TECHNICAL DATA SHEET

IZONIL HARD C-020

COARSE WATERPROOF RENOVATION PLASTER

Industrially dry-mixed 100% waterproof breathable plastering mortar based on Portland cement, silica sand, unique additive (Izocomponent), reinforced with PP fibers for external and internal use.

DESCRIPTION

100% waterproof plastering mortar (resistant against water pressure 1 bar / 0.1 MPa with water penetration less than 1 mm) and drying plastering mortar (with high volume of micropores which allows permanent dehumidifying process of wet substrate). Meets the requirements of EN 998-1:2016 as general purpose mortar and as renovation plaster (except for parameter Compressive strength: CS IV). Provides long-term solution to a problem of water penetration on the surface of the wall (when applied on negative side) and long-term solution to a problem of water penetration to the wall (when applied on positive side) and simultaneously provides long-term solution of ventilation and drying of wet walls (when applied both on negative and positive side). It does not contain any harmful or toxic ingredients (suitable to be used in direct contact with drinking water).

ADVANTAGES

- ⊙ World-unique plastering mortar simultaneously 100% waterproof, breathable and drying
- ⊙ Resistant against penetration of rain water and running water
- ⊙ Resistant against penetration of water under pressure up to 1 bar (tested according EN 12390-8)
- ⊙ Water penetration less than 1 mm under 1 bar water pressure during 72 hours test
- ⊙ Meets requirements for general purpose plastering mortar (EN 998-1:2016)
- ⊙ Meets requirements for renovation plastering mortar (EN 998-1:2016) except for parameter Compressive strength: CS IV
- ⊙ Highly breathable (water vapor diffusion coefficient < 8)
- ⊙ Excellent adhesion to the substrate with minimum waste during application
- ⊙ Suitable as finishing layer before painting (grain size 0 - 2 mm)
- ⊙ Resistant against salt crystallization and sulphur-resistant
- ⊙ Applicable on damp surface
- ⊙ Applicable manually or by plastering machine
- ⊙ Applicable above-ground and underground, externally and internally, positive and negative side
- ⊙ Non-toxic, suitable to be used in direct contact with drinking water

USAGE

- ⊙ Vertical surfaces (brick walls, light concrete block walls, rough concrete walls)
- ⊙ Horizontal surface (concrete floors and concrete roofs)
- ⊙ Both for renovation of existing / historical buildings and new buildings:
- ⊙ Basements, cellars, shafts and underground parts of buildings
- ⊙ Wall plinths or whole wall areas internally and externally
- ⊙ Roof decks, balconies, terraces
- ⊙ Bathrooms, showers, toilets to prevent water penetration between floors
- ⊙ Concrete water tanks, swimming pools, fish ponds or other concrete water-storage facilities

TECHNICAL DATA

Appearance / color	Powder / grey
Chemical composition	Silica sand, Portland cement, natural additive Izocomponent, PP fibers
Size of silica sand particles	0 - 2 mm

Packaging	25 kg paper bag
Shelf life	Minimum 18 months if stored in dry conditions
Water / powder ratio	4.0 - 4.7 liters of clean water / 25 kg of dry plaster
Pot life / workability	Minimum 3 hours (at temperature 20 °C)
Thickness of layer	One layer from 10 mm to 15 mm, maximum 3 layers with total thickness 30 mm
Coverage / consumption	At thickness 10 mm 1 m^2 = 12.5 kg of dry plaster 25 kg of dry plaster = 2 m^2 At thickness 20 mm 1 m^2 = 25 kg dry plaster 25 kg dry plaster = 1 m^2

