



Hot Rolling of Sheets

Commentry, France



Key Features

- **Entry products:**
Slab geometries, max. 1250 x 80 x 310 mm and min. 700 x 25 x 230 mm, or reheated rolled sheets made from these slabs with a maximum weight of 260 kg
- **Exit sheet dimensions:**
 - Thickness 1-15 mm (grade dependent)
 - Overall length: 1- 4.50 m (overall width from 700-1270 mm)
- **Materials:**
 - High speed steels, Ni- & Co-base alloys, super alloys with grain size control and other alloys
- Demonstrated thickness tolerance capability superior to 1.0
- Automated data logging for all rolled products
- Heating supervision with automated traceability reports
- Aerospace culture of working to specifications, certifications and good traceability

Facilities

Automated four high reversible hot rolling mill:

- Main mill equipment: X-ray gauge, thickness control
- Main line heating equipment: 3 furnaces to heat up to 1200°C in an oxidizing or reducing atmosphere, automated slab and sheet handling, conveyers
- Main engines in twin drive setting, total power: 4000 kW. Variable rolling speed from 0.5-1.5 m/s with a high speed close loop for speed control with 10000 points per turn sensors. Flatness control.
- Rolling torque: 785000 Nm per work roll. Torque measurement with radio transmission
- Nominal rolling force: 2400 tons. Max.: 2900 tons. HGC and AGC to control the thickness.
- Work roll bending: 120 tons max. per side for flatness control in the cross section



Hot rolling mill

Certifications: ISO 9001:2000 and EN9100 (aerospace) quality standards

Contact

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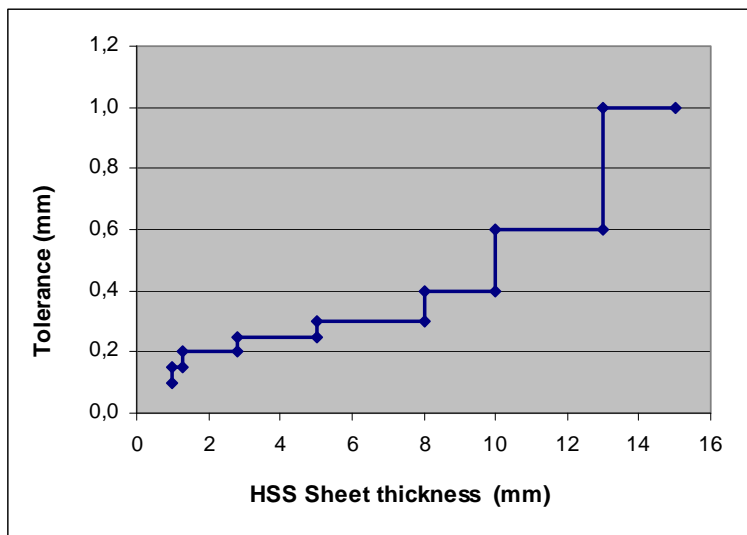
Packaging

Standard: wrapped in protective paper and strapped on wooden pallet or vacuum packed in thermo welded paper in wooden boxes for overseas transport. Max. weight is 1000kg/box.

Additional equipment

- Finishing of sheets
 - Polishing machine (abrasive belts with oil lubricant)
 - Tension leveller
 - Roll flatteners
 - Several sheet shears
 - Laser cutting machines
 - Final inspection (thickness, surface finish and ultrasonic testing)
- Heat treatment line (roller hearth furnace)
 - Furnace class 10
 - Treatment temperature from 800°C - 1200°C
- Shot blasting
- Pickling line
 - Sulphuric acid and nitro fluoro hydric acid
 - Molten salt baths (basic)
- Cold rolling mill
 - Standard finished size: 2000 x 1000 mm, up to 4000 mm long (grade dependant)
 - Manual entry and exit of individual sheets in the stand
 - Min. thickness: 0.6 mm +/- 0.06 mm (grade dependant)
- Laboratory inspections: a large part of our production is certified after mechanical testing or metallurgical evaluation

Thickness tolerances



Note: Tolerance range is based upon positive deviation from target thickness.

Absolute minimum thickness for HSS is 1.00 mm. This minimum limit is grade dependant.

Figure 1: Current tolerances for HSS (high speed steel) sheets