

## PROTECTASEAL-W PRODUCT INFORMATION

### PROTECTASEAL-W

Page 1 of 5

**Manufacturer's Code:** RPPSW

Updated: 22/09/2014

**Product Name:** PROTECTASEAL-W

**Description:** PROTECTASEAL-W is a water-based oil and water repellent which can be used as a stain resistant penetrating sealer for treating masonry substrates. The treatment does not change the surface appearance or vapour permeability of the substrate. The sealer provides excellent stain resistance against a majority of stains including food, wine, tannin, and oil. PROTECTASEAL-W is an environmentally friendly product containing no organic solvent and is a good alternative to the solvent-based stain-resistant sealer.

Some of the important features of this product include:

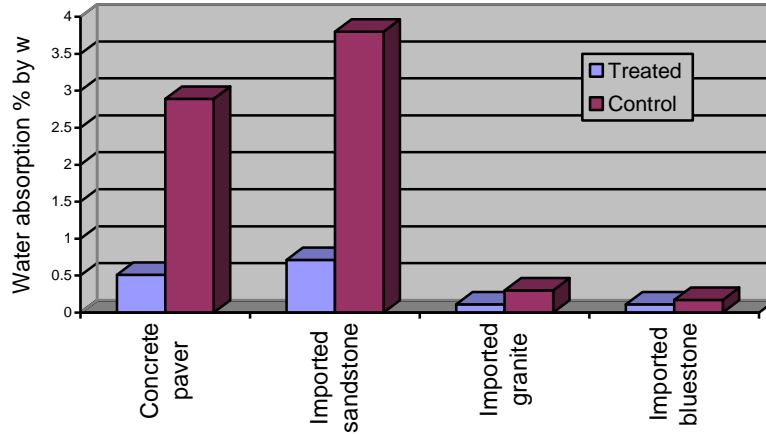
- Good resistance to oil or water-based stains
- Reduce water absorption and algae/mould growth
- Penetrates and permanently reacts with masonry
- Offer durable protection and wearing resistance
- Non-film forming natural finishes with no change of surface appearance
- Water-based environmentally friendly technology with no VOC

**Recommended Uses:** PROTECTASEAL-W is suitable to all masonry materials including natural stones, concrete blocks, pavers/driveways, clay bricks, terracottas, tiles and grouts. Due to being water-based product, PROTECTASEAL-W has limited penetration ability in dense substrates so the product may be most suitable for treating permeable masonry substrates. However, PROTECTASEAL-W can still provide reasonable water repellence and stain resistance to dense substrates. For dense materials, Tech-Dry solvent-based stain resistant sealer may be selected as a better alternative.

**Test & Performance:** Four popular masonry substrates including pressed concrete paver and imported sandstone as the permeable substrates, and imported granite and imported bluestone as the dense masonry were selected for performance testing. Food dye, red wine, and olive oil were used as stains for staining tests.

**Water Absorption:**

The capillary water absorption according to DIN 52617 was shown in the Figure 1. The result indicates that the capillary water absorption of all treated substrates was significantly reduced.



**Figure 1: Capillary Water Absorption**

**Penetration Depth:**

The penetration depths of the treated substrates are listed in Table 1. Being a water-based formulation with limited penetration ability, PROTECTASEAL-W achieved reasonable penetration depths to all treated masonry substrates, except for very dense bluestone.

**Table 1: Penetration Depth**

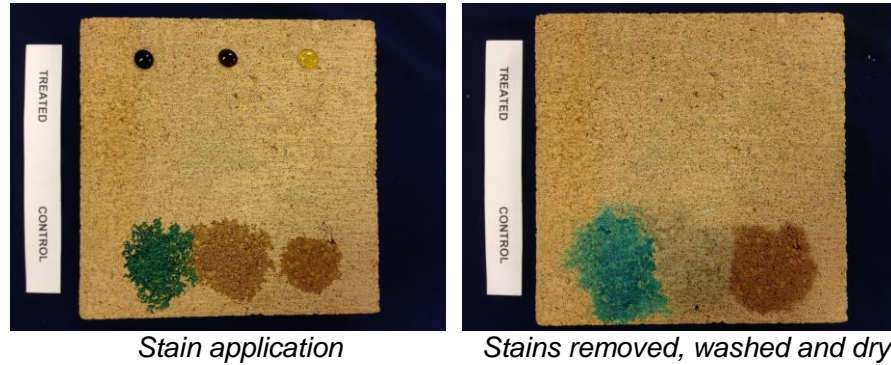
	Penetration Depth
Pressed Concrete	<b>10-20 mm</b>
Imported Sandstone	<b>1.5 mm</b>
Imported Granite	<b>2 mm</b>
Imported Bluestone	<b>&gt;0 mm (almost nil)</b>

