



## PROTECT AND SAVE

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One of the biggest problems experienced by local authorities and property management is the continuous contamination of urban public areas that receive heavy pedestrian traffic. A wide variety of possible contaminants exist, but the majority are water or oil based. They are most often seen outside fast food restaurants, where beverages and foods cooked in oil stain the sidewalk or patio. Bird droppings, uric acid from pets, motor oil and particularly chewing gum are other devastating contaminants that create constant staining problems. The stains produced are severe, expensive to remove and may damage the substrate permanently.

Stuart Dean Company is a full service organization dedicated to protecting architectural surfaces with a proprietary treatment, which is a water-based, environmentally friendly fluoropolymer dispersion. This impregnation, for porous mineral surfaces, is completely invisible and does not change the surface friction or feel. Once applied, it transforms substrates into totally hydrophobic and oleophobic surfaces that repel water, oil-based contaminants and other stains. It gives the surface non-stick properties, inhibiting the chemical bonding and absorption of pollutants such as chewing gum and other sticky materials. It also protects mineral walls from graffiti and inhibits paint penetration into the surface.

Protecting buildings from graffiti and other forms of pollution is an indispensable element in maintaining the liveability and attractiveness of urban environments and infrastructure projects. A clean environment evokes a feeling of comfort, calm and the assurance that your welfare is being considered. Stuart Dean specializes in providing this form of protection through a unique portfolio of products and our experience working with them.

Expert knowledge of cleaning and application techniques is essential in order to do this product justice. With our own specialized teams, supervisors closely involved in the product application, and an advanced inspection system, Stuart Dean and the product manufacturer guarantee the best possible application of its products.

The product manufacturer has treated over 100 million square feet of surfaces spread across approximately 25,000 of the most diverse structures, and has acquired an impressive list of worldwide references. In partnership, Stuart Dean seeks to maintain the quality appearance of cities, towns and infrastructure projects for all of our customers.

## FEATURES AND BENEFITS OF A SURFACE PROTECTION TREATMENT

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**Cost Savings** – Cleaning our urban centers, including the removal of chewing gum, is very costly for cities and commercial property owners. Once a surface is protected, cleaning costs can be reduced by up to 80%.

**Reduced Cleaning Frequencies and Intensity** – After product application to the surface, soil cannot penetrate the substrate. Heavy rainfall, rather than damaging the surface, actually helps keep it clean. By avoiding harsh abrasive cleaning methods and reducing the water required for cleaning, clients gain significant cost and environmental savings.

**Chewing Gum** – Gum will initially bind to the treated surface. But once the gum dries, it can be removed easily with the use of a street sweeper or power washer without leaving marks.

**No Slip Properties** – This product is not film-forming, so the surface friction remains unchanged. Due to its beading effect, any water freezing on the surface actually provides additional grip.

**Easy Ice and Snow Removal** – Ice and snow cannot penetrate the treated surface and are much easier to remove. Less street salt is required because the water-salt solution is not absorbed into the substrate.

**Surface Protection** – Concrete, concrete pavers, natural stone and masonry surfaces are additionally protected from deterioration caused by acid rain, smog, salt and freeze/thaw. White concrete efflorescence build-up is inhibited while the surface remains vapor permeable and moisture is not trapped inside.

**Longevity** – The treatment retains its full properties for at least five years, delivering substantial cost savings on cleaning and maintenance. The initial investment is quickly recovered in a very short period of time due to the reduced cleaning frequency.

**Urban Image** – Clean urban centers improve our community's image and are more enjoyable and healthier environments for our citizens, visitors and businesses.

## A NANOTECHNOLOGY BREAKTHROUGH

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These advanced products are nanotechnology based and achieve all-new levels of effectiveness. Nanotechnology is regarded as one of the key technologies of this century, and it has the potential to revolutionize all areas of science. A nanometer is one billionth of a meter, or as reference is about 10,000 times smaller than a human hair. Innovative nanoscale properties and functions are achieved through the control of anatomic and molecular building blocks. By taking advantage of nanotechnology, Stuart Dean uses architectural surface treatments that are totally invisible, but at the same time highly functional, with properties never before realized.

