

Dulux APP *Surfaceshield*[™] HD

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Non-Sacrificial Anti-Graffiti Vertical Surface Treatment

How does it work?

APP Surfaceshield HD is a clear and colourless, **heavy duty, non-film forming surface treatment** for the protection of vertical surfaces subject to defacement and deterioration by graffiti, pollution, and everyday contaminants.

APP Surfaceshield HD's low volatile organic component formulation meets the most stringent of VOC regulations. The non-toxic, water borne formulation is safer to apply and easy to wash up.

A **single application** provides **non-sacrificial, medium to long term surface protection** against a range of common graffiti media.

APP Surfaceshield HD penetrates even the smallest pores without modifying the water vapour permeability of the substrate, nor its visual appearance.

APP Surfaceshield HD works by greatly reducing the ability of the graffiti to penetrate the substrate or bond to it, and thus facilitates the easy removal of graffiti by propriety graffiti removal products such as **Dulux Graffiti Eraser**.

Once applied, the APP Surfaceshield HD imparts the following surface properties:

- Increase in water and oil repellency and thus repels most graffiti and contaminants
- Reduction in ability of most types of graffiti to penetrate the treated substrate
- An effective deterrent to graffitiists to reapply graffiti

Dulux cannot guarantee that every type of graffiti can be completely removed. This technology may not be able to protect against graffiti agents which etch, or otherwise damage the substrate.

Suitable substrates

Generally, APP Surfaceshield HD can be used to protect and preserve a wide variety of porous materials used in construction, retail, municipality, hospital, and urban environments.

Suitable porous substrates include:

- Clay/brick masonry
- Natural Stone
- Non-glazed tiles
- Concrete
- Sandstone*

* Soft and easily damaged substrates, such as Limestone and some Sandstone, may require specialized preparation prior to treatment with APP Surfaceshield. Refer to your Dulux Protective Coatings Specifications Consultant for specific advice.

APP Surfaceshield HD has been designed for **vertical surfaces** and is ideal for protecting walls and facades.

Refer to Table 1 on the following page for a more detailed comparison between the APP Surfaceshield products available.



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Table 1: APP Surfaceshield Product Comparison

Product	Surface Type	Protection Against
APP Surfaceshield S <ul style="list-style-type: none"> Self sacrificial vertical surface treatment Medium- term surface protection Re-application required No hazardous chemicals or solvents required to clean graffiti 	Smooth surfaces <ul style="list-style-type: none"> Concrete pre-cast walls Porous surfaces <ul style="list-style-type: none"> Clay/brick masonry Natural stone Concrete Non-glazed tiles Very porous surfaces <ul style="list-style-type: none"> Sandstone 	<ul style="list-style-type: none"> Vandalism caused by graffiti, paint and permanent markers Atmospheric pollution, dirt and grime
APP Surfaceshield HD <ul style="list-style-type: none"> Non-Sacrificial vertical surface treatment Med-Long-term surface protection Single application Use of cleaning agents or graffiti removers is required for removal of stubborn contamination 	Porous surfaces <ul style="list-style-type: none"> Clay/brick masonry Natural stone Concrete Non-glazed tiles Very porous surfaces <ul style="list-style-type: none"> Sandstone 	<ul style="list-style-type: none"> Vandalism caused by graffiti, paint and permanent markers Atmospheric pollution, dirt and grime Construction damage, grout staining and marking
APP Surfaceshield HD-H <ul style="list-style-type: none"> Non-Sacrificial horizontal surface treatment Long-term surface protection Single application Use of cleaning agents or mechanical scrubbing may be required for removal of stubborn contamination 	Porous surfaces <ul style="list-style-type: none"> Clay/brick masonry Natural stone Concrete Non-glazed tiles Very porous surfaces <ul style="list-style-type: none"> Sandstone 	<ul style="list-style-type: none"> Chewing gum Oil and food stains Tyre marks Mould Dirt & Grime

Surface Preparation and Application

Surface Preparation

All grease, oil, dirt, bond breakers, previous coatings, sealants and other contaminants must be removed prior to application of APP Surfaceshield HD. The surface must clean and sound. Residues such as concrete treatments or bond breakers will **reduce** the effectiveness of the APP Surfaceshield HD. Cleaning with an industrial detergent and hot water or with a high-pressure cleaner may be required for heavily soiled surfaces.

