BEALSTONE® POWDER BEAL PRODUCTS

Powdery binding material for « Granito / Terrazzo » coatings

PRESENTATION

DESCRIPTION

Off-white powder based on different hydraulic binders, such as very high performance, pre-mixed lime cements. Hardening and anti-fracture additives are added extras.

When mixed with **BEALSTONE® LIQUID**, it forms a slightly thixotropic liquid mass that enables to add the aggregates, chosen according to their colour and their grain size.

INDOOR AIR QUALITY*
A+
A+ A B C
*ISO 16000/AFFSET

AREAS OF APPLICATION

Inside and outside. Decorative and technical designs.

For coatings for floors, walls, furniture, worktops and bathrooms, subject to the load.

CE

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BEALSTONE® POWDER
Mineral Terrazzo/ Granito SYSTEM
15
Dop : BSP1998.1- 2018

EN 998-1 (2010)
NB1136 – NB1173

ADVANTAGES

- Mineral
- Continuous coating
- Load with high water resistance
- Adjustable thickness, ranging from 2mm to various cm depending on the aggregates and the technical requirements
- Resistant
- High adherence
- Relative flexibility (subject to the thickness of the granules chosen)
- Infinite range of shades and combinations.
- Wet and/or dry sanding
- Easy application

TECHNICAL CHARACTERISTICS

IDENTIFICATION INFORMATION	
State	Solid
Aspect	Powder
Colour	Off-white
Grain size	Max 0.9 mm
Apparent density (at 20°C)	1.43 kg/L
Packaging	20 kg net bags
Storage	6 months in a dry place, protected from frost and without contact with the ground, in the sealed, original packaging. Never leave the product in direct sunlight.
Customs classification	38 16 00 00
APPLICATION INFORMATION	
Mixing ratio	300 ml of **BEALSTONE® LIQUID**/kg of **BEALSTONE® POWDER** (to be adapted to the pigment quantity and hygrometry of the granulate)
Consumption	Variable, subject to the desired thickness and the granulate.
Thickness per coat	Variable, subject to the desired thickness and the granulate.
Application temperature	+5°C min to +30°C max
Air humidity	65% min and 90% max Prohibit the use of devices that remove the humidity from the air (dehumidifiers, air conditioners, etc) 1 week before and after worksite, as well as during the application of the mix.
Humidity of the substrate	< 3%
Opening time (at 20°C)	About 20 min
Drying time (at 20°C)	Dry to the touch: 1h Slight circulation: 8h Between the coats: 8h to 24h Slight practicability: 72h Completely dry: 7 days

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FINAL SPECIFICATION (AFTER 28 DAYS)[1]	
Compressive strength NBN EN 1015-11	23.2 N/mm² (with marble aggregates) CS IV 30.4. N/mm² (with granite aggregates) CS IV
Bending strength NBN EN 1015-11	9.4 N/mm² (without aggregates) 7.7 N/mm² (with marble aggregates)
Adhesion NBN EN 1015-12	2.1 N/mm²
Dureté superficielle NBN EN 13892-6	39 N/mm² (with marble aggregates) 42.2 N/mm² (with granite aggregates)
Puncture resistance - Brinell hardness NBN EN 1534	10 N/mm² (without aggregates) 6 N/mm² (with marble aggregates)
Chloride content	0.01% masse
Water absorption by capillarity NBN EN 1015-18	C = 0.03 kg/(m².min$^{0.5}$) W2
Resistance to water vapour NBN ISO 12572	μ = 108
Thermal conductivity EN 1745:2002 (E)	λ = 0.61 W/Mk (P = 50%) et 0.66 W/Mk (P = 90%)
Abrasion resistance - BCA wear EN 13892-4	20 µm (without aggregates) Class AR 0,5 80 µm (with marble aggregates) Class AR 1/DF
Fire resistance EN 13501-1	A_2 S_1 d_0
Indoor air quality (COV) ISO 16000	A+
Slip resistance (without protection) DIN 51130 DIN 51097	with marble aggregates R9 A+B+C
Slip resistance (with protection) DIN 51130 DIN 51097	OIL: R9, A+B+C Repeloil: R9, A+B+C Brushed: R11, A+B+C

APPLICATION

SUBSTRATE AND PREPARATION

The substrate must be sound, dry before and after installation, clean, dull, devoid of dust and grease. It must be hard, frost resistant and chalking resistant.

