

MasterSeal[®] 550 (Formerly known as MasterSeal 550M)

Acrylic reinforced, cement-based, flexible waterproof coating

DESCRIPTION OF PRODUCT

MasterSeal 550 is a two-component, acrylic modified cement-based coating that requires only on-site mixing forming the ideal product 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. **MasterSeal 550** provides an effective barrier to waterborne salts and atmospheric gases. Fluid applied, **MasterSeal 550** provides a hardwearing, seamless, waterproof membrane for roofs and foundation protection.

TYPICAL APPLICATIONS

- To reface and even out variations in concrete surfaces
- As a waterproof lining for water retaining structures like water tanks, pools, reservoirs, etc.
- For coating seawater channels
- Sealing and coating tie bar holes to ensure water tightness
- For waterproofing and protection against brackish water
- To provide foundation & retaining walls protection
- As a waterproof coating for roofs
- As a backing to marble and granite to prevent water ingress, and thus alleviate surface staining
- To provide protection to concrete surfaces from carbonation and chloride attack
- For use on pedestrian walkways in marine areas

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
- 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
- Unlike conventional coatings, which require a 7-28 day cure of concrete, MasterSeal 550 can be applied to 24 hour-old concrete, thereby giving immediate protection

PACKAGING

MasterSeal 550 is available in grey and white in 20kg double pack (15kg powder + 5kg liquid).

COMPOSITION

MasterSeal 550 is composed of specially selected cements, silica sand and reactive fillers supplied in powder form together with a liquid component of blended acrylic copolymers and wetting agents.

TYPICAL PROPERTIES

Density:	1800kg/m ³
Toxicity:	Non toxic
Water penetration (DIN 1048):	7 bars - no leakage (2mm dft)
% Elongation:	>5% (unbonded)
Water vapour co-efficient:	>3.64 x 10 ⁻⁴ cm ² /s
Initial surface absorption:	>95% reduction against control R > 357m
CO ₂ diffusion resistance:	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:	DO ₂ 7.6 x 10 ⁻⁶ cm ² /s



We create chemistry

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STANDARDS

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.

Approved by National Organisation for Potable Water & Sanitary Drainage.

CHLORIDE ION DIFFUSIVITY

MasterSeal 550 provides an effective barrier to waterborne salts, such as chlorides and sulphates. Independent assessment has shown that even after 190 days constant immersion, **MasterSeal 550** eliminated chloride diffusivity totally.

CHEMICAL RESISTANCE

MasterSeal 550 has outstanding wear and weather resistance and good resistance to gasoline, diesel oil, sodium hydroxide, calcium chloride, and de-icing salts.

MasterSeal 550 coated surfaces exhibit good resistance to mild acids.

ANTI

CARBONATION COATING

MasterSeal 550 is an extremely effective barrier to atmospheric acidic gases, which cause carbonation in concrete structures. **MasterSeal 550** at an applied rate of 2 kg/m² gives an air diffusion equivalent for carbon dioxide (R) of 357.5 metres. The accepted minimum value for R is 50m. Testing to confirm this was carried out independently by Taywood Engineering 1988. A report is available upon request

APPLICATION PROCEDURE SURFACE PREPARATION:

As with all coating systems, surface preparation is of prime importance. Remove all grease, oil, dust, and residual curing compound, mould release agent or other contaminant that could impair adhesion. Laitance should preferably be removed by light sweep blasting or hydro jetting.

Mechanical wire brushing may be appropriate for small areas.

Spalled concrete should be cut back to sound concrete and made good with a suitable cementitious repair mortar, such as **MasterEmaco S 488**. Conventional concrete curing compounds should be removed before application. Roofing tiles should be firmly bedded and grouted before application.

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. MIX AND USE. Do not mix more material than can be used in one hour.

NOTE: Although **MasterSeal 550** is supplied in pre-measured packs; part packs can be used by mixing ratio 2 volumes of powder to 1 volume of liquid or 3 by weight of powder to 1 by weight of liquid.

Mix thoroughly and keep mixed during application.

DO NOT RE-TEMPER WITH WATER.

APPLICATION: DO NOT APPLY TO DRY CONCRETE

Saturate concrete surfaces with clean water. Whilst still visibly damp, but free of standing water; apply, using a short, stiff bristle brush or roller. Trowel application can be undertaken as necessary. For heavy 6-10mm depressions, honeycombs etc. use less gauging liquid and mix to the desired consistency. Where more than one coat is found necessary, to achieve the desired thickness, apply the second or subsequent coats after the previous coat has dried.

It is recommended, for general re-surfacing, that each coat should be a minimum of 1mm thick. Spray application is recommended for large areas, details of suitable equipment can be provided by BASF's Technical Services Department.

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REINFORCING WITH MESH IF REQUIRED

Mesh is embedded in the first coat when it is still wet.

EFFECT OF WATER PRESSURE

MasterSeal 550 provides a protective waterproof coating. When tested to DIN 1048, **MasterSeal 550** was shown to resist water pressure up to 7 Bars (70 metre head). The degree of resistance of **MasterSeal 550** to water under pressure depends on the coating thickness. These application rates are for continuous water pressure environments.

Pressure	Application rate
3 Bar	4kg/m ²
7 Bar	6kg/m ²

COVERAGE

1.8kg/m² at 1mm thickness

SPECIFICATION CLAUSE

All exposed concrete surfaces are to be coated with **MasterSeal 550**, a two-component reactive polymer composite. The material shall be mixed and applied fully in accordance with the manufacturer's instructions. 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

STORAGE

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage

advice, consult BASF's Technical Services Department.

SHELF LIFE

Up to 12 months if stored according to manufacturer's instructions in unopened containers.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention.

NOTE

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

BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY STATEMENT

All products manufactured by BASF Egypt, or imported from BASF affiliate companies worldwide, are manufactured to procedures certified to conform to the quality, environment, health & safety management systems described in the ISO 9001:2008 ISO 14001:2004 & OHSAS 18001:2007 standards.

* Properties listed are based on laboratory controlled tests.

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