



Specialist Construction Supplies for Repair, Maintenance, Building & Infrastructure

## MasterSeal 581 Data Sheet

### Specification notes

Product: **MasterSeal 581**

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**MasterSeal 581 Data Sheet**

# MasterSeal 581

## Waterproof Coating for Concrete and Masonry

Approved under regulation 31 of the Water Supply (Water Quality) regulations 2000

BBA approved Certificate no 89/2138/5<sup>th</sup> issue

### DESCRIPTION

MasterSeal 581, when mixed with water or a MasterSeal 600 water blend, provides a waterproof coating to concrete and masonry above and below ground level.

It is applied to a minimum thickness of 2mm in two coats by stiff brush, broom or spray.

### FIELD OF APPLICATION

- Tanking of basements
- Water reservoirs
- Tunnels
- Swimming pools
- Lift pits
- Concrete pipes
- Shower walls and floors prior to tiling

Note: Masterseal 581 is NOT suitable for retaining water with a low calcium hardness or pH of less than 7.2 (refer to MasterSeal 588 for such applications) or for application to horizontal substrates which may be subject to freeze thaw cycles or vehicular traffic.

### FEATURES AND BENEFITS

- DWI approved for use with potable water
- Labour saving, simple and rapid application
- Water vapour permeable
- Allows substrate to dry out
- Is applied to damp substrates
- Applied by brush or spray
- Bonds with concrete and masonry, becoming an integral part of the substrate thereby overcoming hydrostatic pressure
- Non-solvented

### APPLICATION PROCEDURE

For tanking applications refer to the Basement Waterproofing Guide.

### SUBSTRATE QUALITY

Substrates to be treated must be completely clean, structurally sound and mechanically keyed. All surface 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 with MasterSeal 590 and/or MasterEmaco S 420 as required.

All wall/floor intersections to be prepared by cutting a 20mm by 20mm chase along the junctions and filling with MasterSeal 590, finishing in an angle fillet to "round out" the junction.

Water infiltration through the substrate to be treated should be either diverted by drainage or concentrated at weepholes, which will be plugged with MasterSeal 590 after the application of the final coat of MasterSeal 581®

Basements in areas containing high levels of soil or ground water sulphates may require a pre-treatment render. Consult BASF Plc, Construction Chemicals for details.

### MIXING LIQUID CONTENT

MasterSeal 581 mixed with MasterSeal 600 (diluted 1 part MasterSeal 600 to 3 Parts clean water):  
4.8 – 5.6 litres of liquid per 25 kg bag.

MasterSeal 581 mixed with water:  
4.8 – 6.1 litres per 25 kg bag.

The quantity may vary slightly depending upon the ambient conditions. In all instances, it is important that the material is mixed to the correct consistency.

In applications where the MasterSeal 581 is expected to be in contact with hydrocarbons (such as diesel oil, petrol etc.) potable water only should be used as the mixing liquid.

### MECHANICAL MIXING

Blend the powder into the mixing liquid. Use a suitable mixing paddle in a slow speed drill (400 - 600rpm). Let the mix stand for 10 minutes to allow full saturation to take place. Re-mix adding a small amount of liquid if required to obtain the correct consistency.

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### HAND MIXING

Add the liquid to the powder whilst stirring with a trowel or paddle. Let the MasterSeal 581 mix stand for 20 minutes to allow full saturation to take place. Re-mix adding a small amount of liquid if necessary to obtain the correct consistency.

### CONSISTENCY

Do not exceed the maximum liquid requirement.

The material should be mixed to a thick, creamy, lump-free consistency that will just support the weight of the stiff brush.

Mixed material must be used within 60 minutes from the start of mixing, or less under hot weather conditions. Do not re-temper the mix.

### APPLICATION METHOD

Note: Do not apply MasterSeal 581 to frozen substrates or if the ambient temperature is below 5°C or expected to drop below 5°C within 24 hours.

Always apply to a pre-dampened substrate. High-suction substrates will 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.

MasterSeal 581 can be applied by \*brush, broom or spray.  
**MasterSeal 581 must not be applied by trowel.**

\* 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, even when applied by spray.

### Application

#### First coat

Apply a first coat of MasterSeal 581 at a minimum thickness of 1 mm by brush, broom or spray. Work the mix firmly onto the pre-dampened, prepared substrate by brush or broom. After completing 2 or 3m<sup>2</sup>, strike off with the brush or broom in one direction for a neat appearance and to provide a mechanical key for the second coat. 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.

