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Warranty

H-Bath Products are manufactured in accordance with an International standards.

Unless otherwise clearly stated all metal parts of our products are manufactured using the highest quality **AISI 304 stainless steel** and therefore are absolutely rust-free.

The H-Bath Quality Department is present at all times throughout the production process ensuring the constant high quality of the products by executing inbound controls, material checks and sample surveys.

H-Bath **warrants** its products as follows calculated from our Invoice date:

- All products manufactured from **AISI 304** stainless steel for **25 years** against corrosion and defects in craftsmanship
- All products manufactured from **AISI 430** stainless steel for **1 year** against corrosion and defects in craftsmanship
- **Glass mirrors** for **5 years** against corrosion
- **Hand / Hair dryers** for **2 years** on electrical parts
- **All electrical parts** for **2 years**
- **Clothes lines** for **5 years** for retraction spring and **25 years** against corrosion and defects in craftsmanship for the metallic parts. Replacement of the linen is not covered under this **warranty**.

We reserve the right to repair or replace the defected materials at our own decision and within a period of 90 days from the date that such a defect is confirmed by either our technician or by an appointed representative. Installation and / or dismantling of the defected product is not covered by this warranty and is at the cost of the customer. Furthermore, this warranty does not cover any possible damage caused to any other product or construction element other than the product and our distributor /agent/commercial representative will not be liable for its repair. **H-BATH SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES CAUSED BY DEFECTS IN OUR PRODUCTS OR ANY DELAY IN THE REPAIR OR REPLACEMENT THEREOF.**

In order for this warranty to be effective the products should be used only for the usage there were designed for and their cleaning should be made only with a soft cloth and soft cleaning solvent as per below Maintenance Manual. All products must be stored until installation, in a suitable enclosure away from any chemicals, paints, thinner, or in general any other corrosive material.

Use of Hydrochloric Acid or Chloride based Solvents will make this warranty void and null. Hydrochloric Acid (Muriatic acid) will aggressively attack any stainless steel causing rapid severe corrosion. Surrounding surfaces should also be neutralized, so that residual acid residue does not combine with moisture and come in contact with the stainless steel at a later date.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

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MAINTENANCE MANUAL

Stainless steel is a low maintenance highly corrosion resistance material that can maintain a superior architectural finish for very long time. However, precautions and cleaning procedures should be followed.

A. Initial Cleaning

In common with many other building materials, stainless steel arrives on site with its surface in the finished condition. All foreign matter should be thoroughly cleaned from stainless steel surfaces following installation to restore the original appearance.

a. Material with Protective Film

Protective strippable plastic films can be applied by the producer, processor, fabricator or finisher to protect the stainless steel surface finish during shipment, installation and fabrication. The use of a strippable protective plastic film, during forming operations that do not require heat, helps to protect the surface from contamination by other metals and light scratching. It also acts as a lubricant. During shipping, storage or installation, film can help to prevent damage from light scratching. Fine steel particles and dirt accumulations from the job site are generally removed with the film.

If an adhesive plastic film has been used to protect the surface, it should be kept in place as long as possible, so that the dust and debris generated during construction settle on it instead of on the steel's surface. By starting to strip the film at the top of the building and working down to the base any dirt and debris falls to the protected lower layers and the pristine surface is exposed for the client.

In the past, there were occasions when the stainless steel's surface might retain a small amount of adhesive after stripping. Nowadays, improvements in film and adhesive technology make this very unlikely. However, if there is a need to check whether adhesive retention has occurred, this can be done by visual inspection. If adhesive is present, a four stage cleaning procedure has to be followed:

1. Pre-clean the surface with a slow-evaporating solvent that is compatible with water and has low toxicity. Rub the solvent onto the surface with a cloth or brush it on with a long-fiber nylon brush, using light strokes. Wipe the solvent off with a clean cloth before it has dried in order to avoid merely spreading the residue around.
2. Clean the surface by wiping or brushing with a detergent solution.
3. Rinse with water at ambient temperature.
4. Dry, using a squeegee if possible.



