

MasterSeal® 590

Fast setting mortar to plug active water leaks in concrete and masonry

DESCRIPTION

MasterSeal 590 is a blend of hydraulic cements, well graded sands and additives supplied in dry powder form. It requires only the addition of clean water to produce a ready-to-use, ultra-rapid setting, plugging mortar.

TYPICAL APPLICATIONS

- Stops active water or seepage under pressure through joints, cracks and holes in concrete or masonry, where a normal mortar would be washed away and resin would not bond.
- For sealing cracks and construction joints in reservoirs and other water-retaining structures.
- For instant sewer connections.
- For rapid anchoring of bolts, conduits, pipes, railings, sanitary equipment, etc.
- Joint filling, pointing between concrete segments in concrete and brick tunnels, sewage systems, pipes and mines.

ADVANTAGES

Durable

- Chloride-free, will not promote corrosion of reinforcement
- Expands as it sets to ensure a permanent watertight seal
- Mechanical characteristics similar to concrete

Cost effective

- Ultra-rapid setting for instant leak plugging.
- Blocks water, no injection equipment required

Easy to apply

- Only to be mixed with water

Environmentally friendly

- Cement based, contains no toxic elements

PACKAGING AND COLORS

MasterSeal 590 is supplied in 5kg can and 25kg pail and available in Grey.

TYPICAL PHYSICAL PROPERTIES*

Typical values. All tests were carried out under temperature controlled conditions of 21°C.

Maximum particle size		0.8 mm
Mechanical strengths		N/mm ²
Compressive	30 min.	13.8
	24 h.	31.0
	7 d.	44.3
	28 d.	52.8
Tensile	28 d.	3.3
Flexural	30 min.	2.7
	24 h.	6.1
	7 d.	6.3
	28 d	7.0

APPLICATION GUIDELINES

Substrate preparation

Preferably, cracks or holes should be cut to a minimum width and depth of 20 mm, cutting the sides as square as practicable. Undercut if possible. Avoid leaving a V section. Do not feather-edge.

For plugging active leaks

Cut out the opening to a minimum diameter of 20 mm or till a sound base is obtained.

For sealing the wall / floor joint in an existing Construction

Cut out the joint/crack at least 20 mm wide and deep, cutting back into the wall slightly.

For sealing the wall / floor joint in a new construction

When designing, foresee an opening situated at the wall/floor joint (20 mm x 20 mm) to be filled with **MasterSeal 590**.

To repair mortar joints and cracks in masonry walls, or cracks in concrete walls.

Cut out the defective mortar joints or cracks to a minimum width and depth of 20 mm. Undercut if possible.

For holes, patches, honeycomb and other construction faults in concrete walls.

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Remove all tie wires, wood or foreign objects by cutting back the concrete from the surface to a depth of 25 mm.

For anchoring bolts or metal posts in concrete or masonry*.

Drill a hole deep enough to secure the bolt or post properly and large enough so there is at least 10 mm on all sides of it.

Flush out holes, joints or cracks with water to remove all loose particles and dust. All surfaces must be dampened with clean water immediately prior to the application of **MasterSeal 590**.

MIXING

Wet density 2.14 kg/dm³

Final setting time 2 – 3 minutes

Mixing liquid

± 0.26 (0.24 – 0.28) litres clean water for 1 kg of Powder

MasterSeal 590 powder should be mixed with clean water by hand only. Mix quickly and well to a stiff consistency using ± 0.26 litres water for 1kg of powder. Do not overmix.

Do not mix more than can be placed within one application, 1 - 2 minutes (at 20°C). Do not re-temper.

Application

For plugging active leaks

Form a plug of the mixed material in the gloved hand until slight setting occurs. Then press **MasterSeal 590** mortar firmly into the opening; exert full pressure, without moving the hand. Hold in place for approximately 60 seconds.

If the opening is too big to be closed with 1 mix of **MasterSeal 590**, work progressively from the sides to the middle, following the above procedure.

After setting, but not completely hardened, trim off excess material in order to create a uniform level with the surrounding surfaces. Remove from centre to sides.

For sealing the wall / floor joint in an existing construction

Fill the opening with **MasterSeal 590** mortar, force into place forming a cove.

For sealing the wall / floor joint in a new construction

Fill the rebate with **MasterSeal 590** mortar, force into place forming a cove.

To repair mortar joints and cracks in masonry walls, or cracks in concrete walls.

Trowel or press into the joint.

For holes, patches, honeycomb and other construction faults in concrete walls.

Fill all holes, patches, honeycombing and other construction faults.

For anchoring bolts or metal posts in concrete or masonry*.

Fill the hole with a putty-like consistent mortar and tamp it down so that the entire hole is full.

Immediately centre the bolt or post over the hole and force it into the **MasterSeal 590** mortar.

Tamp the **MasterSeal 590** mortar firmly around the bolt or post.

CURING

Once the placed **MasterSeal 590** mortar has stiffened sufficiently, dampen with clean water and maintain in a damp condition for a minimum of 15 minutes.

CLEANING

Not hardened material may simply be removed with water.

COVERAGE / YIELD

1 kg of powder will fill 585 cm³ or a joint 20mm x 20mm x 1.45 m

approx. 1.7 kg powder / dm³

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STORAGE AND SHELF LIFE

All materials are to be stored under cover, clear of the ground and stacked not more than 2 pails high. Protect the materials from all sources of moisture and frost. Rotate stock in order not to exceed the shelf life of 12 months. Once opened the material should be used as soon as possible.

HEALTH AND SAFETY

MasterSeal 590 is based on cement and thus can be irritating to the skin and eyes. Gloves and eye protection should be worn. The use of dust masks is recommended.

Accidental splashes of the material to the skin or eyes should be immediately washed off with clean water. In the event of prolonged irritation seek medical advice. In the case of ingestion give water or milk to drink and treat symptomatically. Medical advice should be sought.

A Material Safety Data Sheet for this product is available on request.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

* Properties listed are based on laboratory controlled tests.

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