**Stain Resistance:**

Stains (food dye, red wine, and olive oil) were equally placed as a droplet onto the surfaces of both treated and control surfaces in an order of food dye (left), red wine (centre) and olive oil (right). After approximately 10 minutes, the stains were removed and the surfaces were washed with a dishwasher detergent and nylon brush under running tap water. The substrates were then allowed to dry before the surfaces were visually examined for staining. The results are shown in the photos below. The photos on the left were taken after the staining materials were placed onto the surfaces. The top part was the treated part while the bottom was the control. The photos on the right were taken after the stains were removed and surfaces were washed and dry.

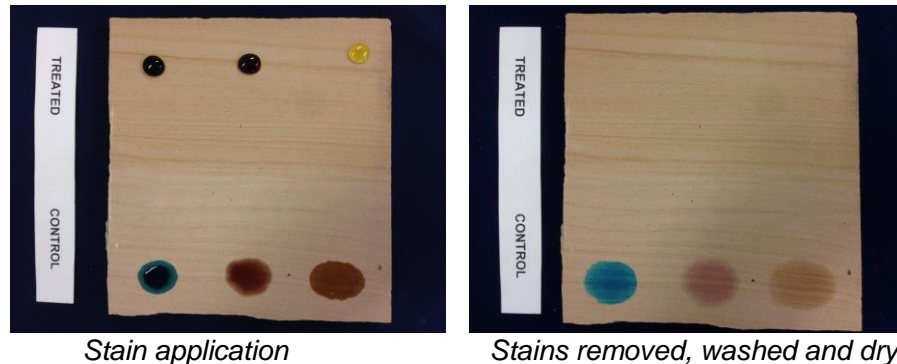
**1. Pressed Concrete Paver:**

Being a permeable substrate, the stains were immediately absorbed by the pressed concrete after being placed onto the surface. In contrast, the stains remained as beadings on the treated surface. After the stains were removed and was washed and dry, the untreated surface was significant stained while the treated part showed almost no stains. The result indicates that PROTECTASEAL-W provided significant stain resistance to the pressed concrete.



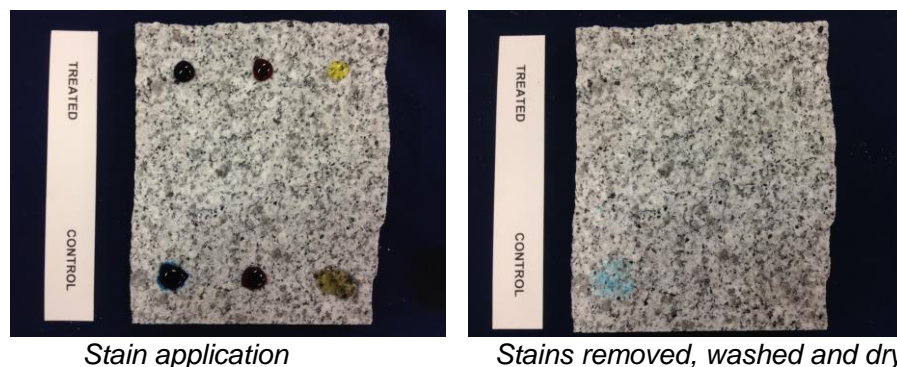
**2. Imported Sandstone:**

Sandstone is also a permeable substrate and the results were similar to that of the pressed concrete paver. The test shows that PROTECTASEAL-W provides a good stain resistance to the sandstone.



