

Technical Datasheet

Pozzolana® 935S – Version 3.0 – English – Revision: 15.8.2020



Pozzolana® 935S

HYBRID MINERAL SILICATE SELF-LEVELING BINDER FOR FLOOR UNDERLayment.

Pozzolana® 935S is one-component hybrid binder which is designed for the purpose of creating an economical self-leveling underlayment with the ability of fast settings, good strengths and low shrinkage.

The surface after finishing is used as a smooth, homogeneous, stable substrate to receive resilient flooring such as vinyl, linoleum, carpet, etc. or thin resinous coating (epoxy, polyurethane, etc).

Pozzolana® 935S can be applied in thickness of 3mm - 40mm in one single application by self-leveling.

Properties

- High flow ability, fast setting and minimal waiting time.
- Low shrinkage (DIN EN 13454), swelling, natural crazing or cracks
- Water vapor permeable, no water stagnation in humid weather.
- Any practical thickness is possible in one layer.
- Easy and fast in application, can be applied by machine.

Technical information

Strength class (DIN EN 13813)	CT-C40-F8
Abrasion resistance (BCA)	AR 0.5
Application temperature	+10°C to +40°C
Workability time @ 20°C	approx. 30 minutes 3mm
Application thickness	- 40mm / 1 layer
Load capacity (curing @ 25°C)	
Walkable/ ready for covering	after 12 hours
Light load	after 1 day
Fully loadable	after 7 days
Water mixing ratio	3.80 – 4.0 liters / bag 20kg
Strength (DIN EN 13892)	
Compressive strength	min. 35 N/mm ²
Flexural strength	min. 6.5 N/mm ²
Bonding strength	min. 1.5 Mpa
Slip resistance (DIN 51130)	
Original	R10 R11-R13
Consumption	1.8 kg/m ² /mm.
Density	
Bulk density	approx. 1.1 kg/dm ³
Fresh mortar density	approx. 2.0 kg/dm ³
Original colors	natural light grey
Chemical resistance	pH 3 – 14
	pH 0 – 14 (with Pozzolana® 140SS)
Heat resistance	-40°C to 500°C
Fire rating (DIN EN 13813)	A2

Range of usage

- Indoor and outdoor applications, areas with variable temperatures and require fast application, or require application of different thickness to level a surface.
- Can be applied in all industrial, residential, and public facilities projects.

Packaging, shelf life and storage

- 20 kg paper bags.
- The shelf life of 9 months from the date of manufacture is printed on the packing.
- Store in a cool, dry area with stable or controlled temperature (not < 0°C, preferably 10°C - 25°C). Place products on a pallet, at least 300mm above the floor. Reseal opened immediately after taking a portion for use.

Application design system

- Primer Pozzolana® 120 APM or equivalent
- Underlayment Pozzolana® 935S (or variant product)
- Second Primer Pozzolana® 120 APM or equivalent or primer which are recommended for topping layer
- Protection Sealer Pozzolana® 400S/500S/600S coatings or other types of surface materials.

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Preparation of substrate

Substrate surface prior to application of Pozzolana® 935S should satisfy the following conditions:

- Substrate surface prior to application of Pozzolana® 935S shall satisfy the following conditions:
- Can be applied to 1-day old new concrete. The concrete must be stable, shall not vibrate or crack and ensure sufficient compression strength of ≥ 25 MPa.
- The substrate surface shall be dry, clean and free of all kinds of impurities.
- Old substrate surface preparation using methods such as shot blasting, scarifying or grinding is recommended.
- Existing structural cracks must be professionally repaired.
- Do not apply across the expansion joints which shall be kept in the new overlay. Saw cut joints shall also be sealed with Pozzolana® 115JFC or suitable materials.
- For porous and water-permeable substrate surfaces, apply Pozzolana® 120 APM primer. When applying primer, ensure that the substrate surface is fully sealed to avoid air bubbles being formed in the self-leveling screed and also to prevent water in the Pozzolana® 935S layer from penetrating into the substrate, which may affect product flowability and finished surface quality.
- Wait for the primer to dry within 1-2 hours then apply the self-leveling layer. In case the primer has been dried for more than 6 hours, it is necessary to reapply new primer before starting the coating. The drying time of the primer may vary depending on temperature, humidity and environment conditions. In some special cases, it is necessary to make a sample of at least 1m² to test the adhesion to existing substrate. Please refer to the product technical datasheet of Pozzolana® 120 APM for more information.

Mixing and apply Pozzolana® 935S

Water Mixing Ratio

For this product, use 3.80 – 4.0 liters of clean water for the original 20kg Pozzolana® 935S – equals to 19 – 20% by weight. The amount of water may change (more 1% maximum) depending on the application conditions at the site.

Mixing

Use adjustable high-speed batch mixers, especially those designed specifically for mixing self-leveling screed, blending powder with water. Please refer to the mixers provided by manufacturers such as CONCRETE, PORTAMIX, COTOLIMIX, etc. For small applications use hand-held mixer of at least 600RPM fitted with Helix paddle or Collomix DLX 152 HF.