BEALSTONE® adheres to a wide range of substrates:

- Mineral substrates: mortars, screeds, concretes, masonry renders, and masonry renders based on cement, matt tiling, etc.
- Reconstituted timber or water-repellent agglomerates such as MDF (Medium)
- Polystyrene or polyurethane panels covered with a reinforced cement rendering or cement fibre panels.
- Plaster, normal or water-repellent plasterboard.
- Tests on glass and metal have also been carried out successfully.

For any other substrate, carry out tests.

If the substrate is made of materials of different natures, or materials that are unstable and/or seals (e.g.: tiling), it is essential to take the necessary precautions to avoid, as far as possible, any movement due to expansion, or to the difference of the surface and internal tensions, and to shearing, to know and to choose:

[1] Results obtained in standard conditions. Some data may still be modified, according to atmospheric conditions.

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- Reinforcement netting or reinforced textile mat at junctions
- Reinforcement netting used for sealing.
- Special textile mortar adhesive matting in the corners
- Separation membranes over the whole area

It is essential to ensure that the substrate has a good stability. If you have any doubt, contact us. Carrying out a test is always recommended.

In order to make the absorption uniform, apply the primer and undiluted **RESIDUR** adhesion bridge on the substrate. On glass, gloss tiling and smooth surfaces, use the **RESIPACT G** primer after depolishing. Once the primer has dried, after around 6 to 8 hours – according to the porosity of the substrate and the site conditions – start the application of **BEALSTONE®**.

PREPARATION OF THE LOAD

It is possible to use loads from the **BEAL LOAD** range, intended for **BEALSTONE®**, as well as local loads. Always do a test beforehand.

The load must be clean.

1. NON POROUS LOAD: No treatment.
2. POROUS LOAD: Soak porous loads in a **BEALSTONE® LIQUID** solution and clean water, using the ratio 1:1. Adapt the solution quantity to saturate the load. Aim: to ensure that the humidity rate is the same for all the loads.

A load volume of 1 - 1½ is required per volume of **BEALSTONE® POWDER**.

When there are no more surface bubbles, drain with a sieve and store.

PREPARING THE MIXTURE

Mix 20 kg of **BEALSTONE® POWDER** with 6 L of **BEALSTONE® LIQUID**.

Pour 6 L of **BEALSTONE® LIQUID** into a clean basin and gently mix in 2/3 of the **BEALSTONE® POWDER**. Mix at a slow speed (400 to 600 t/min) with a mortar paddle, while mixing in the remaining 1/3 of the powder until you obtain a homogeneous mortar without any lumps.

To colour the powder, add the powdered pigment to the mixing liquid or to the powder, at your discretion. Pass the pigment through a fine tammy strainer if necessary. In order to avoid problems, only use the pigments from the **BEAL COLOR** range that are intended for **BEALSTONE®**.

Always counterbalance the pigment in the mixing liquid, depending on the porosity of the pigment (½ to ¾ of the volume of the pigment in the **BEALSTONE® LIQUID**). Example: If 500 ml of pigment are added to the mix, 250 - 375 ml of additional **BEALSTONE® LIQUID** must also be added, i.e.: 6.25 to 6.375 L of **BEALSTONE® LIQUID** per 20 kg bag of **BEALSTONE® POWDER**.

Add the drained load. Any load may be chosen, provided that the loads are stable and not subject to deformation.

Mix well together.

To delay the hardening of the product, add the **RBE3** (1.6 to 8 ml/kg **BEALSTONE® POWDER**) beforehand in the **BEALSTONE® LIQUID** mixing liquid and mix before adding the powder. To make the mix more liquid, add **FBE3** (2,2 to 4,4 ml/kg **BEALSTONE® POWDER**) under the same conditions. Never use both these additives in a single mixture.

At a temperature of 20°C, and additives excluded, the mortar can be used for around 20 minutes. Low temperatures increase application time and high temperatures reduce it.

USE

Always use **RESIDUR** or **RESIPACT G**, unless there is risk, or presence, of humidity in the substrate.

