



PATENTED THROUGHOUT THE WORLD

Cocoon® Desalination System



The Patriarchal Cathedral Basilica of Saint Mark, Venice, Italy

Westgate Pty Ltd, also known as Westox Building Products, an Australian company, has been leading the industry to fight salt contamination which is one of the major causes of destruction to heritage buildings and artifacts around the world, affecting structures made from all forms of stone, brick, marble, sandstone and concrete.

In 1998, Westgate Pty Ltd developed a process called Westox Cocoon® that involved using a paper-based substance that is applied onto masonry to absorb the salt. The substance is left to dry and then simply peeled off and disposed of.

Treasured heritage buildings across the globe can now be saved for future generations using the process to control salt erosion.



Salt Affected Masonry



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Some major projects that have used Cocoon®

Prevention Better Than Cure

Salts, transported into porous materials by moisture have always been a concern in restoration and conservation work. Provision has been made in modern buildings to prevent this happening with the insertion of a damp-proof course and barriers in the form of a flashing over potential moisture entry points. These requirements are now written into the building codes of most developed countries and inspections made by a person of authority (Building Inspector) to ensure they have been installed correctly; this outlines the importance placed on these barriers being in place.

In most historical buildings, damp-proof courses were not used and subsequently in a great number of these properties, we are now faced with a situation that moisture has risen to a height where the internal walls and decorations are effected.



Spray Application of Cocoon

It is irrelevant whether we decide to install a new damp-proof course or maintain the building in its present form; we are still faced with the destructive forces of the residual salt contamination. Lateral or falling damp from leaking gutters and down pipes, roof leaks or badly maintained paintwork or pointing also causes damage, activating either airborne salts or salts that are present or have been added into the building fabric with the resultant damage being similar to that caused by the rising damp.

While Westox was working with the CSIRO during the 1980's a sacrificial render process was developed. In monitored conditions at Sydney's Lyndhurst House, it was established that the salt levels could be drastically reduced and erosion minimised. Continued research has resulted in the development of a new generation desalination system known as "Cocoon". This paper poultice is manufactured from pharmaceutical grade filter paper and has produced outstanding results removing salts associated with both rising and lateral damp in a very short time.

Tempietto Norcia, Italy

This Tempietto which is quite unique even in Italy stands at the corner of a house. It is signed and dated 1354 by a sculptor or more correctly a stone "Chiseler" (Scalpellino).

The whole surface of compact excellent white limestone is literally covered with decorations all different from each other with no internal symmetry it does however obey the medieval rule of the symmetry of the overall proportions.

What it represents has been a mystery but it is believed to be the "stonemason's catalogue" or "brag book".

After cleaning work was carried out on the "Tempietto", yellow staining appeared on the surface, analysis showed them to be caused by soluble Iron Oxides.

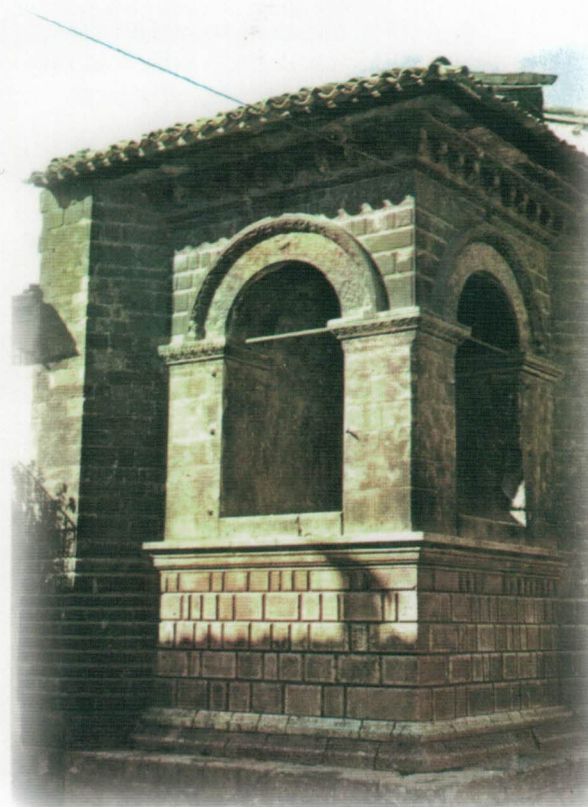
The Westox Cocoon was very successful in removing the stains without causing any damage to the white limestone.



