

CLEANING AND MAINTENANCE OF STAINLESS STEEL SURFACES

It is wrong to think that stainless steel is indestructible and cannot corrode. It is defined as such because it resists corrosion thanks to 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, becoming a natural barrier to protect against normal atmospheric agents.

It is therefore obvious that any cause that prevents the formation or permanence of this film on the surface of the steel drastically reduces its resistance to corrosion.

Stainless steel can also be subject to considerable damage if not treated and if it is not constantly and carefully maintained.

Its resistance and duration are closely linked to its correct use, the optimal and constant maintenance and use of suitable cleaning products and materials certified to preserve its original characteristics.

The change in chemical-physical nature of the environment where it is located can quickly cause rather serious problems.

We can mention for example those environments with sea air and possible deposits of chlorides or sulphurous compounds in the air that can cause erosion.

MAIN CAUSES OF OXIDATION

1. Ferrous residue left to settle on damp surfaces (not dry), with water in circulation, food or kitchen products used for cleaning the equipment (scrapers, steel wool, etc.)
2. Ferrous residue in circulation from the extractor hood placed on the equipment (in the form of dust or micro-scales that deposit on the surfaces).
3. Limescale, if not always removed, contributes to weakening (stress) the steel in the points or on the surfaces where it accumulates.
4. Stainless steel, even if resistant to heat, can assume a bluish or brownish colour under the action of an anomalous flame that manifests if saucepans are used with an unsuitable diameter
5. Detergents with a chlorine or ammonia base.
6. Scale or food residue left for long periods of time.
7. Start-up and use of the equipment with dry containers (without the minimum quantity of content inside - e.g. a typical situation is the preparation of sauté), resulting in stressing the metal due to overheating.
8. Chlorine-based cleaning products, for example bleach or similar products regularly found on the market, since they can produce serious corrosive effects.
9. The direct contact or only the vapours released from acidic products (muriatic acid, hydrochloric acid), alkaline products (sodium hypochlorite/bleach) or ammonia, used directly or contained in common detergents, to clean and sanitise flooring, tiles and washable surfaces.
10. Placing or using cloths, sponges or other items used for cleaning other products or other materials on it.

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, which detaching from those objects, deposit on the surface of the equipment and through contact trigger a rapid and irreversible or difficult to clear corrosion process if not quickly worked on (a ferrous particle left in a damp environment takes just a few hours to trigger serious corrosion).

RECOMMENDATIONS

1. Avoid salty solutions drying or remaining on the surface, because they can cause corrosion phenomena.
2. Avoid prolonged contact with ferrous material (steel wool, carving forks, ladles, scrapers, etc.) to avoid triggering corrosion, from contamination of the ferrous particles in circulation.
3. Carefully clean the stainless steel surfaces using a damp cloth (e.g. microfibre), water and soap and common, non-abrasive and chlorine-free detergents.
4. Wipe in the satin direction, if satin-finished.
5. Rinse well and dry carefully.
6. Only use specific products for stainless steel cleaning. You are advised to use commercial emulsion products

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

Use a mild detergent or washing-up liquid in water or, alternatively, delicately wipe with a soft cloth (e.g. microfibre) and window cleaner.

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, as known, do not affect stainless steel.

Rust stains (contamination)

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

- Objects (jars, utensils used daily, etc.) in common steel left for prolonged periods on stainless steel surfaces or which can transfer ferrous particles.
- Use of aggressive products to clean stainless steel.
- Ferrous residue in circulation from extractor hoods placed over the equipment.
- Direct contact with or only 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.

Instead, if rust is already present, you need to cover the relevant part again with a lemon and salt mix and leave 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 will detach will most likely weaken the metal where slight cavities may have formed.

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.

ATTENTION

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

In fact, if these objects were used previously to clean other metals, not only would they scratch the surface but they would also cause contamination, resulting in unsightly stains or even the appearance of rust.

NEVER USE hydrochloric acid (commercial muriatic acid). You should also avoid contact with hydrochloric acid vapours, for example coming from washing floors. In general, you should 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 substances for silver cleaning.

REMEMBER

- **HYDROCHLORIC ACID**
- **BLEACH with a hypochlorous acid base**
- **CHLORIDES in general**

Stainless steel in contact with these substances can create surface stains that are difficult to eliminate or even **traces of rust**.

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