



## **Material Factsheet – Stainless Steel**

### **What is Stainless Steel?**

"Stainless" is a term which was used early in the development of steel for the purpose of manufacturing cutlery. It was adopted as a generic name and now covers a wide range of steel types and grades, used to make products that need to be resistant to corrosion or oxidation.

### **Why is Stainless Steel “Stainless”?**

Stainless steels are iron alloys with a minimum of 10.5% chromium. The steels are termed “stainless” as a chromium-rich, oxide film forms naturally on the surface of the steel. This protective film makes the stainless steel very resistant to corrosion.

Stainless steels cannot be considered indestructible, however. Under certain conditions the protective film can be broken down. This is why it is important to carefully select the appropriate grade of steel for a particular purpose.

### **13/0, 18/0, 18/8 or 18/10?**

In general, the corrosion and oxidation resistance of stainless steel improves as the chromium content increases. In the higher quality grades of stainless steel, such as 18/8

and 18/10, the addition of nickel further strengthens the oxide film and improves resistance to corrosion.

There are four main types of stainless steel used in the manufacture of table cutlery:

**13/0** is a 'martensitic' type of stainless steel and it can be hardened by heat treatment during the manufacturing process. This makes it ideally suited for the production of knife blades. 18/0, 18/8 and 18/10 cannot be hardened and

are therefore used to produce handles and all other cutlery pieces.

**18/0** is a 'ferritic' stainless steel. It is used in circumstances where corrosion resistance and therefore durability is considered not to be an important factor. The chromium content is around 18% but there is no addition of nickel.

**18/8** is an 'austenitic' stainless steel type, and is one of the most commonly used types. It contains 18% chromium, and the addition of 8% nickel makes it considerably more durable than 18/0.

**18/10** is also an 'austenitic' stainless steel type and is the highest grade available. It contains 18% chromium, but has an additional of 10% nickel. This makes it highly resistant to staining, rusting and corrosion. Its durability, perfect lustre and resistance to strong detergents makes it ideally suited to today's requirements of modern living.