

# MasterProtect<sup>®</sup> 1890

**A high build epoxy liner for applications where abrasion and chemical resistance are required**

## DESCRIPTION

**MasterProtect 1890** is a multi-component solvent free modified epoxy resin mortar specifically designed to meet the in-service demands of a chemical resistant lining mortar.

The selected blend of fillers and resins produce a mortar with exceptional handling properties. The finished cured mortar is highly impervious and combines optimum chemical and mechanical resistance.

## PRIMARY USES

**MasterProtect 1890** can be applied to most commonly encountered building materials such as concrete, blockwork, brickwork, clay pipes and iron.

Typical applications include:

- Lining and benching manholes.
- Sewage digester tanks.
- Water retaining structures.
- Wherever an impervious lining or mortar is required with maximum chemical resistance.

## ADVANTAGES

- Suitable for high build up to 12mm without formwork on vertical surfaces
- Designed for vertical, horizontal and overhead application
- Good adhesion and cure under damp conditions
- Excellent pot life and working time
- Low exotherm
- High mechanical strength
- Non-toxic

## PACKAGING

**MasterProtect 1890** is supplied in 15 kg units.

## STANDARDS

ASTM C881, Type III, Grade 3, Classes B & C.

## TYPICAL PROPERTIES AT 25°C\*

Density (BS 6319, Part 1)	1770 kg/m <sup>3</sup>
Sag at 12mm thickness	None
Pot life at 25°C	60 min
at 40°C	35 min
Full cure:	3 to 7 days
Thermal compatibility with concrete (ASTM C884)	Pass
Water Absorption (ASTM C413)	0.05%
Compressive strength (ASTM C579)	>15 N/mm <sup>2</sup> at 25°C >25 N/mm <sup>2</sup> at 40°C 1 day 14 days >50 N/mm <sup>2</sup> at 25°C
Flexural strength (BS 6319, Part 3) (ASTM C579) (7 day cure)	19.1 N/mm <sup>2</sup>
Tensile strength (BS 6319, Part 7) (ASTM C307)	7.03 N/mm <sup>2</sup>
Service temperature:	-20°C to +65°C
Application temperature	8°C to 45°C

## APPLICATION GUIDELINES

Thoroughly mix the base with the reactor and then add in the aggregate to obtain a trowellable mortar of uniform colour and appearance. Whenever possible, use a mechanical mixer such as a Mixal or similar. If hand mixing is necessary, care should be taken to ensure complete and thorough mixing.

Surfaces must be clean and free of surface moisture. All dirt, cement laitance and deleterious matter must be removed by thorough wire brushing, grit blasting or scabbling followed by blowing clean with oil-free compressed air. All surfaces must be primed. Use **MasterTop P 1240/50**, a two-pack solventless adhesive and tack coat.

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Thoroughly mix base and reactor components of the primer for 1 minute and apply evenly to the substrate using a stiff brush. The contents of the container must be used within 45 minutes of mixing at 25°C.

Priming should be carried out in advance of application of the mortar. It is essential to apply the mortar on top of the primer whilst the latter is still tacky. If the first priming coat should gel, apply a second priming coat before applying the mortar.

1 L of **MasterTop P 1240/50** will be sufficient to treat approximately 4-6 m<sup>2</sup> (dependant on porosity and texture of surface).

The thoroughly mixed mortar should be used without delay and applied using a steel trowel. Press well into the primed surface and compact to ensure positive and permanent adhesion. Use a steel trowel to finish and bring resin to the surface.

Storage and application substrate temperature should be below 35°C for vertical application.

## CHEMICAL RESISTANCE

**MasterProtect 1890** has been specifically designed for use in sewage environments in hot climates and has successfully passed 180 days complete immersion in dilute sulphuric acid at 40°C (Test report available upon request).

**MasterProtect 1890** has excellent resistance to a wide range of aqueous media, raw sewage, dilute mineral acids, alkalis, salt water, detergents etc. Resistant to hydrocarbons and chlorinated solvents.

Poor resistance to alcohols, ketones and organic acid.

**MasterProtect 1890** may yellow on exposure to certain chemicals or environments. This yellowing does not affect the chemical or mechanical properties of **MasterProtect 1890**.

When used in vertical applications, thickness up to 12mm can be applied in one coat. If greater thicknesses are required, further priming between layers is necessary and the backing layer should be cross hatched before cure takes place to

provide a mechanical key. For horizontal applications, thickness up to 100mm can be produced without problems. TO ENSURE MAXIMUM CHEMICAL RESISTANCE A MINIMUM APPLICATION THICKNESS OF **5MM** IS RECOMMENDED.

## NOTE

**MasterProtect 1890** has been specifically formulated to ensure optimum application properties over a wide range of temperatures. Due to its exceptional pot life, cold joints can generally be avoided. If due to particular circumstances day work joints are necessary, take care to step the mortar and re-prime. Care should also be taken at wall and floor joints and angled fillets should be provided wherever possible.

## CLEANING

All equipment must be cleaned immediately after use with a suitable Xylene thinner.

## COVERAGE / YIELD

A 15 kg pack will cover 1.69 m<sup>2</sup> at a thickness of 5mm excluding wastage.

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## STORAGE

Store under cover out of direct sunlight, clear of the ground on pallets protected from rainfall and extremes of temperature. Avoid excessive compaction. In tropical climates the product must be stored in an air-conditioned environment.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult Master Builders Solutions Technical Services Department.

## HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which may also be tainted with vapour until product is fully cured). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Reseal containers after use.

## 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.

® = Registered trademark of the MBCC Group in many countries.

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### NOTE

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