

Meited and hot Rolled products

The versatility fo stainless steel makes it deal for countless applications in may sectors. On this occasion, we would like to present the starting point, the base material which makes the production of others possible. The size and chemical composition of it optimise the subsequent processes.

A clear example is the billets, whose increased section, from 165x165 to 200x200, has allowed the improvement of the output in the wire rod manufacturing and also its application marking forged flanges.

Melting shop



In the melting shop the fusion process of raw materials take place in order to obtain stainless steel slabs or billets.

This process consists of 4 main phases:

- 1 Selection and storage of raw materials mainly scrap, not only the ferrous one but also the stainless scrap as well as many different ferroalloys.
- 2 The Electric arc furnace is where the material is melted by three graphite electrodes.
- 3 In the AOD converter (Argon Oxigen Decarburation) is where decarburation and refining process of the steel takes place.
- 4 The continuous casting. The liquid steel is poured into the tundish, from where the steel flows inside a heavy refrigerated copper slab caster which makes metal solidification in the external side.

BILLET

Billets are the initial products for the fabrication of long products such as wire rod and all the products that derive from it.

200 x 200 section allows the fabrication of a wide range of forge flanges. This product is commonly used in the petrochemical industry.

Section (mm)	Length (mm)
200 x 200	4000 - 7000

SLABS

Practically every slab is used in the following hot rolling processes

Thickness (mm)	Nominal wide (mm)	Length (mm)
200	915 - 1524	4000 - 12000

Hot rolling process



Hot rolling process consists in reducing the thickness of the slab at high temperature while maintaining the wide. This is how the black coil is obtained.

- 1 Process starts heating the slabs in the furnace up to the proper temperature for each grade. The decrease of the mechanical properties due to temperature allows reaching a quick thickness reduction when rolling.
- 2 Roughing process where initial 200 mm thick slabs, becomes a 20 to 30 mm thick plate.
- 3 The Steckel is a rolling mill with a coil former in each side. After several passes, it is possible to obtain thickness down to 2 mm.

Materials more than 10 mm thick are sent to the plates workshop, while the thinner ones are coiled to obtain black coils.

After the annealing and pickling process we can find them in the market as finish No 1. This finish has an average roughness from 3 to 6 μm .

PLATES

Individually annealed and pickled, their main applications are related with sheet metal forming, plasma or laser cutting and TIG or MIG welding.

Thickness (mm)	Nominal wide (mm)	Length (mm)
10,00 - 50,00	915 - 1524	2000 - 6000

HOT ROLLED COILS

Hot rolled coil is the result of annealing and pickling the black coil. Main industrial applications are related with tube, industrial equipment and barrels and boilers manufacturing.

Thickness (mm)	Nominal wide (mm)
2,00 - 10,00	915 - 1524

HOT ROLLED SHEET

It is produced from hot rolled coils after longitudinal cut, flattened and cross cutting. Among its applications we highlight the ones related with construction: floor plates, profiles manufacturing and structural beams.

Thickness (mm)	Nominal wide (mm)	Length (mm)
2,00 - 10,00	915 - 1524	2000 - 9000