Application of Cocoon by Trowel



Application of Cocoon

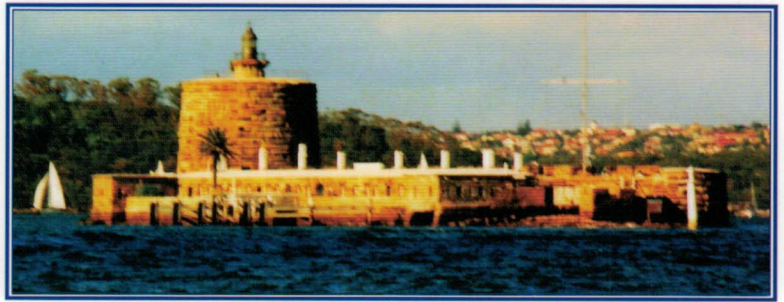


Tempietto Norcia, Italy

Some major projects that have used Cocoon®



Duomo Pisa - Italy C1057



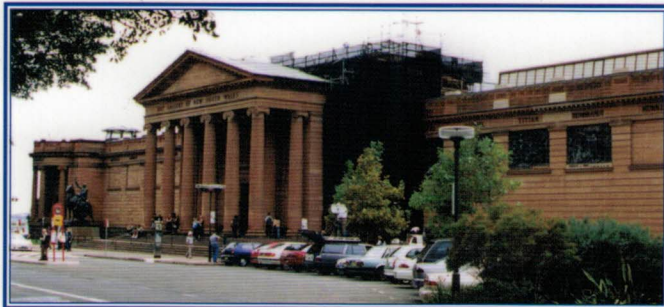
Fort Denison - Sydney C1835



Penang City Hall - Malaysia C1890



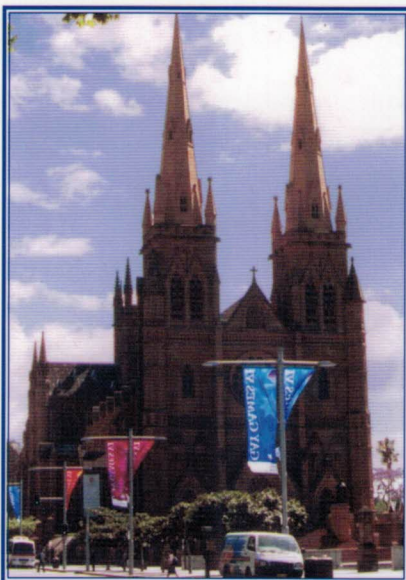
Governor's Mansion - Malaysia C1895



Art Gallery of NSW - Sydney C1865



Montecatini Terme - Pistoia, Italy



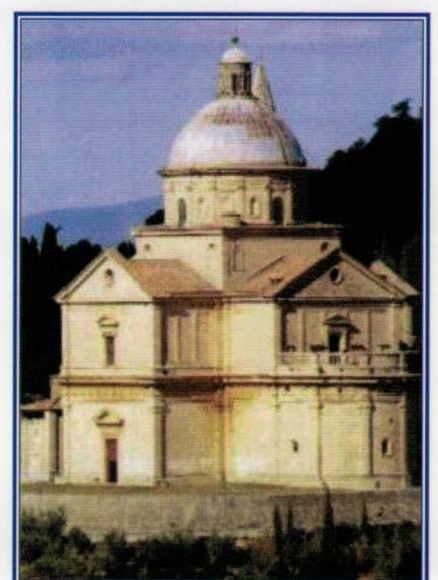
St Mary's Cathedral - Sydney C1865



Hambledon Cottage - Parramatta C1824



Port Arthur - Tasmania C1830



Tempio di San Biagio - Italy

Cocoon® Technical Specifications

For use by Restoration Professionals
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Description

Manufactured from pharmaceutical grade filter paper. Features a very high internal surface area with high porosity and purity.

Uses

A poulticing medium designed specifically to remove salts associated with rising and lateral damp from masonry walls, works especially well on sandstone.

Features

- Clean application
- Applied by spray or trowel
- Easy removal with salts
- Cost effective
- Low maintenance
- No detrimental effect to the masonry
- Premixed, no onsite mixing
- Made from non-toxic materials
- Fast removal of salts

Technical Data

pH	7.5+/- .5
S.G.	1.1
Flash Point	Non Flammable
Application	Trowel or Spray

Limitations

Cocoon should not be applied to external walls if inclement weather is forecast before the material dries, this normally takes approximately 4 days @ 25°C and 2 days @ 30°C. If the material is wetted after initial drying, some shrinkage can occur, in this case the loose material should be removed and new Cocoon applied. Do not apply to surfaces that have free or running water present.

Preparation

Sweep the surface of the masonry to remove any loose sand or salts to provide a reasonably sound surface. Dispose of material removed from the surface to an appropriate land fill area. If the repointing of face brick or stone walls is to be carried out after desalination, the joints should be raked out to 25mm deep and filled with the Cocoon during the desalination work. For surface re-pointing mortars refer to the Westox Technical Department.

Application

Mask and cover areas as with any spray application. After preparation, apply one coat of Cocoon by spray at the rate of 6 to 7kg of mixed material per square metre. This will provide a wet film thickness of approximately 10mm. It is preferable that the surface is left with the textured finish from the spray application; a more even finish can be done without affecting the poulticing too much. Leave each application for the required dwell time before removal.

Removal

To remove the Cocoon (normally after 2 to 6 weeks – depending on temperature and contamination levels) simply peel from the substrate and dispose of removed material to an appropriate land fill area.

Clean Up

If allowed to dry, the Cocoon will peel off and any residue will wash off with water. Flush machinery thoroughly with clean water after spraying.

Packaging

Container Size	20 Litre
Shelf Life	6 months in unopened containers

Safety

Refer to Westlegate Pty Ltd Safety Data Sheet for instructions. Refer to www.westox.com.