Cleaning, Care and Maintenance

Cleaning, care and maintenance of stainless steel

Stainless steel is a low maintenance material, but not maintenance free. Providing the grade that best fits the application is selected, appropriate fabrication and installation procedures are followed and regular cleaning is undertaken, it's aesthetic appeal and long life will be achieved.

What is tea staining?

ASSDA defines Tea Staining as the discolouration of the surface of stainless steel caused by corrosion. It is a cosmetic issue that does not affect the structural integrity or life of the stainless steel. Tea staining occurs most commonly within 5km of coastal areas, however, it may also occur in polluted urban environments.

Why is maintenance necessary?

Surface contamination in the form of deposits must be prevented. These deposits may be minute particles of iron or rust from other sources such as tools previously used on carbon steel. There are also naturally occurring atmospheric conditions which produce deposits, such as salt from marine environments. The more aggressive the environment, the more regular, the cleaning program will be necessary.

Maintenance program

The cleaning frequency of stainless steel depends on four points:

1. The environment
2. Position of the stainless steel structure
3. Stainless steel surface finish and structure design
4. Client's expectations

A rule of thumb for cleaning external stainless steel is when you clean the surrounding windows also clean the stainless steel.

A guide to specifying and cleaning external stainless steel

Environmental Grade 304 Grade 301 - Clean Inland 3-6 months 6-12 months
Polluted urban/industrial not suitable 6-12 months
Coastal/Marine (not splashed) Not suitable 3-6 months
Source: ASSDA Note: Rainwater is an effective natural cleaner, stainless steel that does not get rained upon will need more frequent cleaning.

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Cleaning of Stainless steel

You don't need any fancy equipment. For day-to-day cleaning, plenty of water, some mild detergent and a cloth or soft brush will do the job. You can use a 1% ammonia solution but don't use bleach! It's just too easy to make the solution too strong and too hard to rinse it properly afterwards.
After washing, rinse in clean water and wipe the surface dry with a soft absorbent cloth. On brushed stainless steel, follow the direction of the polish for best results.
An excellent cloth to use is 3M's Scotch-Brite high performance cleaning cloth.
NEVER use steel wool (wire wool) to clean stainless steel.
It is usually made of carbon steel and any fragments left behind will rust onto the stainless steel surface. Using any kind of scourer which has previously been used on ordinary (carbon) steel is also a no-no for the same reason.
Stainless steel wool scouring pads are available for heavy duty work, like removing burnt food from stainless steel saucepans. These will scratch the stainless steel surface, but won't leave fragments to go rusty

Important stainless steel fabrication information

Stainless steel can be contaminated by carbon steel which will lead to corrosion. Ideally, a fabricator will have dedicated workshop and tools for stainless steel only.
Contamination can be picked up from:
- Grinding wheels, wire brushes and finishing belts
- Steel storage racks
- Tooling used with other metals
- Contamination from grinding or welding sparks from nearby carbon steel fabrication.

It is recommended than when stainless steel is to be used for external purposes that it be electro polished.

For further information please refer to: The Australian Stainless Steel Development Association (ASSDA) www.assda.asn.au

Please see a direct link to their technical FAQ's https://www.assda.asn.au/publications/technical-faqs

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