

MasterSeal®501/502

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

DESCRIPTION

MasterSeal 501 and **MasterSeal 502** are components of Master Builders Solutions's 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 within the Master Builders Solutions crystalline waterproofing system and contains the maximum amount of specialist catalysts. **MasterSeal 501** can be used as a coating, dry shake or as an additive in the concrete or mortar mix.

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.

RECOMMENDED USES

MasterSeal 501 and MasterSeal 502 are used for:

- 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 defence walls;
- concrete pipes.

FEATURES AND BENEFITS

- **Hydrophilic, Imparts integral water tightness to structures.**
- **Protects from waterborne corrosive agents.**
- **Permanently active** –Crystalline action is reactivated by contact with water.
- **Non-toxic and non-tainting**–Suitable for use in potable water systems.

PROPERTIES

MasterSeal 501

Aspect	Free flowing powder
Water/ powder ratio, by weight	0.3
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 ² per coat
Coverage (as dry shake)	1 – 2 kg m ²

MasterSeal 502

Aspect	Free flowing powder
Water/ Powder Ratio, by weight	0.13
Mixed density	2.3 kg/litre
Setting time	4 Hours at 25°C
Coverage (as render coat)	10 kg/m ² @ 4-5mm thickness

APPLICATION

Surface preparation

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 debonded 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 501/502** – not in reverse order.

MasterSeal 501: Mix 1 part of water to 2.0 - 2.25 parts powder by volume or mix between 7 – 8 litres of water into 25 kg powder to obtain the desired consistency.

MasterSeal 502: Mix sufficient water to achieve mortar consistency. Do not add additional water after initial mixing.

Always ensure to mix only sufficient **MasterSeal 501/502** that can be used in 20 minutes.

Application

Apply **MasterSeal 501**, by brush on to the prepared surface in two coats each of 1kg/m², the second coat applied at right angles to the first, 3-4 hours later.

MasterSeal® 501/502

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.

Plugging Leaks

If the surface is leaking, drill holes and fix plastic hoses in them to relieve water pressure. Treat the remaining area with **MasterSeal 501/502**. When surrounding waterproofing is complete, withdraw the hose and plug the hole with **MasterSeal 505**. Using a gloved thumb hold the **MasterSeal 505** mortar in place until set (approximately 1 minute). Fill the remainder of the hole with **MasterSeal 502**. When the mortar has set, complete the waterproofing, lapping slurry coats of **MasterSeal 501** onto the concrete surrounding the hole.

Treatment of construction joints
Treat all the construction joints and insertions using appropriate active watertight system from **MasterFlex** range. Please consult Master Builders Solutions representative for advice.

CURING

Prevent **MasterSeal 501/502** 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. Fill tanks and other water retaining structures 24 hours after final coat as crystal growth is accelerated by water pressure.

PACKAGING

MasterSeal 501 and **MasterSeal 502** are supplied in 25 kg bags.

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 6 months when stored as above.

PRECAUTIONS

It is highly recommended to use necessary PPE (Gloves, mask etc..) during installation of the product. In case of Incidents of direct inhalation, causing dizziness/giddiness, loss of consciousness, contact with eyes etc, seek immediate medical advice. The requirements may vary depending on the application areas. Please ensure to have proper ventilation while working in confined areas. Do not reuse containers for storage of consumable item. Contact Master Builders Solutions representative in case you need further details or refer to the material safety datasheet of the product to know more.

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