PARAMETERS TESTED ACCORDING EN 998-1:2016

TEST PARAMETER	MEASURED VALUE	TEST METHOD
Flow of fresh mortar after mixing	160 mm	EN 1015-3
Workable life of fresh mortar	≥ 180 minutes	EN 1015-9, method B
Dry bulk density of hardened mortar	1600 kg/m^3 ± 100 kg/m^3	EN 1015-10
Compressive strength after (28 days)	≥ 6 N.mm^{-2} (CS IV)	EN 1015-11
Flexural strength after (28 days)	≥ 1.6 N.mm^{-2}	EN 1015-11
Adhesive strength of hardened mortar on substrate	≥ 0.3 N.mm^{-2} - FP a)	EN 1015-12
Capillary water absorption (R-renovation)	≥ 0.3 kg / m^2	EN 1015-18
Capillary water absorption (GP)	W_C2	EN 1015-18
Water penetration after capillary water absorption test	≤ 1 mm	EN 1015-18
Water penetration depth under pressure 1 BAR (0.1 MPa)	≤ 1 mm	EN 12390-8 *
Thermal conductivity (Tab. value)	≤ 0,45 W/m.K (P=50%)	STN EN 1745, tab. A.12
Water vapor permeability coefficient (μ)	≤ 8	EN 1015-19
Durability (coefficient of freeze / thaw after 10 cycles)	> 0.85	STN 72 2452
Reaction to fire	A2 - s1, d0	Without testing
Release of dangerous substances to environment	Existence of SDS	Safety Data Sheet (SDS)
Specific activity of ^{226}Ra	9.0 ± 1.6 Bq.kg^{-1}	Gamaspectrometry analysis
Index of specific activity of radionuclides	< 1	Gamaspectrometry analysis

***** Note: Discrepancy to unified method was used, the samples of IZONIL HARD C-020 were exposed to water pressure 1 BAR (0,1 MPa) instead of 5 BARs (0,5 MPa). The reason is that testing method EN 12390-8 (Testing hardened concrete, part 8: depth of penetration of water under pressure) is designed to test concrete, not plastering mortar. We used lower water pressure to test depth of penetration of water under pressure of product. Water pressure 1 BAR (0,1 MPa) is equivalent to pressure of water column with height 10 meters.

SURFACE PREPARATION

The plaster is designed vertical substrates (brick walls, light concrete block walls, rough concrete walls) and horizontal substrates (concrete floors and concrete roofs).

The substrate must be solid, clean and deprived of loose parts, dirt, oil, grease, dust, cement grout, old plasters, paints or other contaminants.

The substrate must be thoroughly moistened immediately before applying the fresh plaster mixture and subsequently it is recommended to apply cement adhesive bridge (Portland cement mixed with water) on the substrate. The thickness of the

cement bridge should not exceed a few millimeters. The plaster is applied prior to hardening of the cement bridge.

MIXING

It is advisable to use a gravity mixer or hand-held electric mixer to mix the plaster. Water is always added first, 4.0 - 4.7 liters of water per 25 kg of dry plaster. Nothing else is added into mixed composition.

Gravity mixer: Add the prescribed amount of water into the mixer first (4,0 - 4,7 liters of clean water / 25 kg of dry plaster) and while slowly mixing, add the content of the bag into the mixer. Continue mixing until plaster turns into a homogeneous smooth mass. Recommended mixing time is 10 minutes using low rotation speed of the mixer.

Hand-held electric mixer: Add the prescribed amount of water into a suitable mixing container (4,0 - 4,7 liters of clean water / 25 kg of dry plaster) and add content of the bag into the container. Recommended mixing time is 5 minutes using low rotation speed of mixer 500-600 rpm) until plaster turns into a homogeneous smooth mass. Let the plaster rest for 5 minutes and then mix again for 1 minute prior to application. It is recommended to use mixed material within 3 hours.

APPLICATION

Plaster is applied manually (using standard tools for plastering) or by a plastering machine pump (it is important to set up and test fresh mixture for specific type of machine pump before application).

Although plaster contains PP fibers for elimination of surface hairline cracks, it is recommended to use fiberglass mesh to overlap sensitive areas (connection of 2 different materials, e.g. bricks and concrete, corners of walls, corners of windows and doors, connections of walls and floors etc.). It is also possible to use fiberglass mesh for whole applied area. Recommended specification of fiberglass mesh is 5 mm x 5 mm (size) and 145 g / m^2 (weight).

Fiberglass mesh is applied close to the final surface. First apply approx. 70% of total thickness of plaster (e.g. 7 mm at 10 mm total thickness), then gently press fiberglass mesh with trowel into fresh layer of plaster and immediately apply the rest 30% of total thickness of plaster (e.g. 3 mm at 10 mm total thickness).

Connections (cold joints) are done by overlapping. In practice, the edge of plaster is finished in a tapering manner (10 cm) and when application continues (e.g. the next day), plaster is overlapped. In case of transition between wall and floor there are two options. First option is to finish the wall application 20 cm above the floor (including 10 cm for overlapping) and in the next step apply remaining 20 cm wall portion (including overlapping) and apply 20 cm floor portion at the same time. The detail of transition between wall and floor is done in rounded manner (not 90° angle). Second option is to apply plaster on 20 cm floor portion (including 10 cm for overlapping) immediately after wall application is done and finish the transition between wall and floor in rounded manner. In the next step, plaster is applied on the floor by overlapping.

