

MASTERSEAL™ 550

Acrylic reinforced cementitious, flexible waterproof coating

Description

MASTERSEAL 550 is a two component acrylic modified cementitious system that requires only on site mixing forming the ideal coating to waterproof and resurface concrete, masonry, and most other construction materials.

Simply applied by stiff brush, roller, or trowel, it forms a waterproof, flexible coating.

Uses

As a waterproof lining for water retaining structures.

- As a waterproof coating for roofs.
- To provide foundation protection.
- For coating seawater channels.
- To provide protection to concrete surfaces from carbonation and chloride attack.
- Sealing and coating tie bar holes to ensure watertightness.
- For waterproofing and protection against brackish water.
- As a backing to marble and granite to prevent water ingress and thus eliminates surface staining.

Advantages

- A 1mm coating provides anti carbonation cover equivalent to over 80cm of concrete.
- Waterproof-resists up to 7 Bars (70 metre head) of pressure when applied at 2mm DFT.
- Provides barrier to water borne salts.
- Excellent adhesion. Bonds to porous and non-porous surfaces.
- Flexible.
- Non toxic suitable for contact with potable water.
- Suitable for light pedestrian traffic.
- Breathable - whilst repelling water, allows substrate to breathe.
- High resistance to carbon dioxide and chloride ion diffusion.
- Can be applied to 24 hour-old concrete thereby giving immediate protection.

Typical properties

Mixed Density	: 1800 kg/m ³
Mixing Ratio, by weight	: 3:1 (powder: Liquid)
Pot Life	: 120 Minutes at 25°C
	: 30 Minutes at 40°C
Recoatible	: 8 – 12 Hours
% elongation	: >5% (unbonded)
Abrasion Resistance, (ASTM D4060, CS17 wheel)	: 45 mg/1000 cycles
Water penetration (DIN 1048)	: 7 bars - no leakage (at 2mm DFT)
Toxicity	: Non-toxic

Water vapour co-efficient	: >3.64 x 10 ⁻⁴ cm ² /s
Initial surface absorption	: >95% reduction against control
CO ₂ diffusion resistance (Tested by Taywood Engineering, UK)	: R > 357m, Sc > 89cm (1mm DFT), Sc – equivalent concrete thickness
Chloride ion diffusivity	: Zero penetration at 90 days
Chloride ion diffusion co- efficient	: 1.04 x 10 ⁻⁷ cm ² /s
Oxygen diffusion co- efficient (D _{O₂})	: 7.6 x 10 ⁻⁶ cm ² /s

Standard compliance

- BS 1881 Part 5 1983 - I.S.A.T.
- DIN 1048 Water Penetration Test
- Water Research Council - "Suitable for use in contact with Potable Water". BS 476: Part 6 - Fire tests on building material: & structures - Method of test for fire propagation for products.

Specification clause

All exposed concrete surfaces are to be coated with MASTERSEAL 550, a two component reactive polymer composite. The product shall be applied in minimum two coats to achieve total DFT of 1mm. The product shall resist 7 bars pressure when tested as per DIN 1048 at 2mm DFT. The cured coating shall have the following diffusion co-efficient.

Carbon dioxide	4.21 x 10 ⁻⁷ cm ² /s
Oxygen	7.60 x 10 ⁻⁶ cm ² /s
Chloride ion	1.04 x 10 ⁻⁷ cm ² /s

Directions for use

Surface preparation

The surface to be coated must be clean and sound. Remove all traces of formwork, release agents, previous coatings, laitance and any other contaminants that may affect the bond adversely. Suitable cleaning methods include high pressure water jetting and grit blasting. Mechanical wire brushing may be appropriate for small areas. After the above surface preparation, surfaces must be thoroughly washed with clean potable water to remove all dust and loose particles.

Spalled concrete should be cut back to sound concrete and made good with a suitable cementitious repair mortar such as EMACO S48C T. All cracks and bolt holes must be cut out and filled solid with MASTERSEAL 505 or Emaco S48C T.

Mixing

MASTERSEAL 550 is supplied in premeasured units and should be mixed on site utilising clean containers. Slowly add the powder to the liquid and mix, using a slow speed drill fitted with a suitable paddle. Leave the mixed material to stand for 5 minutes to allow for full saturation to take place. Remix to restore the consistency. Do not mix more material than can be used in half an hour.

DO NOT RE-TEMPER WITH WATER.

Application

Always apply MASTERSEAL 550 to pre-dampened surface. High-suction substrates require more dampening than dense substrates. However, make sure there is no free-standing water. Apply by brush or broom. Mixed material must be used within 30 -45 minutes, or less under hot weather conditions.

First Coat: Brush or broom the mix firmly onto the pre-dampened, prepared surface. Care must be taken not to spread the material too thinly. When the material begins to drag or "ball", do not add more liquid/water but dampen the surface again.

Second Coat: Allow at least overnight to cure before applying subsequent coats. Dampen the first coat and remove excess moisture. Brush or broom the mix onto the surface (as above) finishing in the opposite direction to the first coat.

MASTERSEAL 550 can be spray applied but should afterwards be brushed well into the substrate to ensure proper adhesion. To avoid this apply first coat by brush and second by spray application. Finally finish with sponge to get a uniform aesthetic appearance.

Curing

Under hot or excessive drying conditions fog-spray after the initial set has taken place for as long as practicable. In cold, humid or unventilated areas it may be necessary to leave the application for a longer time curing period or to introduce forced air movement. Never use dehumidifiers during curing periods.

Equipment Cleaning

Not hardened material may simply be removed with water.

Coverage

Each square metre will require minimum of 0.9 Kg of mixed material per layer. The coverage rate for each layer will be strongly influenced by the roughness of the substrate.

1.8 kg / m² in two coats to achieve 1 mm thickness.

Packaging

MASTERSEAL 550 is available in 20kg & 6 Kg packs and in white and grey colours.

Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life of the powder is 6 months and liquid is 12 months when stored as recommended.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

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