

# MASTERSEAL<sup>®</sup> 525

## Polymer Modified Cementitious, Flexible Waterproofing Coating

### Description of Product

MASTERSEAL<sup>®</sup> 525 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.

Masterseal 525 should be applied to a minimum 2mm thickness in 2 coats.

### Fields of Application

- 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 & 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.
- For fixing tiles in water retaining structures.
- To provide protection to concrete surfaces from carbonation and chloride attack.
- For use on pedestrian walkways in marine areas.

### Features and Benefits

- A 1mm coating provides anti carbonation cover equivalent to over 80 cm of concrete.
- Waterproof-resists up to 7 Bars (7 metre head) of pressure.
- Excellent adhesion. Bonds to porous and non-porous surfaces.
- Flexible.
- 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<sup>®</sup> 525 can be applied to 24 hour-old concrete thereby giving immediate protection.

### Technical Data/Typical Properties

|                                      |  |
|--------------------------------------|--|
| Composition                          | MASTERSEAL <sup>®</sup> 525 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.   |
| Density                              | 1800 Kg/m <sup>3</sup>   |
| Toxicity                             | Very Low Toxicity  |
| Water penetration (DIN 1048)         | 7 bars - No leakage (2mm dft)  |
| % Elongation                         | >5% (unbonded)   |
| Water vapour co-efficient            | >3.64 x 10 <sup>-4</sup> cm <sup>2</sup> /s  |
| Initial surface absorption           | >95% reduction against control   |
| CO <sub>2</sub> diffusion resistance | Sc >89 cms. (1mm dft)<br>Sc - equivalent concrete thickness.   |
| Chloride ion diffusivity             | Zero penetration # 190 days  |
| Chloride ion diffusion co-efficient  | 1.04 x 10 <sup>-7</sup> cm <sup>2</sup> /s   |
| Oxygen diffusion co-efficient        | 7.6 x 10 <sup>-6</sup> cm <sup>2</sup> /s  |
| Chemical Resistance                  | MASTERSEAL <sup>®</sup> 525 has outstanding wear and weather resistance and good chemical resistance to gasoline, diesel oil spillages, sodium hydroxide, calcium chloride, de-icing salts. MASTERSEAL <sup>®</sup> 525 coated surfaces exhibit good resistance to mild acids. |



The Chemical Company

#### Effect of water pressure

MASTERSEAL® 525 provides a protective waterproof coating. When tested to DIN 1048, MASTERSEAL® 525 was shown to resist water pressure up to 7 Bars (70 metre head).

The degree of resistance of MASTERSEAL® 525 to water under pressure depends on the coating thickness. These application rates are for continuous water pressure environments.

| Pressure | Application Rate    | No of coats |
|----------|---------------------|-------------|
| 3 Bar    | 4 kg/m <sup>2</sup> | 2           |
| 7 Bar    | 6 kg/m <sup>2</sup> | 3           |

#### Chloride ion diffusivity

MASTERSEAL® 525 provides an effective barrier to water-borne salts such as chlorides and sulphates. \*Independant assessment has shown that even after 190 days constant immersion MASTERSEAL® 525 eliminated chloride diffusivity totally.

#### Colours

MASTERSEAL® 525 is available in standard 'concrete' grey and a solar reflective white.

#### Application Procedure

##### Substrate quality

Substrates to be treated must be completely clean, structurally sound and mechanically keyed. All substrate coatings, defective renders, foreign matter, formwork treatments and other contaminants that may affect the bond adversely should be removed

##### Substrate Preparation

Substrates should be prepared by abrasive blasting or high-pressure water treatment. *Do not* use scabbling or any other aggressive method.  
All mortar joints to be flush-pointed.  
Repair active leaks with WATERPLUG and any concrete repairs with a suitable product from the Emaco Nanocrete range, as required.

##### Mixing

MASTERSEAL® 525 is supplied in pre-measured units and should be mixed on site in 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:** DO NOT RETEMPER WITH WATER.

##### Application

*Note: Do not apply MASTERSEAL® 525 to frozen substrates or if the ambient temperature is below 5°C or expected to fall below 5°C within 24 hours. Avoid application in direct sunlight.*

Always apply the mix to a pre-dampened substrate.

High-suction substrates require more dampening than dense substrates. Ensure there is no free standing water on the substrate prior to application.

The nominal thickness per coat must be between 1.0 and 1.5mm.

#### Application methods

MASTERSEAL® 525 can be applied by \*THORO BRUSH, or roller.

\* A suitable brush will be 6" (150mm) in width and have a short pile comprising stiff nylon bristles of 3" (80mm) in length.

The first coat **MUST** be worked into the substrate with a stiff brush, while still wet, to ensure an intimate bond to the substrate.

In areas where heavy depressions (6-10mm) or honeycombing are present, the level of gauging liquid should be reduced to form a stiffer mix, which can be applied by trowel. This mortar must be applied firmly onto the substrate to ensure a good bond is achieved.

#### First coat

Apply a first coat of MASTERSEAL® 525 at a minimum thickness of 1mm by brush. Work the mix firmly onto the pre-dampened, prepared substrate by brush. Care must be taken not to spread the material too thinly. When the material begins to drag or "ball", do not add more water, but dampen the substrate again.

Allow at least an overnight cure before applying a second coat. Apply the second coat when the first coat is sound enough to receive it without damage.

#### Second coat

Dampen the first coat and remove excess moisture. Brush the second coat of MASTERSEAL® 525 at a minimum thickness of 1mm, onto the substrate ( as above ) and finish at right angles to the previous coat .

To aid proper coverage the second coat should be a different colour, for example, white on grey. Further coats, if required, should be applied after the previous coat has dried.

#### Subsequent finishes

MASTERSEAL® 525 provides an aesthetically pleasing surface finish, texture dependant on method of application, and does not normally require any further surface finishes.

MASTERSEAL® 525 is however compatible with most forms of subsequent coatings, details of which can be obtained from BASF Construction Chemicals UK technical services department.

#### Packaging



The Chemical Company

MASTERSEAL<sup>®</sup> 525 is supplied in 20 kg packs consisting of a 15kg bag of powder and a 5litre bottle of liquid.

#### Coverage

Approximately 11m<sup>2</sup> per pack in one coat at 1mm thickness.

Coverage is influenced by the roughness of the substrate. On rough substrates the quantities required will increase significantly.

#### Storage

MASTERSEAL<sup>®</sup> 525 should be stored under cover, clear of the ground and stacked not more than 6 bags high. Protect the materials from all sources of moisture, direct sunlight and frost.

#### Shelf Life

Minimum 12 months if stored in unopened containers.

BASF Construction Chemicals (UK) Ltd

PO Box 4

Earl Road

Cheadle Hulme

Cheadle

Cheshire

SK8 6QG

Tel: +44 (0) 161 485 6222

Fax +44 (0) 161 488 5220

[www.basf-cc.co.uk](http://www.basf-cc.co.uk)

MASTERSEAL<sup>®</sup> 525 BASF Construction Chemicals UK Ltd Version 9 – July 2007

#### Health and Safety

\*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

#### Powder Products

Should be handled to minimise dust formation; use light mask if excessive dust unavoidable. Cement powders when wet or moistened can cause burns to skin and eyes which should be protected during use.

#### Resin Products

Can cause irritation, dermatitis or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

#### Spillage

Chemical products can cause damage; clean spillage immediately.

#### Disclaimer:

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.