

SWIMMING POOL RECOMMENDATIONS

- Swimming pools can be considered one of the most aggressive environments in building applications in relation to the contamination of SS products. The high environmental temperatures and the warm water has an effect of accelerating any possible contamination, from acids, chlorine, and other contaminants in the water so it is important to have a cleaning regime in place and adhered to it strictly.
- Washing of all rails and frames with clean water on a daily basis is imperative.
- Cleaning all of the above on a monthly basis with de-ionised water is necessary.
- A monthly cleaning with finger print / stain remover or similar products will help prevent the build up of contaminants that cause staining.

We would recommend that mirror finished SS should be used in pool areas as it is more more resistant to normal contamination.

PRECAUTIONS

- **Always follow manufacturer's instructions** and consult specialists cleaning companies if necessary.
- **Do not use ordinary steel wool** - iron particles can become embedded in stainless steel and cause further surface problems.
- **Acids** - should only be handled using gloves and safety glasses. Care must be taken that acids are not spilt over adjacent areas. All residues must be flushed to a treated waste stream. Always dilute by adding acid to water, not water to acid. Use acid-resistant containers, such as glass or plastics. If no dulling of the surface can be tolerated a trial treatment should be carried out; especially for pickling operations. All treatments must be followed by thorough rinsing.
- **Solvents** - Solvents should not be used in confined spaces. Smoking must be avoided when using solvents.
- **Chlorides** are present in many cleaning agents. If a cleaner containing chlorides, bleaches or hypochlorites is used it must be afterwards promptly and thoroughly cleaned off.

Any chemicals used must be in accordance with manufacturers instructions.



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STAINLESS STEEL HANDBOOK



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REPUTATION THROUGH
STANDARDS & SERVICE

Stainless Steel can be considered very low maintenance but it does require an infrequent cleaning regime to sustain its' impressive finish. It may also require cleaning from time to time to remove fingerprints and mild stains which can occur during normal use in domestic and commercial applications.

The following are some of the issues and suggestions as to how maintain and clean O' Carroll Engineering stainless steel metalwork.

GRADES, FINISHES, & SOME SCIENCE

OCENG architectural and domestic SS work is predominately fabricated in one of two main grades of stainless steel - 304 or 316 grade.

- Selection of the correct grade is extremely important in preventing future problems.
- Generally 304 is used in interior and unexposed exterior environments and 316 in harsher interior (e.g. swimming pools) & exterior installations.

Equally as important in choosing the correct grade is the type of finish surface chosen. In its raw state SS is quite dull in colour but is then brushed | polished to brighten it or to give it a particular appearance. Generally SS is brushed to give the metal a slight grain and to buff the surface colour. The finer the brush used the brighter the colour. SS can also be buffed to a 'mirror finish' which people commonly miscall 'chrome' finish.

- The higher the grade of brushing | polishing the less likely the metal is to stain afterward.
- OCENG uses either mirror finish or high grade brushed which gives our work a quality finish with a bright colour.

The science behind SS can be complicated but to summarise, the metal is an iron based alloy containing a minimum of 10.5% chromium. Other elements are then added along with increased amounts of chromium to improve its corrosion resistance etc.

- The chromium combines with oxygen to form a thin layer of protection on the metal.
- Cleaning using the correct methods does not affect this layer, it can in fact improve it.

PREVENTATIVE MEASURES AT SOURCE & ON SITE

- OCENG has dedicated storage and fabrication areas for its SS to prevent any contamination by other metals.
- Where necessary metals are covered going to site and where possible these should remain covered until the near completion of all works.
- Other on site elements such as cement, brick cleaning agents and many building chemicals can all damage the appearance of SS. Where possible all SS should be washed down immediately with water to remove such products.

CLEANING PRODUCTS

O' Carroll Engineer now offer a range of maintenance products specifically for stainless steel products, Fingerprint Remover, Grease Remover and Rust Remover.

Please contact the numbers on back for details.

METHODS OF CLEANING STAINLESS STEEL

Problem	Cleaning Agent	Applications
Routine Cleaning All finishes	Soap or mild detergent and water (Preferably warm)	Sponge, rinse with clean water, wipe dry if necessary. Follow polish lines.
Fingerprints. All finishes	Soap and warm water or organic solvent (eg. acetone, alcohol, methylated spirits)	Rinse with clean water and wipe dry. Follow polish lines.
Stubborn Stains and Discolouration. All finishes.	Mild cleaning solutions, eg. specialty stainless steel cleaners. Widely available in DIY / Hardware Stores or selected larger supermarkets chains.	Use rag, sponge or fibre brush (soft nylon or natural bristle. An old toothbrush can be useful). Rinse well with clean water and wipe dry. Follow polish lines.
Lime Deposits from Hard Water.	Solution of one part vinegar to three parts water.	Soak in solution then brush to loosen. Rinse well with clean water.
Oil or Grease Marks. All finishes.	Organic solvents (eg. acetone, alcohol, methylated spirits, proprietary "safety solvents"). Baked-on grease can be softened beforehand with ammonia.	Clean after with soap and water, rinse with clean water and dry. Follow polish lines.
Rust and other Corrosion Products.	Rust stains can be removed by adding one part of nitric acid to nine parts of warm water. Leave for 30 to 60 minutes, then wash off with plenty of water, and flush any drains thoroughly. <i>(Use of Specialists Cleaning Companies Recommended)</i>	Rinse well with clean water. Wear rubber gloves, mix the solution in a glass container, and be very careful with the acid.
Routine Cleaning of Boat Fittings.	Frequent washing down with fresh water.	Washing is recommended after each time the boat is used in salt water.

BRITISH STAINLESS STEEL ASSOCIATION

O' Carroll Engineering are members of the BSSA and follow their guidelines in relation to manufacture and maintenance regimes.