

MasterProtect[®] H 1100

Hydrophobic impregnant based on isobutyltriethoxysilane

MATERIAL DESCRIPTION

MasterProtect H 1100 is undiluted isobutyltriethoxysilane which is a clear low viscosity liquid. **MasterProtect H 1100** has a very low molecular size, which ensures effective impregnation of concrete and masonry surfaces of 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 liquid water and water borne aggressive agents such as chlorides. It also provides a barrier to the attack done by dissolved carbon dioxide by preventing carbonic acid entering the structure. **MasterProtect H 1100** does not change the appearance of the base concrete after absorption and thus is ideal for architectural concrete elements.

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 on the number of coats applied and the amount of UV light.

AREAS OF APPLICATION

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

CHARACTERISTICS AND BENEFITS

- **Effective water repellence** - durability. Inhibits ingress of water borne aggressive agents such as chlorides giving long term protection from reinforcing corrosion.
- **Minimises surface efflorescence** - clean appearance of masonry surfaces.
- **Breathable** - allows water vapour to move through 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. No wasteful repetitive coatings or risk of untreated areas.

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 %	4-6 mm
	52 %	3-5 mm
	79 %	3-5 mm
40°C	13 %	4-6 mm
	52 %	3-5 mm
	79 %	3-5 mm

Note: Experience has shown that a depth of penetration of >3 mm gives the required long term protection to concrete. Some very dense concretes will allow a visible penetration of less than 3mm but will still be adequately protected.

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: g/L 10 (HK prod code P08-13)	

APPLICATION

Use MasterProtect H 1100 as supplied without dilution.

Surface Preparation

Surfaces should be clean and free from loose particles, oil, grease or any other contaminant. Cement laitance, loose particles, oil, grease, mould release agent, curing membrane and other contaminants must be removed by high pressure water jetting or other such effective methods.

Mask and protect all areas not to be treated including glass (contact with glass will permanently mark the glass), plants, etc., and any other material that should not be exposed to **MasterProtect H 1100**. **MasterProtect H 1100** can be applied to MasterEmaco repair mortars or fairing coats if repairs are done to the surface.

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

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Placing

MasterProtect H 1100 may be applied to damp surfaces although dry surfaces preferred for optimum penetration of the substrate. Apply **MasterProtect H 1100** in two coats with about two hours interval between coats.

Avoid application on a windy or a rainy day and start after at least a couple of hours of clear sunshine following rains. For best results on vertical surfaces, 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.

ESTIMATING DATA

150 - 300 ml/m² (0.13 - 0.26 kg/m²) per coat depending on porosity of the substrate. Consumption can increase while treating tall structures, caused by loss due to wind.

PACKAGING

MasterProtect H 1100 is available in 200 litre drums and 20 litre pails.

SHELF LIFE

MasterProtect H 1100 has a shelf life of 24 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, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

DISCLAIMER

MasterProtect-H1100 -ANZ-V6-0121

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this MB Solutions Australia Pty Ltd publication are 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 law. The user is responsible for checking the suitability of products for their intended use and for ensuring that the application and use of the product is in accordance with the manufacturer's guidelines and recommendations.

NOTE

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

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