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## APPLICATIONS IN STAINLESS STEEL: MAINTENANCE WILL STILL BE NECESSARY

Stainless Steel is synonymous with modern architecture. It is specified for its excellent corrosion resistance as well as for its visual qualities. Unlike carbon steel, stainless steel has a natural corrosion resistance due to the presence of a thin surface chromium oxide layer.

However, all grades of stainless steel will stain and discolour over time due to surface deposits and can never be completely maintenance free. Some routine maintenance and cleaning is needed to keep stainless steel surfaces in good condition so that the aesthetic appearance and corrosion resistance are not compromised. In this respect stainless steels are no different to other constructional materials such as glass, plastics or coated steels, which are never maintenance free throughout the life of a building.



Staining on stainless steel facades

On external applications, such as facades, rainfall can normally be expected to wash off accumulations of dirt and other deposits efficiently, depending on the amount of exposure of the elevation. However, this is not sufficient. Special attention should also be given to sheltered areas during routine cleaning to ensure that accumulations of airborne contaminants are removed. All this is particularly important in marine and industrial environments, where build-up of airborne chlorides or SO<sub>x</sub> can result in localised corrosion, if not effectively removed. In the Netherlands for example, the concentration of chlorides in the air is so high in most places that one speaks of a marine environment.

Regular cleaning of Stainless Steel should be carried out to prevent a build up of soiling. The effort and cost of cleaning is then minimised along with the risk of altering the appearance of the surface. It is good practice to clean the stainless steel at the same frequency as the buildings windows. Routine cleaning frequencies of 6 – 12 months for light soiling and 3 – 6 months for heavy soiling is advisable.

At an early stage, light deposits can be removed by being swept away with a brush. For general cleaning, soapy water or a mild detergent are safe.

Always rinse afterwards with water to remove the detergent and by preference post-rinse with low-chloride water like demineralized water or osmotic water.



Benches in Blackpool



Great care needs to be taken in the removal of graffiti. More damage can be caused using incorrect chemicals while hard scrapers and knives will scratch the underlying surface.

Scouring powders should never be used as these products will leave scratches on the stainless steel surface.

Chloride bearing solutions, including hydrochloric acid-based mortar cleaning agents and hypochlorite bleaches should not be used in contact with stainless steels, as they will cause unacceptable surface staining and pitting.

Under no circumstances should concentrated bleaches contact decorative stainless steel surfaces.

Also remember that stainless steel has to have contact with the oxygen in the air in order to preserve its corrosion resistant properties (by forming a passive chromium oxide skin) so avoid using stickers, tape or adhesive foils.

Further information on this subject can be found in Technical Bulletin 2004/12 "Cleaning and maintenance of stainless steel".

Vecom has a wide range of products for surface treatment, cleaning and maintenance, for bringing and keeping stainless steel in optimal condition. Our specialists are happy to advise you regarding the best cleaning method and the products to be used.

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