

This page is mainly introduced the 201 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 201, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Data Table for Grades Stainless Steels 201

| 201 Standard Number: |                     |                                                                                                                        |
|----------------------|---------------------|------------------------------------------------------------------------------------------------------------------------|
| ITEM                 | Standard Number     | Descriptions                                                                                                           |
| 1                    | A 213/A 213M (2011) | Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes                             |
| 2                    | A 240/A 240M (2012) | Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications |
| 3                    | A 249/A 249M (2010) | Welded Austenitic Steel Boiler, Superheater, Heat-Exchanger, and Condenser Tubes                                       |
| 4                    | A 276 (2010)        | Stainless Steel Bars and Shapes                                                                                        |
| 5                    | A 473 (2009)        | Stainless Steel Forgings                                                                                               |
| 6                    | A 666 (2010)        | Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar                                   |
| 7                    | A 959 (2011)        | Standard Guide for Specifying Harmonized Standard Grade Compositions for Wrought Stainless Steels                      |
| 8                    | SAE J 405 (1998)    | Chemical compositions of SAE wrought stainless steels                                                                  |

| 201 Chemical composition(mass fraction)(wt.%) |         |         |
|-----------------------------------------------|---------|---------|
| Chemical                                      | Min.(%) | Max.(%) |
| C                                             |         | 0.15    |
| Si                                            |         | 1.00    |
| Mn                                            | 5.05    | 7.50    |
| P                                             |         | 0.06    |
| S                                             |         | 0.03    |
| Cr                                            | 16.0    | 18.0    |
| Ni                                            | 3.50    | 5.50    |
| N                                             |         | 0.25    |

| 201 Physical Properties |         |                          |
|-------------------------|---------|--------------------------|
| Tensile strength        | 115-234 | $\sigma_b$ /MPa          |
| Yield Strength          | 23      | $\sigma_{0.2} \geq$ /MPa |
| Elongation              | 65      | $\delta_5 \geq$ (%)      |

|        |         |                  |
|--------|---------|------------------|
| $\psi$ | -       | $\psi \geq (\%)$ |
| Akv    | -       | $Akv \geq J$     |
| HBS    | 123-321 | -                |
| HRC    | 30      | -                |

### 201 Mechanical Properties

|                  |         |                                  |
|------------------|---------|----------------------------------|
| Tensile strength | 231-231 | $\sigma_b / \text{MPa}$          |
| Yield Strength   | 154     | $\sigma_{0.2} \geq / \text{MPa}$ |
| Elongation       | 56      | $\delta 5 \geq (\%)$             |
| $\psi$           | -       | $\psi \geq (\%)$                 |
| Akv              | -       | $Akv \geq J$                     |
| HBS              | 235-268 | -                                |
| HRC              | 30      | -                                |

### 201 Heat Treatment Regime

| Annealing | Quenching | Tempering | Normalizing | Q & T |
|-----------|-----------|-----------|-------------|-------|
| √         | √         | √         | √           | √     |

### 201 Range of products

| Product type    | Products                                 | Dimension                  | Processes                                   | Deliver Status                                                |
|-----------------|------------------------------------------|----------------------------|---------------------------------------------|---------------------------------------------------------------|
| Plates / Sheets | Plates / Sheets                          | 0.08-200mm(T)*W*L          | Forging, hot rolling and cold rolling       | Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting |
| Steel Bar       | Round Bar, Flat Bar, Square Bar          | $\Phi 8$ -1200mm*L         | Forging, hot rolling and cold rolling, Cast | Black, Rough Turning, Shot Blasting,                          |
| Coil / Strip    | Steel Coil / Steel Strip                 | 0.03-16.0x1200mm           | Cold-Rolled & Hot-Rolled                    | Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting |
| Pipes / Tubes   | Seamless Pipes/Tubes, Welded Pipes/Tubes | OD:6-219mm x WT:0.5-20.0mm | Hot extrusion, Cold Drawn, Welded           | Annealed, Solution and Aging, Q+T, ACID-WASHED                |

## We can produce Stainless Steels the specifications follows:

Note:

- (1) listed in the table apex diameter (d), to steel thickness (a) multiples said.
- (2) in the ASTM A6 standard specified scope can meet any additional conditions.
- (3) from the standard for 50 mm (2 in).

Mechanical properties

**Mechanische Eigenschaften****Caracteristiques mecaniques****ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d'élasticite minimale****Rm Tensile strength / Zugfestigkeit / Resistance a la traction****A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal****J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc****Round bar:****Diameter : 1mm-2000mm****Square bar:****Size: 50mm \* 50mm-600mm \*600mm****Plate steel/flat bar:****Size: Thickness: 0.1mm-800mm Width: 10mm to 1500mm****Tube/pipe:****Size: OD: 6-219mm WT: 1-35 mm.****Cold-rolled sheet: Thickness: 2-5mm Width:1000mm Length: 2000mm****Hot-rolled sheet: Thickness:6-80mm Width: 210-610mm****Length: We can supply any length based on the customer's requirement.****Forging/hot rolling/ extrusion of steel.****Forging: Shafts with flanks/pipes/tubes/slugs/donuts/cubes/other shapes****Finished goods condition: hot forging/hot rolling + annealing/normalizing + tempering/quenching + tempering/any conditions based on the customer's requirement****Surface conditions: scaled (hot working finish)/ground/rough machining/fine machining/based on the customer's requirement****Furnaces for metallurgical processing: electrode arc + LF/VD/VOD/ESR/Vacuum consumable electrode.****Ultrasonic inspection: 100% ultrasonic inspection for any imperfections or based on the customer's requirement.****UTS according to SEP 1921 C/c,D/d,E/e;A388 or GB/T 6402****Excellent service for all kinds of industries, with advantages of technologies, equipment and price.****We serve you with our honesty, integrity, and professionalism.**