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The type of solvent required will depend on the adhesive used. Methylene ethylene ketone is suitable for rubber resin and methanol for acrylic type adhesives.

b. Material without Protective Film

If the stainless steel surface has not been protected, then a typical cleaning procedure would be:

1. Rinse with water to remove loose dirt.
2. Wash with water containing soap, detergent of 5% ammonia, using a soft, long-fiber brush if necessary.
3. Rinse with water.
4. If required, remove the water with a squeegee, using overlapping strokes, working from top to bottom.

When cleaning hairline or number 4 type of surface finished it is essential that the cleaning movement should be in the same direction as the TMgain .

Important Note

In new construction, many contractors use a muriatic acid (also known as hydrochloric acid) solution to clean new masonry, tile, stone, or cement work. Muriatic acid will aggressively attack any stainless steel causing rapid severe corrosion. If it splashes or sprays on to stainless steel it must be thoroughly washed off and neutralized immediately to prevent corrosion.

Surrounding surfaces should also be neutralized, so that residual acid residue does not combine with moisture and come in contact with the stainless steel at a later date. Citric acid masonry cleaning products will not damage stainless steel but the solution should be confirmed to be free of muriatic acid.

Use of hydrochloric acid (muriatic acid) will make any warranty on the product void and null.

B. Routine Cleaning

The quality of the environment and the aesthetic standard required will obviously influence the frequency of routine cleaning. Accumulations of corrosive airborne pollutants and salt can causes corrosion. Dirt accumulations can cause unsightly streaking.



For outside locations, rain can wash a well-designed building quite effectively, but it is usual to supplement this natural process by routinely washing the stainless steel once or twice a year. For instance, a stainless steel curtain wall may be washed at the same time as the windows.

However, in those parts of the world where severe environmental situations exist, such as coastal regions with high temperatures, high humidity and air pollution, then washing three or four times a year may be required if a high aesthetic standard is demanded.

The cleaning procedure used for initial cleaning can be adopted.

In some location heavier soiling may occur due to local conditions, such as splashing at ground level in winter from an adjacent road surface. In such cases, pressure jet cleaning with hot water in spring to remove material adhering to the surface, followed by rubbing with a mild-abrasive cleaner recommended for stainless steel, a water rinse and drying is usually adequate. (Normal domestic cleaners should be avoided as they usually contain harsh abrasives that will alter the surface appearance. Many also contain chlorine compounds which, if left on the surface, many cause corrosion.) Alternatively, advice on proprietary cleaning systems can be obtained from local specialists.

If the surface has a hairline or number 4 type of finish it is important to rub in the direction of the TMgain .

In cases of stubborn dirt or staining, a chloride- free, 200-mesh or finer calcium carbonate powder, can be used without damaging most finishes. Fine abrasive cleaners containing oxalic acid are particularly effective against corrosion staining. Cleaners with abrasives are not appropriate for colored and other delicate finishes. Some household and 'stainless steel' cleaners contain harsh abrasives and acids that will damage architectural finishes, and should be tested in an inconspicuous location before use.

Abrasive pads and cleaners should be avoided, as they will change the finish. Steel wool should never be used on stainless steel because steel particles will embed in the surface and cause staining of the stainless steel as the transferred material rusts. Soft non-metallic brushes that will not scratch the surface can be used to loosen dirt. If changing the surface finish is not a concern, stainless steel wool or a non-metallic abrasive pad (such as a Scotch-Brite pad) can be used to remove stubborn stains.

C. Vandalism, accidents and remedial cleaning.

Graffiti, using marker pens, brush or spray painting is becoming a major problem in some areas of the world. Fortunately, the corrosion resistance of stainless steel can be used to advantage, allowing most solvents and chemical paint removers to be used. However, advice should be taken on the most appropriate type to use for the particular paint involved and the location. For instance, some



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proprietary chemicals may attack mastics and sealing strips. Obviously, the surface and any joints should be well washed with washed with water after using any chemicals.

