BASF
The Chemical Company

MASTERSEAL® 581 – THOROSEAL

Waterproof polymer cement slurry

DESCRIPTION

MASTERSEAL 581 is a cement based waterproofing material that forms a brushable slurry when mixed with specified quantity of water, for coating on to prepared concrete and masonry surfaces.

The coating cures to form a water impermeable membrane with excellent adhesion to the substrate.

For improved adhesion and performance, **MASTERSEAL 581** can be mixed with a solution of acrylic based polymer such as MASTERSEAL 600 (Thoro Acryl 60). Consult BASF Construction Chemicals for advice.

FIELDS OF APPLICATION

MASTERSEAL 581 is designed to be used as an effective waterproofing membrane on a variety of substrates. Applications include:

- waterproof coatings to the internal faces of water tanks, sumps, reservoirs, planter boxes etc., before tiling or other surface finishing.
- treating terraces, balconies, kitchen & toilet floors as a sandwich treatment, to prevent water ingress.

FEATURES AND BENEFITS

Resistant to weathering	Suitable for use on both exterior and interior surfaces.
Permeable to water vapours	Allows surface to breath, preventing build up of vapour pressure.
Brushable consistency	Easy to apply by brush or spray.
Can be polymer modified	Improved bond strength on a variety of substrates and superior mechanical properties.
Non toxic	Can be applied on surfaces in contact with drinking water.

TYPICAL PERFORMANCE DATA

Tensile strength (ASTM C190-77) @28days	: 3 N/mm^2
Bond to concrete (tensile bond)	: 2.9 N/mm^2
Shore A Hardness, 7 days, (Fed. Spec.)	: 35
Coefficient of thermal expansion (ASTM C 531)	: $5x10^{-7}$ m/mm/°C
Accelerated weathering 5000 hr. (ASTM G26-77)	: no failure
Permeability (ASTM E96)	: 12 Perms
Fungus resistance, 21 days (Fed, Spec. TT-P-29B)	: No growth

PROPERTIES

Supply form		Powder
Colour		Grey (standard) optional: 10 colours
Density of mixed material		: 1.9 kg/L
Pot life	@ 20°C	: 1 hr (approx.)
	@ 30°C	: ½ hr (approx.)
Initial set at 21°C @50% RH (Lab value)		: 10 minutes
Final set at 21°C @50% RH (Lab value)		: 90 minutes
Application temperature		: > 5°C

APPLICATION

Surface Preparation

Correct substrate preparation is critical for optimum performance.

Surfaces should be structurally sound, clean, and free from loose particles, oil, grease, or any other contaminant.

Cement laitence, loose particles, mould release agent, curing membrane, and other contaminants must be removed by wet grit blasting, high pressure water jetting (approx. 150 bars) or such other effective methods. Water soaked substrates should be allowed to dry before application.

Fill surface irregularities such as blowholes, honeycombs etc., with an EMACO® repair mortar to achieve a smooth and level surface.

Dampen the prepared substrate with clean water before applying **MASTERSEAL 581**.

Mixing

Mechanical mixing is necessary. A slow speed (600 rpm), heavy-duty electric drill with a helical paddle is recommended. Place approx. 75% of water in a clean pail. Keeping the mixer running, add **MASTERSEAL 581** slowly. Mix for at least 3 minutes to get a lump-free homogenous mix. While continuing to mix, add the remaining 25% of water or a part thereof until the required consistency is achieved.

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Typical water demand: 4.8 to 5.6 L/25 kg **MASTERSEAL 581**.

If polymer modification is desired for improved bond and mechanical properties, use a 1:3 (by vol.) solution of ACRYL 60 in water in place of plain water.

Placing

It is extremely important that the area being treated is shaded from direct sun rays, and wind to prevent rapid drying of the coating. Do not apply in rain or when rain is expected within 2 - 3 hours after start.

Apply **MASTERSEAL 581** evenly with a stiff brush or by spray, onto the prepared surface, to give a continuous film. Apply in at least two coats, the second coat applied at right angles to the direction of the first and after an overnight's cure.
In case of large areas, **MASTERSEAL 581** can be spray-applied using a worm-gear type of spray equipment. For spraying on vertical or overhead surfaces, use the correct nozzle and adjust the viscosity of the mixed material to prevent sagging. It is necessary to carry out a few trials to adjust the viscosity for spraying.

CURING

Slow drying of **MASTERSEAL 581** membrane ensures homogenous curing and high waterproofing characteristics.

MASTERSEAL 581 must be protected against rapid drying due to high temperatures or wind. Curing by wet burlap, plastic sheet or BASF Construction Chemicals approved curing compound is recommended.

Depending on the substrate profile 1-2m^2/L.

CLEANING

Clean tools and equipment with water, before the adhering material hardens.

ESTIMATING DATA

The minimum recommended coverage is 2.5 kg of mixed material per m^2 to obtain approximately 1 mm thick dry film build in 2 coats. Actual coverage depends upon the method of application, the texture and porosity of the surface.

PACKAGING

MASTERSEAL 581 is available in 25 kg bags.

SHELF LIFE

MASTERSEAL 581 can be stored in tightly sealed original packaging for 12 months from date of manufacture, if kept dry and at constant temperature.

PRECAUTIONS

Health : MASTERSEAL 581 is alkaline like normal cement and can cause skin irritations to persons with sensitive skin. Wear gloves and masks while handling the product. Take all precautions normally taken while handling cement.

Fire : MASTERSEAL 581 is not flammable.

For detailed Health, Safety and Environmental Recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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