

SOLIDKOTE SILO

Elastomeric Cementitious Coating

DESCRIPTION

SOLIDKOTE SILO is a two-component polymer modified cementitious coating. The product has been designed to be easily mixed on-site using a slow speed drill and paddle, and then applied to the substrate using a brush, roller or airless spray application. **Solidkote Silo** cures to form an elastomeric impermeable membrane.

ADVANTAGES

- Approved for use in contact with potable water.
- Withstands high positive and negative hydrostatic pressures.
- Ingress of CO₂ is equivalent to 5-6 metres of concrete applied at 3mm thick.
- Effective barrier to sulphates and chlorides and low pH
- Excellent crack accommodation after immersion.
- Long working life.
- Bonds to green or damp concrete
- Easy application by brush, roller or spray.

USES

- Protection and repair of silos
- Waterproofing of new and old silos, internal and external
- Anti - carbonation coating for concrete structures.

PROPERTIES OF MIXED MATERIAL

Pot life at 10°C	2 hours
20°C	1 hour
30°C	30 minutes
Colour	Sandstone grey
Nominal coverage	2kg/m ² /1mm thick (minimum 2 coats required)
Minimum application temperature	5°C
Maximum application temperature	40°C
Resistance to	In excess of 10 bar positive water pressure (100m) 4 bar negative pressure (40m)
Note	Solidkote Silo will bridge an existing static crack up to 0,3mm
Chloride ion diffusion equivalent concrete	No penetration
Curing time	7 days @ 7°C 3 days @ 20°C and above

SUBSTRATE REQUIREMENTS

- Substrate screeds are recommended to be Grade 2 concrete or of 20MPa compressive strength or higher with minimum pull off strength of 1.5 N/mm²
- All surfaces to be suitably prepared using grinders, shot blasting or scarifiers to remove laitance
- Substrate screeds must be clean and free of oily residues and friable material
- The substrate should be dry to 75% RH (BS 8204) and free from rising damp or ground water pressure.

- Porous substrate screeds must be sealed with a primer such as SOLIDKOTE UP Epoxy Primer, SOLIDKOTE ROBUST CLEAR (See Datasheets)

not apply the coating when the substrate is wet, but allow the water to soak in until the substrate is just visibly damp before proceeding. Any excess water should be removed using a sponge.

MIXING

The liquid component should be poured into a plastic or metal drum having a volume of at least 20 litres. This should be placed onto a plastic sheet to avoid contamination. The powder component is gradually added to the liquid whilst mixing with a Paddle Mixer or other approved spiral paddle attachment on a variable speed drill. Mixing is continued, constantly moving the paddle around the drum, until a lump-free slurry is obtained. This should take a minimum of 3 minutes and a maximum of 5 minutes.

Note: The preferred drill speed is between 280 and 640 r/min.

Mixing warning

Solidkote Silo may exhibit satisfactory handling characteristics even though inadequately mixed. This will result in a significantly lower level of performance or possible failure. It is therefore essential that mixing instructions are strictly adhered to with particular emphasis on the time of the mixing operation.

COVERGARE

Typical coverage rate: 8m²/15 kg for 1mm wet film thickness. The coverage figure given is theoretical due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced.

A minimum coverage of 2 kg/m²/mm applied in not less than two coats is recommended.

APPLICATION

Pre-wetting of substrate

Thoroughly dampen the substrate surface with water using a brush, roller or spray bottle. High porosity substrates will require more dampening than dense substrates. Do

General

The first coat should be applied at a wet film thickness of 1mm (coverage per coat is 1,8 kg/m²). To ensure the correct thickness is achieved, measure out an area (for example 200 m²), then calculate how much material will be needed to cover this area. Monitor the coating thickness during application at regular intervals using a wet film gauge. Care must be taken to attempt to fill all imperfections such as blowholes during application. If not they can be filled while the coating is still fluid by using a dry sponge. If the coating has dried before these imperfections are found they can be filled using fresh material. Allow first coat to cure for a minimum of 4 hours at 20°C/50% RH and longer at lower temperatures or higher humidities. The exact drying time will depend on surface temperature, relative humidity and air movement. High temperatures and/or low humidity will reduce the drying time. This can vary from 1-16 hours. The maximum ambient temperature for application is 40°C. The first coat should be left to dry until firm and unmarkable to the touch. There is no maximum time between coats, however the surface may need cleaning with water prior to application of the second coat. No curing membrane is necessary, however, the freshly applied coating should be protected from rain. No curing membrane is necessary.

Brush application

The most suitable type of brush is a soft-bristled wallpaper paste brush (120 to 220mm wide) . Where larger areas are to be applied it is advisable to use a brush with a handle. Load the brush up well and spread the material to the required thickness. If the brush begins to drag during application, do not add water to the material but dampen the surface again. Finish in one direction for a neat appearance. For floor application, a soft-bristled broom is recommended. Pour the material onto the substrate and then spread to the required thickness.

Roller Application

Application by roller has the benefit of speed over brush application, particularly on smooth substrates. A good quality medium hair roller is recommended. The roller should be well loaded for ease of application. A heavy roller pattern will be left, therefore it is important to use a finishing tool to produce a smooth coating with a uniform 1mm wet film thickness.

Finishing Tools

A finishing tool may be required to produce a smooth finish or to repair film defects. Examples of suitable tools include a steel plastering trowel, a caulking tool and a hand sponge. All of these must be used immediately after coating application, otherwise the coating may drag or tear. When using a hand sponge it should be dry or very slightly damp. A wet sponge should not be used as this will cause polymer to come to the surface of the coating which causes a unsightly white streaky effect.

CLEANING

Immediately after application is completed, clean all tools and equipment with clean water. Hardened material can be removed by mechanical means. Waste material should be allowed to harden overnight then disposed of as non- hazardous waste.

PROTECTION ON COMPLETION

Allow a minimum cure time of equivalent to 7 days at 7°C (3 days at 20°C and above).

This is to ensure the full physical properties are developed.

LIMITATIONS

Solidkote Silo should not be used when the temperature is below 5°C. The product should not be exposed to rainfall or moving water during application or within 4 hours at 20°C. The maximum ambient temperature for application is 40°C. Solidkote Silo should not be used on external surfaces where an aesthetic appearance is critical because differences in environmental conditions during cure may cause colour differences in the final surface. If any doubts arise concerning temperature or substrate conditions, consult our Technical team.

MODEL SPECIFICATION

The waterproofing coating is Solidkote Silo, an elastomeric cementitious coating approved under the UK Water Bylaws Scheme (WRC listed) .Two component polymer modified cementitious anti-carbonation and chloride ion barrier coating and waterproofing coating. The barrier coating shall be a Solidkote Silo, a two component, polymer modified, cementitious compound applied in accordance with the manufacturers recommendations.

Chemicals. The coating shall provide a waterproof, anticarbonation and chloride ion barrier. The compound shall have a resistance in excess of 10 bar positive water pressure and 4 bar negative pressure.

PACKAGING

Solidkote Silo is supplied in 15kg cartons containing 10,2kg grey and white powder in polyethylene bags and 4,8kg liquid polymer in plastic container.

HANDLING & STORAGE

This product has a shelf life of 6 months if kept in a dry cool place in the original packaging. In more extreme conditions this period might be shortened. The liquid component must not be allowed to freeze.

SAFETY

The system is non-hazardous to health and environment. Please consult Health and Safety Datasheets for each product from the Technical department or Representative.

Technical Finishes products are guaranteed against defective materials and are manufactured under high quality standards and are sold subject to its standard Terms and Conditions of sale, copies of which can be obtained on request

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