

# MasterSeal<sup>®</sup> 501

Deep penetrative, reactive, capillary waterproofing system for concrete and mortar

## MATERIAL DESCRIPTION

**MasterSeal 501**, **MasterSeal 502** and **MasterLife 300D** are components of Master Builders Solutions crystalline capillary waterproofing system. These products contain specialist additives that play the role of the catalyst in the formation of water-insoluble crystalline micro-structures deep within the capillaries and interstices of cementitious matrix of concrete and mortars.

As the crystalline capillary waterproofing system enables effective pore sealing it does not rely on film formation on the surface and is not affected by the negative hydrostatic pressure. The system is equally effective against positive and negative water pressure or osmotic pressure.

**MasterSeal 501**, is the most concentrated form of the surface applied Master Builders Solutions crystalline waterproofing system and contains the maximum amount of specialist catalysts. **MasterSeal 501** can be used as a coating or dry shake.

**MasterSeal 502** is a crystalline re-profiling render, which can be used in conjunction with **MasterSeal 501** for patch repairs and as render on old concrete surface.

## AREAS OF APPLICATION

- Water tanks, reservoirs
- Building basements and foundations
- Swimming pools and water parks
- Sewage and water treatment plants
- Dams, canals, tunnels, harbours
- Retaining walls and sea defense walls
- Concrete pipes

## CHARACTERISTICS AND BENEFITS

- Imparts integral water tightness – crystal growth blocks pores and path for water ingress
- Protects from waterborne contaminants – stops contamination of concrete with sulphates and chlorides
- Permanently active – crystalline action is reactivated by contact with water

## PROPERTIES

Form	Free flowing powder
Water/ powder ratio, by weight	0.35
Mixed density	2.0 kg/litre
Recoatable	2 – 4 hours @ 25°C
Open to foot traffic	24 hours @ 25°C
Coverage (as slurry coat)	0.75 - 1 kg/m <sup>2</sup> per coat (375-500 micron WFT)
Coverage (as dry shake)	1 – 2 kg m <sup>2</sup>
AS/NZS 4020 potable water testing	Test results pending

## APPLICATION

It is essential to open up capillary pores for effective penetration of catalysts to foster growth of crystalline micro-structures deeper in the tracts.

Surfaces to be treated must be free from dust, oil, grease, paint, residual curing compound, mould oil or any other previous surface treatment that will impair adhesion of the MasterSeal system or inhibit penetration of the active chemicals or water into the surface. These include polymer modified renders and those substrates treated with silicon or silane water repellents.

Remove any laitance and provide an open pored, slightly rough surface sufficient to act as a mechanical key, essential for adequate adhesion of the MasterSeal waterproofing system.

Areas of weak or honeycombed concrete must be repaired. Hollow de-bonded renders must be removed and made good.

Surfaces to be treated that are not damp, must be pre-wetted and still damp at the time of application.

### Mixing

**Always add water to MasterSeal 501 – not in reverse order.** Add 2/3 of the water to the powder and mechanically mix at 300-600 rpm with a mechanical stirrer with a suitable paddle (Helix or Birdcage are recommended). Once homogeneous add the balance of the water leaving the last 5% for adjusting to the required consistency. Mix for an additional minute.

**MasterSeal 501** will get hot and should not be left in a large volume (such as a whole mixed 20Kg bag) for more than a few minutes as flash setting may occur in hot weather.

Smaller quantities can be mixed as required

**MasterSeal 501:** Mix 1 part of water to 2.0 - 2.25 parts powder by volume or mix between 6.8-7.2 litres of water into 20 kg powder to obtain the desired consistency.

### Application

Apply **MasterSeal 501**, by brush on to the prepared surface in two coats each of 1kg/m<sup>2</sup>, the second coat applied at right angles to the first, 3-4 hours later.

In high water table situations, especially in basement concrete, **MasterSeal 501** is also recommended to be applied as a dry shake on to the PCC just before casting the RCC slab.

For old concrete, brickwork and granulated blocks, replace the second slurry coat with a **MasterSeal 502** render of 5 – 10mm thickness.

Prevent **MasterSeal 501** from rapid drying and keep it damp for 5-7 days by mist spraying of water and covering with polythene sheet. Do not use curing compounds. Screen the area from weathering, sun, frost and wind during the period.

# MasterSeal® 501

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Fill tanks and other water retaining structures 24 hours after final coat as crystal growth is accelerated by water pressure.

## POT LIFE

Pot life will vary depending on the ambient temperature, quantity mixed and placed.

## CURING

Prevent **MasterSeal 501** from rapid drying and keep it damp for 5-7 days by mist spraying of water and covering with polythene sheet. Do not use curing compounds. Screen the area from weathering, sun, frost and wind during the period.

## ESTIMATING DATA

Coverage (as slurry coat) 0.75 - 1 kg/m<sup>2</sup> per coat (375-500 microns WFT)

Coverage (as dry shake) 1 – 2 kg m<sup>2</sup>

One 20Kg bag mixed with 7 litres of water will give a yield of approximately 13.5L

Will coat 13.5 m<sup>2</sup> at 1mm thickness or 27m<sup>2</sup> at 500 micron recommended thickness.

MasterSeal 501				
L	Thickness in mm /m <sup>2</sup>	m <sup>3</sup>	bagss /m <sup>3</sup>	m <sup>2</sup> /mm thickness
13.5	13.5mm	(0.0135)	74	13.5 m <sup>2</sup>

## CLEANING

Use water to clean equipment and tools before the material hardens. Cured material can only be removed mechanically.

## PACKAGING

**MasterSeal 501** is supplied in 20 kg bags.

## SHELF LIFE

**MasterSeal 501** can be stored in original containers for 12 months in controlled environments.

## PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

## DISCLAIMER

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