

# STAINLESS STEEL CARE AND MAINTENANCE

## TEA STAINING REMOVAL AND PREVENTION GUIDE

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### WHAT IS TEA STAINING? IT ISN'T RUST!

Like all materials unless cared for properly, stainless steel will become stained or discoloured over time. Tea staining is when the surface of the stainless steel is discoloured by corrosion. It is a cosmetic issue that takes place on contaminants on the surface of the steel, it does not affect the structural integrity or lifetime of the material.



### WHY DOES TEA STAINING OCCUR?

A number of key factors promote tea staining occurring such as:

#### 1. **Presence of corrosive substances**

Saline air causes sea salt to form on the surface of the stainless steel and is one of the major causes of tea staining. Sea salt remains damp until a very low relative humidity meaning the hardware surface stays damp (corroding) for longer with sea salt. Industrial pollutants in the air could also make conditions even more aggressive.

#### 2. **Atmospheric conditions**

In an atmosphere of high humidity combined with high temperature conditions become worse and occurrences of tea staining increase. The high humidity creates a film of moisture that dissolves the salt deposits and creates a corrosive solution on the surface of the hardware.

#### 3. **Rough hardware surface**

Salt can become trapped in deep grooves or metal folds on the surface of the hardware making these areas more likely to corrode. When the surface dries the salts become concentrated, making conditions more aggressive. The deeper the groove the more trapped water (and salt) there is.

#### 4. **Using the wrong grade of stainless steel**

There are many grades of stainless steel each with different chemical compositions. 304 and 316 grade are two of the most common. The main differences between 304 and 316 is the percentage of Chromium, Molybdenum and Nickel. 316 stainless steel contains higher percentages of Molybdenum and Nickel which increases its strength and corrosion resistance. Our BLU range of hardware is made from 316 Marine Grade Stainless Steel.

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### THE SOLUTION TO TEA STAINING

The solution is relatively simple:

- 1. Use the right hardware for the application - ie. 316 Stainless Steel hardware such as our BLU range, which:**
  - is made from 316 Marine Grade Stainless Steel to provide the best resistance to corrosion.
  - undergoes an extra finishing process to provide a unique 'super satin' surface finish - this is much smoother than many other satin finished hardware products on the market. The smoother surface means less chance of corrosive substances becoming trapped on the surface.
- 2. Keep the hardware cleaned and maintained:**

As the name states, it is 'stain less' not 'stain free'. For optimum performance, hardware should be cleaned after fitting and at least every 6 months once in use, or bi-monthly if located in a highly corrosive environment such as on or near the coast. Our BLU DR121 is a 100% organic deep cleaner which removes contaminants and tea staining in a single operation. Regular use of the DR121 cleaner followed up by an application of the DR121 Conditioner will keep stainless steel looking like new for years to come. You can purchase the DR121 Cleaning Kit from our website [www.coastal-group.com](http://www.coastal-group.com).



### THE RESULT

As you can see from the image on the right, the tea stained handle as shown in the image at the start of this document looks like new again following a treatment of BLU's DR121 cleaner and conditioner.

