

MasterProtect[®] H 1100

Hydrophobic impregnant based on isobutyltriethoxysilane

DESCRIPTION

MasterProtect H 1100 is a low viscosity clear liquid based on a selected high purity undiluted isobutyltriethoxysilane. This class of silanes has a very low molecular size, which ensures effective impregnation of concrete and masonry surfaces through deep (3-8 mm) penetration into the pore structure. The impregnated **MasterProtect H 1100** reacts with moisture or interstitial humidity and forms permanently bonded hydrophobic lining on the pore-walls of the substrate.

The treated substrates are therefore highly hydrophobic and will inhibit ingress of water and water borne aggressive agents such as chlorides, while retaining the original appearance.

The substantial reduction in water absorption of the treated substrates also assists in the thermal insulation characteristics.

MasterProtect H 1100 is also available with a red fugitive dye that provides an easy identification of the treated areas. The colour of the dye will disappear in approximately 1 week depending exposure to sunlight

RECOMMENDED USES

MasterProtect H 1100 is recommended for application to most of the cementitious, masonry and mineral substrates above ground, not subject to hydrostatic pressure. Applications include treating the surfaces of :

- Bridge decks, abutments, piers, soffits, etc.
- Beams, columns and walls of buildings
- Exposed brick structures
- Car parks
- Marine structures

FEATURES AND BENEFITS

- **Effective water repellence** - Durability. Inhibits ingress of water borne aggressive agents such as chlorides.
- **Minimises surface efflorescence** - Clean appearance of masonry surfaces.
- **Breathable** - Allows excess water vapour to evaporate from the substrate.

- **Highly penetrative**- Ensures long-term effectiveness even on surfaces exposed to traffic (e.g.: car parks).
- **Can be supplied with a fugitive dye** - Treated area easily identifiable.

PROPERTIES

Maximum depth of penetration can be achieved over a dry substrate on a dry, windless day with a high ambient temperature of around 40°C.

Temperature	Relative humidity	Depth of penetration
24°C	13 %	6 mm
	52 %	5 mm
	79 %	5 mm
40°C	13 %	6 mm
	52 %	5 mm
	79 %	5 mm

Note: Experience has shown that a depth of penetration of >3 mm gives the required long term protection to concrete.

MasterProtect H 1100 complies with British Highway Specification BD 43/90.

Supply form	: Clear liquid
Refractive index of material as supplied	: 1.400±0.005
Specific gravity	: 0.88
Purity (Isobutyltriethoxysilane)	: 98%
Active ingredients	: 100%
VOC content: 400 g/l ASTM D 5095-91	

APPLICATION

Use **MasterProtect H 1100** as supplied without dilution.

Surface Preparation

Correct substrate preparation is critical for optimum performance.

Surfaces should be clean and free from loose particles, oil, grease or any other contaminant. Cement laitance, loose particles, oil, grease, mold

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release agent, curing membrane and other contaminants and coatings must be removed by high pressure water jetting or other such effective methods.

Mask and protect all areas not to be treated including glass, plants, etc., and any other material that should not be exposed to solvents.

A test application is recommended on each surface or masonry material to be treated to ensure compatibility and desired water repellent effect.

Application

MasterProtect H 1100 may be applied to damp surfaces although dry surfaces preferred for

Optimum penetration of the substrate

For best results on vertical surfaces, apply **MasterProtect H 1100** in one coat starting at the bottom of the structure and working up.

Apply a flood coat of **MasterProtect H 1100** by a low pressure air-less spray equipment (knapsack sprayer), so as to produce 150-200 mm run off on the surface below the contact point of the spray pattern.

It can also be applied using a wide short nap roller or brush, in which case, it should be applied repeatedly until the surface remains moist for a few seconds.

On horizontal surfaces, apply sufficient material so that it stands for a few seconds before penetration. Avoid application on a windy or a rainy day and allow at least 2 hours of dry weather following rain

ESTIMATING DATA

Approximately 170 ml/m² (150 g/m²)

In windy conditions or with very porous substrates reduce the application rate and apply in two coats of approximately 90 ml/m².per coat allowing at least two hours between coats.

Consumption may increase while treating tall structures, caused by loss due to wind

PACKAGING

MasterProtect H 1100 is available in 200L drums and 25L pails.

SHELF LIFE

MasterProtect H 1100 has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

PRECAUTIONS

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

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication is based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by commonwealth or State legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided, does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions are responsible for carrying out procedures appropriate to a specific application.

Master Builders Solutions Hong Kong Limited
 Unit 2, 20/F, EW International Tower, 120-124 Texaco Road, Tsuen Wan, New Territories, Hong Kong.

Tel: (852) 2408 4400
 Fax: (852) 2408 4401