Plaster is applied in maximum 3 layers with total thickness maximum 30 mm. Total thickness is determined by the degree of moisture load in the substrate and by requirement of layer thickness to align the surface of the wall. One layer is applied in total thickness 10-15 mm. Coverage of 25 kg plaster is approximately 2 m^2 at thickness 10 mm or 1,5 m^2 at thickness 15 mm. Before application of next layer, it is recommended to slightly roughen the surface of previous layer. Each layer is applied at least after 24 hours since previous layer was applied. In case of application 2-3 layers, it is enough to use fiberglass mesh in last layer in manner described above.

Surface of plaster is finished in the same way as ordinary cement-based plasters by foam trowel. We recommend to apply plaster at the temperatures from +5°C to +25°C. Do not apply if freezing weather is expected. Do not apply the plaster in direct sunlight and / or strong wind or rain.

CLEANING

Clear water is used for disposal of plaster for the tools and equipment. Hardened material can be disposed only in a mechanical way.

CARE AFTER APPLICATION

It is necessary to prevent the plaster from too fast drying since the optimal moistness enables permanent hydration of cement materials and minimization of cracking. Protect freshly applied plaster prior to rapid drying using appropriate protective methods for at least 48 hours, especially at dry and windy weather, or when exposed to direct sunlight. If the plaster is applied inside, it is necessary to ensure proper ventilation of the room to ensure optimal conditions for drying process (not earlier than 72 hours after plaster application). If plaster is used in the basement / cellar, we recommend to ensure sufficient and constant air circulation in the basement / cellar.

FINAL COATING / PAINTING

It is recommended to let plaster dry for at least 3 weeks before final coating. Surface of plaster can be coated with interior / exterior coat or paint. It is recommended to use highly breathable - diffusion-open decorative coatings / paints (e.g. silicate paints, lime-based paints). Check the suitability of the coating / paint with distributor / retailer.

In case tiles are used, it is recommended to roughen the surface of plaster and use usual tile adhesive to stick tile to the surface. Grout for tile gaps should be breathable (not silicone-based) to preserve breathability of the surface.

IMPORTANT

At plastering of extremely moist substates with plaster, aggregation of water drops onto plaster surface can occur. It is inherent forcing the water out of vicinity and the drops will disappear when the plaster gets hard.

Individual parameters of preparation, mixing and application of plaster stated in this data sheet could vary by country, conditions and climate where the product is used. It is important to adjust parameters for specific conditions of usage. Please contact us in case of any questions regarding the usage of IZONIL HARD C-020 (by email izonilsl@gmail.com or through website www.izonil.eu where you can also find video tutorials for preparation and application).

LIMITATIONS AND WARNINGS

⊙ No additives other than pure water are added to the product
⊙ The product is not applied at direct sunlight and / or strong wind or rain
⊙ The product is only applied on a solid, pre-prepared substrate
⊙ The freshly applied plaster must be protected from rain for at least 24 hours
⊙ The newly applied plaster must be protected from direct sunlight for at least 48 hours
⊙ If the plaster is applied inside, it is necessary to ensure proper ventilation of the room for optimum drying of the wall
⊙ If the plaster is applied in the basement / cellar, it is necessary to ensure sufficient and constant air circulation
⊙ Mixed product can only be processed at air and substrate temperature above +5 ° C and below +25 ° C
⊙ With the expected freeze, it is not recommended to use the product
⊙ Potable water or water according to EN 1008: 2003 is used for mixing of the product
⊙ Unused plaster remnants are mixed with water and allowed to cure - can be disposed of as construction waste
⊙ Dispose of contaminated packagings as hazardous waste (see safety data sheet)

LEGAL NOTICE

The information and, in particular, the recommendations relating to application and final use of IZONIL products are provided in good faith, resulting from the present knowledge and experience with the products when properly stored, handled and applied under normal conditions in accordance with the recommendations of MASTER BUILDER, s.r.o. or its distributors. As long as the use and processing of the product is not subject to our direct influence, we will not be liable for any damages caused by its misuse. We reserve the right to make changes resulting from technical progress.

FIRST AID, SAFETY AND HYGIENIC RULES

Detailed safety and health information as well as detailed precautions are provided in the IZONIL HARD F-010 safety data sheet.

MANUFACTURER

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