



Rust on Stainless Steel explained

There are several grades of Stainless Steel commonly used in BBQ manufacturing: 430, 304 and 316. Stainless steel is typically specified because of its ability to resist corrosion in a variety of environments. Unfortunately, stainless steel is not fully stain or rust-proof, it is just more resistant to corrosion, that's why it's called stain - less - steel. Corrosion and rusting can happen to any material.

Is 430, 304 and 316 grade Stainless Steel rust proof?

All grades of stainless-steel resist corrosion, 304 stainless steel has greater corrosion resistance than 430 due to its nickel content. In general, products constructed with 430 stainless steels are typically offered as a more cost-effective solution than products with 304 stainless steel. 304 contains between 8 - 10.5% nickel, whereas 430 contains 0%. The inclusion of nickel in 304 makes the metal more corrosion resistant than 430 stainless steel, however also making the product more expensive.

Furthermore, 430 stainless steel begins to oxidize faster than 304 as it has a lower chromium content meaning it may corrode in harsh environments like coastal areas and around swimming pools. For these outdoor environments we would recommend using a 304 or 316 grade stainless steel instead.

Note: 316 Marine Grade stainless steel contains similar nickel content and chromium as 304. The key difference being that 316 stainless steel incorporates about 2 - 3% molybdenum. The main function of molybdenum in Stainless Steel is to improve the corrosion resistance of the steel, which improves resistance to chlorine and rust. It is, however, the most expensive Stainless Steel grade.

Note: In some environments, where there is wildlife such as bats, geckos, and other animals, further precaution is required. Wildlife droppings contain acid which can attack the Stainless Steel. More cleaning and use of a BBQ cover is recommended.

Protecting any Stainless Steel 430, 304 and 316 grade from rust

Certain elements can be hazardous to Stainless Steel. Common causes of Stainless Steel corrosion can include chlorides, hydrochloric acids, sulphuric acids, iron, or carbon steel. **Contact with these materials will break down what is known as the 'passive film' on the surface of Stainless Steel. Steel wool scuff-pads or steel-bristled brushes should never be used on or near the surface**, as it will change the look of the brushed grain and will also remove the printed graphics and any data labels which are required for safe use of the appliance.

If steel tools or materials are accidentally left on the Stainless Steel surface, you must give the Stainless Steel a quick wash with soap and water, followed by a clean water rinse.

Specialised Stainless Steel cleaners can also be purchased that help maintain the passive layer. Caution needs to be taken with any product being used to clean and protect your BBQ. It is important to make sure the cleaning agent is food safe and will not be harmful to your health. Make sure you check the product details before use.