reaction to fire, EN 13501-1 (Class)	A1
Thickness / Consumption	
Minimum-Maximum thickness per layer, (mm)	1,0 – 5,0
Consumption (kg/m^2·mm thickness)	1,5

*Consumption may vary depending on the texture, porosity, and conditions of the substrate, as well as the application method. Preform an on-site test to know its exact value.

GUARANTEE

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