

MASTERSEAL[®] 303

Clear Water Repellent Based on Alkyl Alkoxysilane for the Protection of Concrete Surfaces

Description of Product

MASTERSEAL 303 is a single component clear, deeply penetrating water repellent used to protect both vertical and horizontal concrete surfaces from deterioration by atmospheric pollution, salt attack and freeze thaw cycles etc.

Fields of Application

To protect vertical and horizontal concrete surfaces such as:

- Buildings
- Bridges
- Highways
- Concrete barriers
- Car parks
- Sports stadia
- Cooling towers
- Water towers

Features and Benefits

- Provides a long-lasting protection: MASTERSEAL 303 penetrates deep into the surface acting as a water repellent that prevents water, salts (chloride ion), atmospheric pollution and freeze/thaw cycles from deteriorating the concrete
- Improves the aesthetics by reducing efflorescence, algae growth and dirt build-up
- Surface appearance remains unchanged
- Reduces volatile organic emissions into the atmosphere in comparison with today's commonly used organic-solvent-based repellents
- Provides a safer working environment for the applicator by minimising health hazards associated with organic solvents

- Ready for use; no dilution on site, which means constant quality
- One coat, no primer
- Masking window plate glass is not necessary before spray application
- May be applied to damp substrates
- Application equipment easily cleaned with soapy water
- Virtually no product evaporates during spray application, therefore more active silane can reach its intended target, so minimising wastage and maximising coverage

Technical Data/Typical Properties^(a)

Solid content (by weight) , %	20
Density, kg/l	1.010
Flash point (ASTM D 3278-82), °C	>93
Average penetration depth, *mm	3.2
Moisture vapour transmission rate (OHD-L-35), %	102
Resistance to chloride ion penetration, % of weight cement at 2mm depth	<0.01
Chloride diffusion % reduction compared to untreated	93

^(a) Typical values at 20°C



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Tests and approvals

The following independent data is available upon request:

CTL (USA), Protection against water absorption (NCHRP)
TRL (UK), Chloride ion protection
CTC (USA), Freeze/thaw protection (ASTM C672)
CTC (USA), Accelerated weathering results (NCH RP)
TNO (NL), Approval for bridge decks and other structures
SINTEF (N), Chloride diffusion constant

Application Procedure

Preparation

New concrete surfaces should be cleaned of all sand, surface dust/dirt, oil, grease, chemical films/coatings and other contaminants before applications.

A complete water, sand, or shot blast may be needed to achieve the desired surface condition.

Crack control, caulking, patching and expansion joint sealants can be installed before and after application of the sealer. Cure in accordance with manufacturer's instructions.

Application

Surface, air and material temperature should be between 5 and 35°C during application.

Surfaces to be treated can be slightly damp, but for best results a dry surface is suggested for maximum penetration. MASTERSEAL 303 should not be applied if frost, ice or standing water are visible on the surface to be treated.

Note: Do not apply MASTERSEAL 303 when temperatures are expected to fall below 5°C within 12 hours or rain is expected within 4 hours of completed application.

Test a small area of the concrete surface before starting general application of any clear, penetrating sealer to assure desired results and coverage rates.

While this product is far less harmful to plant life than solvent-based surface sealers, vegetation should be protected from over-spray. Equipment and incidental areas of over-spray should be cleaned immediately with soapy water to avoid permanent staining. MASTERSEAL 303 will leave a visible residue on non-porous materials such as glass, metal and painted surfaces. When cured, dried materials can be removed by scraping with a metal blade.

Stir material thoroughly before and during application.

Apply to saturation. This may be done with a low-pressure spray (Knapsack Hopper-type), or by pouring, followed by brooming for even distribution on horizontal surfaces. Normal coverage rates are approximately 3 to 5m²/ltr. (On lightweight concrete or more porous concrete surfaces, the coverage may be less.)

It is recommended that horizontal surfaces treated with MASTERSEAL 303 are left for a minimum of 4 hours to allow proper penetration. MASTERSEAL 303 may leave temporarily a slippery surface for several hours after application. Therefore, vehicle traffic areas should not be re-opened until the treated surface is dry.

Coverage

Coverage rates may vary with the porosity and finish of the substrate. Typically the coverage on concrete is 3 to 5m²/ltr.

A 5-litre unit will typically cover 15-25 m²

A 20-litre unit will typically cover 60-100 m²

Packaging

MASTERSEAL 303 is available in 5 litre or 20 litre plastic containers.

Storage

MASTERSEAL 303 should be stored under cover, clear of the ground and stacked not more than 2 containers high. Protect from freezing.

Shelf Life

Rotate stock in order not to exceed the shelf life of 12 months. Storage temperature should not exceed 35°C.

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MASTERSEAL 303 BASF Construction Chemicals UK Ltd Version 5 – July 2007

Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

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 the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Resin Products

Can cause irritation, dermatitis or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

Spillage

Chemical products can cause damage; clean spillage immediately.

Disclaimer:

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