

# Melting shop

## 01. Raw materials classification

The raw materials used in the stainless steel fabrication are scrap (ferrite) and stainless scrap, together with other alloying elements. In some grades molybdenum, titanium, niobium, etc. may be added to give different characteristics to stainless steel.

## 02. Electric Arc Furnace

The stainless steel is melted with the aid of a powerful arc between the graphite electrodes and the scrap. Once the fusion is finished, the liquid steel is poured to a container called ladle.

## 03. A.O.D. Converter

The A.O.D. Converter – Argon Oxygen Decarburization -, is where the carbon, silicon and sulphur are removed from the molten steel by blowing argon through the melt. During the process, several chemical composition and temperature controls are carried out.

## 04. Continuous casting

From melt steel to slab, the liquid steel contained in the casting ladle is poured in a tundish that adjusts the quantity of liquid steel that goes to a water-cooled copper-mould. When the steel becomes in contact with the mould, the exterior layers get solid. The steel forms a bead that slowly moves downwards along rotating steel rollers. The steel is then cut to suitable lengths using a cutting torch.

### **BILLET**

The billet is the product from melting shop for the production of stainless steel long product.