First pour the mixture in the corners of the walls.

Roughly spread the product, covering the entire surface, until the fresh product reaches the edges and corners.

Use a ruler as you would for screed. Use a trowel if necessary.

Let it dry for a minimum of 48 hours.

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SANDING - POLISHING

1. Roughening
   Use diamond grinders. Depending on the drying time of the **BEALSTONE®**, start with an adapted grain size (60-80, 120-140 and/or 220-240). The longer the drying time, the more aggressive the grinder.

2. Polishing 1
   Use diamond resin pads. Start with a grain size 36, followed by 60.

3. Hole-filling 1
   Ensure filling with the **BEALSTONE® POWDER SYSTEM.** This step focuses on filling the holes caused by sanding and the air bubbles that have been trapped in the mixture. Let it dry during 1 to 2 hours, at 20°C.

4. Hole-filling 2
   Ensure filling with the **BEALSTONE® PASTA SYSTEM.** This step focuses on filling the holes still present after hole-filling 1. Let it dry during 1 to 2 hours, at 20°C.

5. Polishing 2
   Use diamond resin pads. Using 100 grit, remove the **BEALSTONE® PASTA** layer. Continue polishing with 200, 400 800, etc. grains until the desired result is achieved.

For each step, and each disk change, always start with the borders (perimeters) before moving inwards to the central zone.

PROTECTION

BEALSTONE® has a microporosity surface, like a natural stone, which can be protected from aggression in order to maintain the initial appearance or modify it.

This protection can be done after polishing, ensuring that the surface has been washed and left to completely dry beforehand.

POINTS OF ATTENTION

Strictly follow the application protocols according to the intended use of the product. Never use products other than those specified in this technical data sheet to avoid any risk of incompatibility or failure.

For the same project and product type, always use materials with the same batch number. Make sure to use only original, unopened bags.

Always carry out tests with the chosen protection, as each pigment and each protection react differently.

ADDITIONAL INFORMATION

CLEANING TOOLS

All the tools can be cleaned using water, as long as the product has not hardened. If the product has already started to harden, leave the tools to soak for 30 minutes in water before cleaning.

WARNINGS

The sites must be protected against rain, sun, wind and frost until completely dry.

In closed and poorly ventilated spaces, large amounts of condensation may be produced after application, due to the relatively lower temperature of the walls. Immediately increasing ventilation will resolve this problem quickly. The use of dehumidifying devices is not advised within the 28 days following the application of the mix.

It is strongly advised against applying substrates containing salts (sodium sulphate, nitrates, calcium, etc.).

ADVICE

BEAL strongly recommends following one or more training courses on **BEALSTONE®/MORTEX®** brand products, depending on the purpose of the site. The company organizes frequent training courses, of different types (according to the different

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application systems) at its headquarters or on the premises of its distributors. They are accessible to both professionals and individuals alike, in Belgium and abroad (see www.bealinternational.com).

After attending training courses, private coaching sessions on site can be organized. For more information, contact us.

ENVIRONMENT

Dispose of in a specialized waste collection center.

SAFETY

Contains lime, cement, silicates and additives. Avoid inhaling the powder when mixing. Protect your skin and eyes. Wear gloves. In case of contact with eyes or skin, directly rinse thoroughly the area with clean water. In the event of a problem, consult a specialist.

The safety data sheet is available on request or at www.bealinternational.com

LEGAL INFORMATION

The technical instructions and in particular the recommendations about how to apply and use the products are provided in good faith and are based on the current knowledge and experience acquired by BEAL about its products when they are properly stored, handled and applied under normal conditions. In practice, variations in the various materials, substrates and specific conditions encountered on site are such that adhering to this information or to any written recommendation or advice given does not deliver any guarantee of marketable quality other than the statutory guarantee against hidden defects. We accept no liability should the customer fail to adhere to our instructions or recommendations when applying a product. None of the data and information provided relating to the use and application of our product releases customers from the requirement to conduct their own checks and tests. All orders are accepted subject to our current general terms and conditions of business. It is essential that users read the most recent version of the instructions for the product in question, which will be sent to them on request.

The manufacturer reserves the right to modify the above information over time while maintaining the product's characteristics.

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