- Step 1. Turn on the mixer, keep at slow speed, slowly pour the Pozzolana® 935S binder into the mixing bucket that has enough water for a period of 30 seconds to 1 minute.
- Step 2. Switch the mixer to high speed (≥ 600 RPM) and keep mixing continuously for 2 minutes. Use a hand shovel or hand trowel to brush off the powder on the mixing drum surface and mixing paddle.
- Step 3. Turn off the mixer and wait for 1 – 2 minutes. This time will allow the binder to react sufficiently with water and help to release the air from mixture.
- Step 4. Continue mixing at medium speed for 1 minute to ensure the binder and water are completely mixed. With manual processing an aeration time of up to 1 minute is recommended between the end of the mixing and pouring of the material. This minimizes rising air bubbles within the poured material.

Note:

In case of mixing with additional materials such as sand or aggregates, can pour those materials into the mixing drum together with the binder at Step 1 or can pour those materials into the mixing drum after Step 3 and before Step 4. For large volume application it is recommended to premix the sand in the factory

Application

- Step 5. Spread mixed material evenly on the floor. It is important to ensure the continuity of the previous and next batch to avoid the case that the previous one has dried up before the next one is applied which may lead to cold joints.
- Step 6. Use the level spreader and self-leveling gauge rake to lay the mixture with the specified thickness on the floor surface. For narrow areas, confined space or edges shall use a notched trowel to spread the mixture to ensure enough thickness.
- Step 7. Use a spike roller to roll evenly over the surface to help break air bubbles and make the surface more even. Always roll in crises - cross directions and avoid rolling too quickly that could slip or cause material splashes to undesired places. Do not roll on areas where the mixture has begun to set.
- Step 8. Use either hand trowel or soft steel straight-edge trowel to smoothen the entire surface to eliminate spike roller marks if required.

Topping layer application

- In case of using other Pozzolana® products as a topping, it is necessary to reapply the primer on the finished underlayment surface to ensure it is sealed against water penetration to avoid air bubbles being formed in subsequent layer.
- In case of using other coating materials, it is necessary to apply a suitable primer for those products. Surface preparation on the finished underlayment surface may be required to remove the fine cream on the surface as well as to provide the appropriate roughness required by the coating products.
- Please refer carefully to the technical documents of other products before using.

Application tools and cleaning

- Use clean equipment for mixing and application.
- Adjustable high-speed batch mixer or screed pump, spike shoes, spike roller, smoothing squeegee, gauge rake, hand trowel, level spreader.
- All application machines and tools should be cleaned immediately with clean water after use. Wastewater and spilled materials need to be collected and handled properly to ensure safety for the environment and people.
- Clean hands and skin immediately after use with an industrial hand cleaner. Use clean potable water to clean all tool immediately after use.

Attention

- Always apply Pozzolana® 120 APM primer or equivalent on surfaces which is to receive Pozzolana® silicate mortars including repaired spots or filled joints before starting the next topping.
- Always use spike shoes to walk on poured surface during application.
- The floor surface after application must be protected from drying too quickly (away from wind or high temperatures) for at least 24 hours. Do not cover the finished surface during this time. In case of application outdoors, in direct sunlight or in areas with strong winds, it is necessary to cover the application areas against the risk of surface drying too quickly.
- In the case of using a pump mixer or a combination of a batch mixer and a screed pump, the instructions for use of these machines shall be carefully read.
- Products need to be applied by professional applicators that have been trained and certified by production company or authorized partners. Finish product quality may vary depending on the management skills, experience, technical understanding, workmanship, application equipment and tools of each applicator.

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Safety Information

- Wear a dust mask when mixing Pozzolana® 935S.
- Suitable gloves and eyes protection shall be worn at all times. Should the product come into contact with the eyes, wash immediately and seek medical advice.
- Please refer to the Safety Data Sheet for further information on safety during waste transportation, storage, handling and disposal. Follow the instructions on the package and related documentation.

Note

Always carefully read the application instructions for the above products before applying. Before adding any additional material should always test and do trials before applying on site. As materials in different locations often have different properties that can make a difference on the quality of the final product.

Other applications not covered by this document may be supplemented or made available upon request.

Disclaimer

The content of this technical data sheet corresponds to the latest developments and our experiences. All information is based on ideal conditions and therefore may not be completely accurate in actual construction. Due to different types of materials, surfaces and actual construction conditions, no guarantees are given for application. In particular, we are not liable for this information or any verbal statements. The only exception is when we can be blamed for wilful or negligence in liability. In that case, the customer must prove that he has fully and promptly transmitted all necessary information to GCM Global for examination and resolution. Any other details relating to the construction of our products must be confirmed in writing by GCM Global. The customer must check the suitability of the product for the intended application and purpose. We reserve the right to change the specifications of products due to ongoing development. In addition, our general terms and conditions are valid. This product documentation supersedes all previous technical data on this product. Technical Data Sheet can be found on our page at www.Pozzolana.world.



GCM GLOBAL JSC

3/20 Bearing Rd Seven Hills NSW 2147

support@Pozzolana.world
www.Pozzolana.com.au



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