

MasterProtect® 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. It is available in Fine finish (**MasterProtect 1890 Fine**) as well. 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

- **MasterProtect 1890** is Suitable for high build up to 12mm without formwork on vertical surfaces.
- **MasterProtect 1890 Fine** is suitable for high build up to 5 mm without form work 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 1890/1890 Fine is supplied in 16.5kg units.

APPLICATION PROCEDURE

Thoroughly mix the base with the reactor and then add in the aggregate to obtain a trowel able mortar of uniform color 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 **MasterEmaco P 102** or **MasterProtect 1890** base and reactor, a two-pack solvent less adhesive and tack coat.

TYPICAL PROPERTIES AT 25°C

Sag at 12mm thickness:	None
Pot life at 25°C at 40°C	60 minutes 35 minutes
Full cure	3 to 7 days
Thermal compatibility with concrete (ASTM C884):	Pass
Water Absorption (ASTM C413)	0.05%
Compressive strength (BS 6319, Part 2) (ASTM C579)	
1 day	>15N/mm ² at 25°C
14 days	>25N/mm ² at 40°C >50N/mm ² at 25°C
Flexural strength (BS 6319, Part 3) (ASTM C579) (7 day cure)	19 N/mm ²
Tensile strength (BS 6319, Part 7) (ASTM C307)	7.0N/mm ²
Service temperature	-20°C to +65°C
Application temperature	8°C to 45°C
Density (BS 6319, Part 1)	1670 kg/m ³ , & 1650 kg/m ³ in case of fine

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STANDARDS

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

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.

GUIDE TO APPLICATION

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 23°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 liter of **MasterEmaco P 102** will be sufficient to treat approximately 4-6 square meters (dependent 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.

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 4MM 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. Should a smooth glossy finish be required the surface may be overcoated with **MasterEmaco P 102**.

COVERAGE

A 16.5kg pack will cover 2.17 m² at a thickness of 4mm excluding wastage.

MasterProtect 1890 Fine will cover 2 m² at a thickness of 5 mm excluding wastage.

EQUIPMENT CARE

All equipment should be cleaned immediately after use by means of **MasterTop THN 2**.

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 may also be tainted with vapor until product is fully cured). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Reseal containers after use.

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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 BASF's Technical Services Department.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All Master Builders Solutions Products are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health and safety standards of ISO 9001 and Master Builders Solutions ESHQ recommendations.

* Properties listed are based on laboratory controlled tests.

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CONTACT

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In view of widely varying site conditions and fields of application of our products, this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with Master Builders Solutions and possible resulting damages are in the sole responsibility of the customer.

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