

Masterseal[®]550

Acrylic reinforced cementitious, flexible waterproof coating

Description

Masterseal[®]550 is a two component acrylic modified cementitious coating that requires only on site mixing to form 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 hard wearing, seamless, waterproof membrane for roofs and foundation protection.

- To reface and even out variations in concrete surfaces.
- As a waterproof lining for water retaining structures.
- For coating seawater channels.
- Sealing and coating tie bar holes to ensure watertightness.
- For waterproofing and protection against brackish water.
- To provide foundation 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 80mm 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.

Typical properties*

* Properties listed are only for guidance and are not a guarantee of performance.

Density:	1800kg/m ³
Toxicity:	Non toxic
Water penetration (DIN 1048):	7 bars - no penetration (2mm dft)
% elongation:	>5% (unbonded)
Water vapour co-efficient:	>3.64 x 10 ⁻⁴ cm ² /s
Initial surface absorption:	>95% reduction against control
CO ₂ diffusion resistance:	R > 357m Sc > 89cm (1mm dft) Sc - equivalent concrete thickness
Chloride ion diffusivity:	Not measurable at the end of 190 days testing
Oxygen diffusion co-efficient:	DO ₂ 7.6 x 10 ⁻⁶ cm ² /s



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Masterseal[®]550

Packaging

Masterseal[®]550 is available in 20kg double pack (11 litres).

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.

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.

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 the chloride ion diffusion co-efficient could not be measured for Masterseal 550.

Chemical resistance

Masterseal[®]550 has outstanding wear and weather resistance and good resistance to gasoline, diesel oil, sodium hydroxide, calcium chloride, 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 on request.

Application procedure

Surface preparation

As with all coating systems, surface preparation is of prime importance. Remove all grease, oil, dust, residual curing compound, mould release agent or other contaminant that could impair adhesion.

Laitance should preferably be removed by light sweep blasting or hydrojetting. 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 Emaco R101. Conventional concrete curing compounds should be removed before application. The exception to this is when Masterkure[®]181 has been used. 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 premeasured packs, part packs can be used by mixing 2 volumes of powder to 1 volume of liquid. Mix thoroughly and keep mixed during application. DO NOT RE-TEMPER WITH WATER.



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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 easy 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 resurfacing, 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 Construction Chemicals SA Technical Service Dept.

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).

Coverage

1.8 kg / m² at 1 mm thickness.

Specification clause

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

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

Storage

Store under cover, out of direct sunlight and protect from extremes of temperatures.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult BASF Construction Chemicals SA'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 is 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.

Note

For professional use only

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF Construction Chemicals SA representative. BASF Construction Chemicals SA reserves the right to have the true cause of any difficulty determined by accepted test methods



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Quality and care

All products originating from BASF Construction Chemicals' SA facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001:2000.

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control.

As all BASF's technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.

BASF Construction Chemicals South Africa (Pty) Ltd

852 Sixteenth Road, Midrand
PO Box 2803, Halfway House, 1685
Tel: +27 11 203 2405
Fax: +27 11 203 2679
website : www.basf-cc.co.za

11 Pullinger Street, Westonaria, 1779
P.O. Box 420, Westonaria, 1780
Tel: +27 11 754 1343
Fax: +27 11 754 1105

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