**FAQS****What is the Make-Up of the Surface Protection Product?**

It is composed of a water-based solution of complex fluorinated acrylic copolymers with a number of different side chains. It can be used to protect a wide variety of porous materials used in the construction industry – indoor and outdoor on horizontal and vertical surfaces.

**How Does Nanotechnology Work?**

Unlike simple silane-derived products, this impregnation is not film-forming. Therefore it cannot affect surface appearance, vapor-permeability or slip resistance. An optimally organized molecular layer of this product covers all of the outer and inner topography of the substrate and is less than 2 nm thick. Since it is absorbed into the substrate, it shields itself from degradation by UV light and mechanical abrasion. This molecular impregnation reduces the surface energy of the substrate and largely inhibits molecular bonding through a high density of fluorine atoms.

**How Does It Repel Water and Oil?**

When liquids meet a solid surface, the solid's surface energy combats the liquid cohesive forces, resulting in the liquid soaking into the surface. The treated surfaces are completely hydrophobic and oleophobic. Because liquid contaminants retain their bead shape, they are not absorbed into the substrate.

- Water and oil-based contaminants are held on the surface, do not form chemical bonds, and can be removed easily.
- Dirt particles cannot contaminate the substrate because they require liquids to penetrate the surface. Instead, they just rinse off with water and rainfall.
- Treated surfaces retain their native appearance, even when covered with liquids.

**How Does It Repel Graffiti?**

Graffiti paint cannot deeply absorb into the treated surface. The graffiti tag may stick to the protected wall, but is easily removed with a pressure washer. In some cases, the use of a mild graffiti remover can ensure rapid removal and eliminate residual tag shadows.

- Expensive graffiti cleaning time and chemicals are significantly reduced.
- Protective graffiti treatments last for at least 10 years and withstand a minimum of 16 tag removals from the same area.
- Substrates are protected from permanent damage caused by more radical removal methods.

**What are Its Limitations?**

- Because the system is designed to be robust and long lasting, it is also irreversible.
- If the internal pores are fully occupied with water, the protective product will not penetrate the surface. Therefore, it cannot be applied to wet surfaces.
- Previously applied coatings or sealants must be completely removed prior the application of the surface protection.
- The water base must be allowed to evaporate steadily. A minimum temperature during and immediately following application of 5°C is recommended.

## KEY BENEFITS OF THE PROTECTIVE SYSTEM

- Permanent protection against pollution and vandalism
- Inhibits organic and bacterial infestation into porous substrates
- Longevity of over five years
- No change of optical appearance or surface friction
- Protection of entire surface from premature deterioration
- Substantial reduction of cleaning time, costs and maintenance frequency
- Reduction of cleaning chemicals
- Environmentally friendly

## SUMMARY

Once applied, this nanotechnology-based product transforms substrates into totally hydrophobic and oleophobic surfaces that repel water, oil-based contaminants and other stains. This impregnation, for porous mineral surfaces, is completely invisible and does not change the surface friction or feel, yet it protects mineral walls from graffiti and inhibits the penetration of the paint into the surface.

In addition, non-stick surface properties inhibit chemical bonding and absorption of pollutants, such as chewing gum and other sticky materials. Deterioration caused by acid rain, smog, salt and freeze/thaw is dramatically reduced. This treatment also protects concrete, concrete pavers, natural stone and masonry surfaces.

The initial investment is quickly recovered in a very short period of time due to the reduced cleaning frequency. Once a surface is protected, cleaning costs can be reduced by up to 80%.

Expert knowledge of cleaning and application techniques is essential to get the full benefit of this product. With our own specialized teams, expert on-site supervisors, and an advanced inspection system, Stuart Dean and the manufacturer guarantee the best possible application of this state-of-the-art protective product.

In short, we can help you provide a more enjoyable and healthier environment for your workers, visitors and community in general, all while reducing maintenance and repair costs.

