

# MasterSeal<sup>®</sup> 511 (Formerly known as RHEOMIX<sup>™</sup> 115)

Acrylic based polymer for making site-batch cementitious protective & waterproof slurry coat

## Description

**MasterSeal 511** is a milky-white, acrylic co-polymer based liquid. **MasterSeal 511** is specifically designed for use with cement compositions. It is used in cementitious slurry as a polymer modifier to increase resistance to water penetration, improve abrasion resistance and durability. It is also used with cement as a reliable water-resistant bonding agent.

## Uses

Typical applications include:

- **Waterproofing and tanking:** Basements lift pits, inspection pits, water towers, liquid tanks, effluent tanks and swimming pools, basements, terraces.
- **Other typical applications:** bonding slurry coat, polymer modified flooring, render key coat, render modification, and patch repair mortars.

## Advantages

- Unaffected by ultra-violet light or contact with water – durable.
- Improved workability of cementitious mixes.
- Lowers water-cement ratio.
- High resistance to water penetration.
- Increases cementitious mix resistance to wear
- Excellent adhesion to a variety of building materials.
- Protects concrete from corrosive elements
- Aids ease of application
- Non-toxic. Can be used with potable water.

## Typical Properties

Aspect	: Milky white liquid
pH	: 9 ± 1
Specific gravity	: 1.01 ± 0.01
Solids, by weight	: 28 ± 1%

## Properties of Polymer modified cementitious slurry

<b>Slurry proportioning:</b>	
Cement	: 5 Kg
RHEOMIX 115	: 2 ½ Kg
<b>Slurry Properties:</b>	
Fresh wet density*	: 1700 ~ 1900 Kg/m <sup>3</sup>
Pot Life*	: 60 min at 25°C 20 min at 40°C
Recoatable*	: 6 – 12 hours
Adhesion to concrete*	: > 1 MPa (ASTM D4541)
Resistance to water head*	: 1mm thick – 4 bar 2mm thick – 7 bar

\*Properties are of typical mix, and may vary depending upon mix constituents.

## Specification Clause

The waterproofing slurry shall consist of **MasterSeal 511** as the polymer modifier. The polymer shall have minimum solid content of 28% by weight. The polymer shall be capable of being used as bonding slurry and shall have pull-off bond strength not less than 1 MPa. The waterproofing slurry to be applied at minimum 1mm thickness in two coats; consisting of cement to polymer ratio of 2:1 by weight. The waterproofing slurry to be protected using **MasterSeal 511** modified render in case of traffic or submerged conditions.

## Directions for use

### Surface preparation

The surface to be coated must be clean and sound. Remove all traces of formwork, release agents, previous coatings, laitance and any other contaminants that may affect the bond adversely. Suitable cleaning methods include high pressure water jetting and grit blasting. Mechanical wire brushing may be appropriate for small areas. After the above surface preparation, surfaces must be thoroughly washed with clean potable water to remove all dust and loose particles.

Spalled concrete should be cut back to sound concrete and made good with using **MasterSeal 511** modified cementitious mortar. All cracks and blow holes must be cut out and filled solid with using **MasterSeal 511** modified cementitious slurry.

**MasterSeal 511** modified waterproofing slurry is suggested only on sound substrate such as reinforced concrete slabs and tanks and do not use for waterproofing leaking brick-bate koba or lime terracing.

## Mixing

Prepare a waterproofing slurry of 1½ to 2 parts cement to 1 part **MasterSeal 511** by volume, mixed to a lump-free creamy, consistency. Take a clean mixing container and fill with the measured quantity of **MasterSeal 511**. Slowly add the cement to the liquid and mix, using a slow speed drill fitted with a suitable paddle. Leave the mixed material to stand for 5 minutes to allow for full saturation to take place. Remix to restore the consistency. Do not mix more material than can be used in half an hour.

## Application

Always apply waterproofing slurry coat modified with **MasterSeal 511**, to pre-dampened surface. High-

dense substrates. However, make sure there is no free-standing water. Apply by brush or broom. Mixed material must be used within 30 -45 minutes, or less under hot weather conditions.

**First Coat:** Brush or broom the mix firmly onto the pre-dampened, prepared surface. Care must be taken not to spread the material too thinly. When the material begins to drag or “ball”, do not add more liquid/water but dampen the surface again.

**Second Coat:** Allow at least overnight to cure before applying subsequent coats. Dampen the first coat and remove excess moisture. Brush or broom the mix onto the surface (as above) finishing in the opposite direction to the first coat.

#### Top protection coat

Top coat is optional and recommended for the permanently submerged conditions or on exposed conditions (subjected to light foot traffic).

Dry-shake quartz sand in the second coat of waterproofing slurry, when still tacky to form anchors for better adhesion of protection coat to the waterproofing slurry. Use MASTERTOP SRA No 1 in place of quartz sand.

Prepare a protection coat of 1 parts cement, 2 part quart sand to 1 part **MasterSeal 511** & ½ part water by volume, mixed to a lump-free creamy, consistency. Apply using flat trowel to the required thickness. (5mm thick render shall require 2 kg of **MasterSeal 511**, 3 Kg of cement, 5 Kg of sand & 1 litre water per m<sup>2</sup>)

#### Repair Mortar

Mix **MasterSeal 511**, cement & quartz sand (Zone II) in 1:5:15 proportion by weight. Add required amount of water to achieve trowellable consistency (no exceeding 30% by weight of cement). Use this **MasterSeal 511** modified mortar for repairs of substrate & filling the cracks; and making vata at the corners.

(20mm thick render shall require 2 kg of **MasterSeal 511**, 10 Kg of cement, 30 Kg of sand & 1-2 litre water per m<sup>2</sup>)

#### Coverage

Consumption depends on application and the profile of the substrate. On fair-faced concrete, 1 mm thick polymer modified waterproof slurry shall require 0.6 – 0.8 Kg of polymer per m<sup>2</sup>.

#### Curing

then allow to dry out slowly. (Note that initial curing is necessary to provide good curing conditions for the hydration of the Portland cement, then the polymer slurry must be allowed to dry out to permit the polymer particles to join together to form the continuous films and strands.)

#### Packaging

**MasterSeal 511** is supplied in 5kg, 20kg & 210 kg.

#### Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF'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 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. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

#### Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

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

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