

RECOMMENDATIONS FOR THE CLEANING AND MAINTENANCE OF STAINLESS STEEL SURFACES

While we all tend to think that stainless steel is indestructible and that it never corrodes, this is not necessarily the case. What makes it corrosion resistant is a subtle oxide film that forms at molecular level on its surface.

This film is composed of oxygen absorbed through exposure of the metal to the air. This film becomes a natural barrier that protects the metal against normal atmospheric corrosive agents.

Anything that prevents the formation or resilience of this film on the surface of the steel drastically reduces its resistance to corrosion.

The corrosive performance of stainless steel is closely linked to its correct use and correct regular maintenance. This includes the use of suitable cleaning products intended for the care of stainless steel. Special stainless steel cleaners are readily available and they exist for a good reason as inappropriate cleaners actually cause corrosion.

The environment where the steel is located can quickly cause corrosion. Most obvious are environments with sea air where possible deposits of chlorides or sulphurous compounds in the air can cause erosion.

MAIN CAUSES OF OXIDATION

1. Metal residue left to settle on damp surfaces such as transferred from steel wool pad or a mild steel kitchen utensil.
2. Limescale, if not always removed, contributes to weakening (stress) the steel in the points or on the surfaces where it accumulates. This is usually a specific regional issue.
3. Overheating - Stainless steel, while resistant to heat can assume a bluish or brownish colour if incorrect sized pots or pans are used. If the pots are too large they will reflect excessive heat into the hob surface.
4. Detergents with a chlorine or ammonia base will attack the corrosive resisting surface of stainless steel.
5. Food residue left for long periods of time.
6. If a hob is used where the vessel is allowed to overheat, such as an empty frypan, this can stress the metal through overheating.
7. Chlorine-based cleaning products, such as bleach or similar common products can produce serious corrosive effects.
8. The direct contact of, or even the vapours released from acidic products, (muriatic acid, hydrochloric acid), alkaline products (sodium hypochlorite/bleach) or ammonia will attack stainless steel. Some of these compounds are found in common detergents used to clean and sanitise floors, tiles and washable surfaces. They are terrible for stainless steel.
9. If you use cloths, sponges or similar that have also been used for cleaning other products or other materials there is a risk that they could be contaminated and attack the stainless steel.

It is equally important to know that using steel wool or other similar items to remove solid or stubborn food residue can leave microscopic particles, let alone badly scratch the surface. Steel wool or an abrasive pad is not suitable for use on stainless steel. Steel wool is probably the very worst thing to use and it can lead to rusting in a matter of hours.

RECOMMENDATIONS

1. Avoid salty solutions drying or remaining on the surface.
2. Avoid prolonged contact with anything metal (steel wool, carving forks, ladles or scrapers, etc.). If they are mild steel, then they can trigger corrosion.
3. Carefully clean the stainless steel surfaces using a damp cloth (e.g. microfibre), warm water and soap (only if needed). Use common, non-abrasive and chlorine-free detergents.
4. Wipe in the direction of the grain, ie. along the brushed lines on the stainless steel, not across.
5. Rinse well and dry carefully. The drying is especially important.
6. Only use specific products for stainless steel cleaning.

NEVER USE steel wool, brushes, abrasive discs, or metal utensils for cleaning.

NEVER USE hydrochloric acid or any acid also avoid contact with hydrochloric acid vapours, for example when your tiler washes down after doing the grouting! Another example is when washing floors - avoid direct use of chlorine-based products on stainless steel.

NEVER USE abrasive powder detergents that could damage the aesthetic appearance of the surface finish

NEVER USE silver cleaners.

HOW TO CLEAN...

Limescale

Use a multi-purpose detergent cream with a damp cloth (e.g. microfibre). You can also use white vinegar, possibly hot, rubbing with a soft cloth (e.g. microfibre) and then rinsing well and drying.

Oil and grease stains

Use mild washing-up liquid or a mild detergent in very hot water. Rinse with plenty of clean water and dry with a soft cloth (e.g. microfibre). For more stubborn stains use ethyl alcohol or white vinegar.

Fingerprints

A window cleaner product or even an oil based liquid like baby oil will make finger prints disappear. Our team use "Diggers" Surface Cleaner from Bunnings. Some stainless steel cleaners deliberately leave a slight film behind to make the steel finger print resistant. We have even heard of some customers using WD40 as a protecting agent (probably not a good idea on a cooktop).

Flame streaks

Use a soft cloth (e.g. microfibre) with a multi-purpose, cream detergent for household cleaning. Rinse under running water and dry with a soft cloth (e.g. microfibre).

Coffee or tea stains, stubborn dirt, burnt-on grease

Use a soft cloth (e.g. microfibre) with a specific emulsion detergent to clean stainless steel. Remember that food and liquids must be immediately removed from stainless steel surfaces.

Glue left by adhesives, glue streaks

According to the adhesive substance, the residue can be eliminated with water, alcohol or acetone based solvents which do not affect stainless steel. We think the "Stick Off" or citrus based type product works well.

Rust stains (contamination)

Rust stains may not be caused by corrosion of stainless steel, but instead:

- Objects (jars, utensils used daily, etc.) in mild steel or tins left for prolonged periods on stainless steel surfaces, which can transfer rust particles and start the corrosion.
- Use of aggressive products to clean stainless steel. This is the most common error we find.
- Direct contact with or even the vapour from acidic, alkaline or ammonia based products.
- Contact with rags, sponges or other similar objects, used to clean other objects or other materials.

To remove these stains, apply a cream detergent using a soft, damp cloth (e.g. microfibre) and wipe delicately.

If rust is already present, go over the relevant part with a lemon and salt mix and leave it to act for a few minutes. The rust will quickly detach thanks to the action of the lemon and you can remove it with a soft sponge. The rust that detaches may cause slight cavities to form.

REMEMBER: it is good practice to test any new products for stainless steel cleaning on out of sight parts and wait a few hours to assess the effect.

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If in doubt give us a call on 1 300 307 917