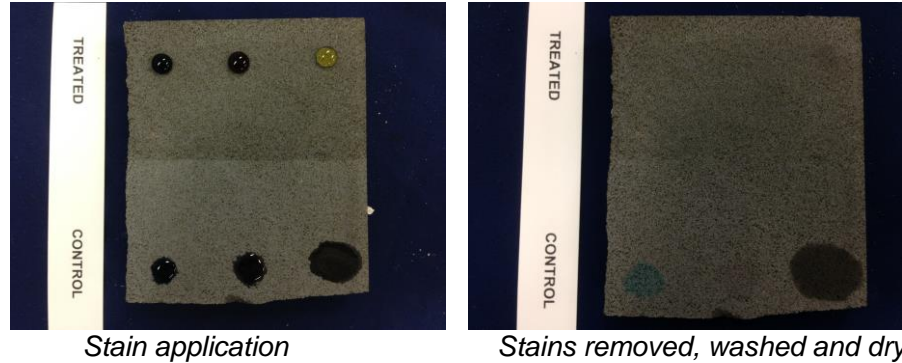
**3. Imported Granite:**

Granite is a dense natural stone with low water absorption. Although there is no immediate absorption for the untreated surface but the surface was significantly stained after the staining test. In contrast, the treated part showed almost no stains. This indicates that PROTECTASEAL-W provides significant stain resistance to the granite.



**4. Imported Bluestone:**

Bluestone is a very dense masonry substrate showing limited water absorption but still affected by staining. The results confirmed that PROTECTASEAL-W provided good stain resistance to this dense bluestone. It is noticed that PROTECTASEAL-W provided better resistance to water-based stains than that of oil-based stain.



**Use Instructions:**

Read the product information before application. Do not apply if extreme weather conditions are expected. The surface to be treated should be dry, firm and free from grime, oil and any previous coatings/sealers. All cracks should be filled and allowed to cure before application. As masonry materials vary significantly, a test **MUST** be carried out prior to application to find out the suitability of this product for the purpose. **Always stir or shake the product before use!**

PROTECTASEAL-W can be applied by brush, roller or low-pressure hand spray. The initial treated surface should have a mirror-like wet film appearance. When the 1<sup>st</sup> coat is absorbed by the surface, the 2<sup>nd</sup> coat should be immediately applied. This is called wet-on-wet application method to ensure enough material to be applied and absorbed into the surface to achieve adequate penetration. Any remaining sealer on the surface for over 10 minutes should be removed to avoid excessive accumulation of the sealer, which may not be absorbed by the surface causing an uneven finish.

The number of applications depends on the permeability of the substrate. Two coats are enough for general substrate but more coatings may be required for permeable substrate.

The consumption of PROTECTASEAL-W varies significantly in an order of 2-20 m<sup>2</sup> per litre per coat depending on the permeability of the substrates or could be out of this range significantly.

The initial oil/water repellent effect may develop after the surface is dry. Full curing may take up to 7 days. Avoid heavy traffic for at least 24 hours. Wash the equipment in water.

**Typical Data:**

Appearance:	white emulsion
Specific Gravity:	approx. 1 g/ml at 20 °C
pH value:	approx. 7-9
Solubility in water:	miscible in water
VOC content:	nil

**Important Note:**

PROTECTASEAL-W penetrates into the capillaries and renders the surface oil/water repellent while still leaving the capillaries open to allow vapour to breath. Therefore, prolonged contact of water or stains with the surface can still cause absorption and staining due to the open capillaries. Therefore, it is

strongly recommended that stains should be removed from the contaminated surface as soon as possible to avoid possible permanent staining. The sealer will not prevent surface etching or wearing. PROTECTASEAL-W will make the maintenance and cleaning of a treated surface easier. General cleaning is applied for removing stains. Harsh cleaning should be avoided.

**Handling & Storage:** PROTECTASEAL-W is a water-based non-hazardous product. However, as with all chemical products, good industrial hygiene procedures should be followed when using this product. The product should be stored in closed containers in a cool dry place away from any fire sources. The product has a shelf life of 6 months in a sealed container stored in a cool dry place away from fire or ignition sources at a temperature below 25°C. Use with sufficient ventilation away from fire or ignition sources!

KEEP OUT OF REACH OF CHILDREN!

**Packaging:** PROTECTASEAL-W is available in 1, 5, 20 and 200 litre metal drums.

**Disclaimer:**

The information given in this data sheet is based on many years of experience and is correct to the best of our knowledge. As the storage, handling and application of this material is beyond our control; we can only be responsible for the quality of our product at the time of dispatch. We reserve the right to alter certain product parameters within the spectrum of properties in order to keep abreast of technical advances. It is the responsibility of the end user to determine the suitability of this material for any particular application.