When applying by spray use a 3-4mm nozzle at a pressure of 3.6 - 5.0 bar (50-70lb/in<sup>2</sup>).

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, broom or spray the second coat of MasterSeal 581 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.

If the second coat is to be the final finish, it may be finished with a brush or sponge float to give a uniform surface.

If a cementitious plaster or render such as MasterSeal 586 is to be applied then finish the MasterSeal 581 with horizontal brush strokes to give more grip. In most situations, these can be applied the next day. If this is likely to be delayed for some time, then the MasterSeal 581 should be sand dashed immediately after application to aid adhesion.

**Never use a gypsum based plaster to cover MasterSeal 581 in a tanking application. If a "skim coat finish" is required over MasterSeal 586, use MasterEmaco N 5100 cement based fairing coat. See separate datasheets for information on these products.**

#### Curing

Damp cure for 24 hours after which time the MasterSeal 581 must be allowed to air dry.

In cold, humid or unventilated areas it may be necessary to leave the application for a longer curing period or to introduce forced air movement.

**NEVER** use dehumidifiers during curing periods.

#### Additional Information

MasterSeal 581 stops running water but remains vapour permeable throughout its life. Only vapour permeable coatings and finishes can be applied on to the substrate. In above ground conditions, MasterProtect 330 EL is recommended.

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### FINISHING AND CLEANING

Tools, equipment and spillages should be cleaned immediately with clean water.

### CURING

Damp cure for 24 hours after which time the MasterSeal 581 must be allowed to air dry.

In cold, humid or unventilated areas it may be necessary to leave the application for a longer curing period or to introduce forced air movement.

NEVER use dehumidifiers during curing periods.

### WORKING TIME

45 minutes in 20°C ambient and substrate temperature.

### PACKAGING

MasterSeal 581 is available in 25kg bags or pails.

MasterSeal 600 is available in 20 litre plastic containers.

### COVERAGE

Approximately 15m<sup>2</sup> per bag at 1mm thickness in one coat. Apply two coats. Coverage is influenced by the roughness of the substrate. On rough substrates the quantities required will increase significantly.

### STORAGE

MasterSeal 581 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 and frost.

### SHELF LIFE

Rotate stock in order not to exceed the shelf life of 12 months for MasterSeal 581 and MasterSeal 600. ed the shelf life of 12 months.

### WATCH POINTS

All closed areas such as basements or cellars must have adequate ventilation or condensation on the walls will occur. It is most likely to form in areas, which were previously damp. Increasing the ventilation and/or

plastering the walls with, a lightweight, cement-based renovation plaster can reduce the formation of condensation.

If MasterSeal 581 is used to waterproof fish tanks or swimming pools, it should be washed down after curing is complete with salt water and rinsed with clean water. Repeat the rinsing until the required pH conditions are obtained. Failure to do this and to monitor the pH of the water until stable can lead to the death of fish.

### HANDLING AND TRANSPORT

Usual preventive measures for the handling of chemical products should be observed when using this product, for example do not eat, smoke or drink while working and wash hands when taking a break or when the job is completed.

Specific safety information referring the handling and transport of this product can be found in the Material Safety Data Sheet. For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

Disposal of product and its container should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

### CONTACT DETAILS

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Product Data		
Property	Unit	Data
Density of mixed material	kg/m <sup>3</sup>	approx. 2080
Maximum particle size	mm	0.8
Mixing time	minutes	Approx. 2
Maturing time	minutes	5-10
Workability time	minutes	45 - 60 (+20°C)
Final set time	minutes	350 (+20°C)
Total application thickness in two coats	mm	2
Application temperature (substrate and material)	°C	from +5 to +30 °C
Resistance to negative pressure	bar	4
Water vapour permeability	μ	86 - 120
Adhesive strength	28 days N/mm <sup>2</sup>	2.5
Flexural Strength	28 days N/mm <sup>2</sup>	7.6
Compressive Strength	28 days N/mm <sup>2</sup>	55
Tensile Strength	28 days N/mm <sup>2</sup>	3.7

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MasterSeal 581 - BASF plc, Construction Chemicals, Version 3

### 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.

### Solvent Based Products

Use in well ventilated areas; avoid inhaling. Suitable respiratory equipment may be needed, eg when spraying. Can cause skin, eye irritation. Wear protective eye shields and gloves during use. Do not smoke or allow sparks or naked lights when stored or in 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

"BASF plc, Construction Chemicals" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.