Removing paint by scraping should not be attempted, as this will damage the surface. A suitable non-metallic abrasive pad may be used in combination with a paint remover. But care should be taken to avoid TMpolishing the surface locally. Never use the pads that have been used on carbon steel or the surface of the stainless steel will become contaminated with carbon steel particles, leading to the rust staining. Steel wool must not be used on stainless steel for the same reason.

Vandalism by scratching a knife or similar implement is also encountered. Unfortunately, it is difficult to polish scratches out on brightly polished stainless steel. Some removal can be achieved on a No.4 surface finish, by rubbing suitable abrasive cloths and Scotchbrite pads in the direction of the TMgrains. Removal from embossed material is impossible, but the harder surface produced by the embossing plus the irregular surface tends to minimize the visual impact of the attack.

Splashing with cement or mortar is perhaps the most common accidental damage encountered on a building site. As with any building material, splashed should be washed off with adequate amounts of water before they set. If this is not done, it will be very difficult or even impossible to remove the dry, solidified material without marking the stainless steel surface. Proprietary cleaners used to remove mortar from tiles must not be used, as they normally contain strong chemicals that would etch the stainless steel. A combination of power washing and cautious mechanical methods may be used to remove the bulk of splash, followed by cleaning with a mild-abrasive cleaning compound designed for stainless steel. An attempt should then be made to remove any scratches produced by removal treatment.

Contamination by carbon steel may also occur accidentally on site due to scuff marks from hand tools, deposition of dust from abrasive cutting wheels, spray from oxy-acetylene burning and prolonged contact with carbon steel components e.g. spare roof bolts left on the surface etc. the outcome is that the carbon steel rusts, producing brown stains. In extreme cases, the rust particles may be associated with surface pitting. Extensive carbon steel contamination is difficult to rectify on site. However, most accidents produce localized rust stains which may be removed using proprietary gels, or a 10% phosphoric acid solution, followed by rinsing with an ammonia solution and then cold water or by wetting the stain with an oxalic acid solution for up to 15 minutes, followed by a cold water rinse and drying.

Alternatively, small areas may be treated with a TMrubbing block, consisting of a suitably fine abrasive in a hard rubber or plastic filler. In all cases, however, tests should be done on an inconspicuous region to determine whether the treatment produces any unacceptable change in surface appearance.

Contamination by oil and grease required careful removal to avoid leaving a thin film on the surface that would produce colored rings. The minority of the oil or grease should be removed with a solvent such as acetone, benzene, or alcohol, applied with a sponge or cloth. This could then be followed by washing with a detergent solution, rinsing with water and allowing to dry.

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Contamination by figure marking in high traffic areas may require regular cleaning to maintain a satisfactory aesthetic standard. Solvent could be used, but a mild-abrasive domestic cleaner or a not-volatile proprietary stainless steel cleaning agent would be more suitable for confined, indoor locations. The suppression of finger marking may be achieved by rubbing the surface with TMbaly oil or spraying with an aerosol oil.

Although regular cleaning is the best way to retain the appearance of stainless steel, it is still possible largely to restore the surface if it has been neglected. A typical remedial treatment could be:

1. Wash loose dirt from the surface with water containing detergent.
2. Rub the surface with a paste containing 200 mesh calcium carbonate or a suitable, proprietary mild-abrasive cleaning paste e.g. as used to restore car paintwork.
3. Wipe off the moist paste.
4. Rinse with water.

Other very effective methods using complex, proprietary mixtures of surfactants and other chemicals are also offered by commercial cleaning companies.

References

NAAMM / NOMMA AMP-500-06 METAL FINISHES MANUAL

Nickel Institute ± Guidelines for Maintenance and Cleaning 110 14