APP Surfaceshield HD can be applied to either **dry** or **damp** substrates.

The spreading rate can vary depending on whether the surface is smooth or porous (more porous surfaces will require more product to be applied in a given area). (Please refer to the surface preparation application guide).

Application

The surface should be pH neutral. Application over strongly alkaline surfaces will compromise the coatings effectiveness. The surface alkalinity can be easily measured using pH indicator paper prior to application.

The surface can be dry or damp before applying the APP Surfaceshield HD. The amount of APP Surfaceshield HD required will vary in relation to the porosity of the surface being coated. Refer to table 2 below for a rough indication of the **spreading rates** required for the surface to be protected.



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Insufficient application of APP Surfaceshield HD will greatly compromise its substrate protection properties.

Successive applications up to the saturation point must be carried out wet-on-wet since, once allowed to dry, no further material can be added due to the high degree of hydrophobicity induced.

Application of APP Surfaceshield HD should be carried out by trained and experienced APP Surfaceshield coating applicators. Graffiti removal and maintenance works should be conducted by the same applicator.

APP Surfaceshield HD being an almost non-visible product needs to have its application properly recorded to allow for easy identification and general maintenance management.

Product Tip: On smooth substrates, surfaces treated with APP Surfaceshield HD should show water beading when wet.

Table 2: Estimated coverage of APP Surfaceshield HD

SURFACE	PREPARATION GUIDE	SYSTEM		COVERAGE (m ² /L)
SMOOTH ▪ Precast concrete	Clean and degrease surface to remove contaminants. Dry or damp substrate suitable prior to application.	1st Coat APP Surfaceshield HD		5
POROUS ▪ Clay bricks ▪ Natural stone ▪ Concrete	Clean and degrease surface to remove contaminants. Wet substrate to provide a damp surface.	1 st Coat	APP Surfaceshield HD	4
		1 st Coat	APP Surfaceshield HD	4
		2 nd Coat	APP Surfaceshield S	3-4
VERY POROUS ▪ Sandstone	Clean and degrease surface to remove contaminants. Wet substrate to provide a damp surface.	1 st Coat	APP Surfaceshield HD	3-4
		1 st Coat	APP Surfaceshield HD	3-4
		2 nd Coat	APP Surfaceshield S	2-3
		3 rd Coat	APP Surfaceshield S	2-3

General cleaning and graffiti removal

A combination of graffiti removal chemicals & hot water power washing is the most effective and fastest cleaning method. When power washing, a continuous flow of hot water (>75°C) on board water heater is recommended. Hot water helps emulsify grease, oil and other contaminants and speeds up the cleaning process using low pressure.

- Use a minimum 45° angle flat spray tip. Spray power should not exceed 65 bar and a spray distance of 10cm should be maintained. Avoid higher pressure water washing as this causes abrasion and may compromise the protective treatment. Surfaces protected with APP Surfaceshield HD may be damaged by harsh cleaning methods and aggressive cleaning chemicals. The use of turbo nozzles should not be used in any circumstance as they require high pressure and will cause abrasion of the substrate surface.
- For areas polluted with vegetable oil, motor oil, grease or paint, the use of cleaning agents or **graffiti removers** will be required. See table 4 below for a list of recommended cleaning agents. When using cleaning agents it is important that the manufacturers' instructions are followed correctly.

Table 4: Recommended cleaning agents

Type of pollution	Cleaning agent	pH Range
Light pollution without oil or grease	None or mild soap	7.5-9.0
Medium pollution with food spilling, light oil and grease	Mild bio degreaser	9-11
Heavy pollution by oil, grease or gasoline	Citrus degreaser	<11.5
Paint or graffiti	Chemical graffiti remover	12-13

Note: This PC Tech Note should be read in conjunction with the **APP SurfaceShield HD** data sheet.

For more information on APP Surfaceshield S refer to **Tech Note 3.13** and APP Surfaceshield HD-H refer to **Tech Note 3.15**.

For more information on any of our products, please contact your Dulux Protective Coatings Technical Consultant.