

**This page is mainly introduced the 1.4501 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1.4501, 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 1.4501

| 1.4501 Standard Number: |                      |  |
|-------------------------|----------------------|--|
| ITEM                    | Standard Number      | Descriptions   |
| 1                       | NF EN 10028-7        | Flat products made of steels for pressure purposes - Part 7: Stainless steels  |
| 2                       | NF EN 10088-1        | Stainless steels - Part 1: List of stainless steels  |
| 3                       | NF EN 10088-2        | Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes  |
| 4                       | NF EN 10088-3        | Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes |
| 5                       | NF EN 10216-5 (2004) | Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes   |
| 6                       | NF EN 10217-7        | Welded steel tubes for pressure purposes - Technical delivery conditions - Part 7: Stainless steel tubes   |
| 7                       | NF EN 10250-4        | Open die steel forgings for general engineering purposes - Part 4: Stainless steels  |
| 8                       | NF EN 10253-3        | Butt-welding pipe fittings - Part 3: Wrought austenitic and austenitic-ferritic (duplex) stainless steels without specific inspection requirements                                     |
| 9                       | NF EN 10253-4        | Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements  |
| 10                      | NF EN 10272          | Stainless steel bars for pressure purposes   |
| 11                      | NF EN 10297-2 (2005) | Seamless circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel  |

| 1.4501 Chemical composition(mass fraction)(wt.%) |         |         |
|--|---------|---------|
| Chemical   | Min.(%) | Max.(%) |
| C  |         | 0.030   |
| Si   |         | 1.00    |
| Mn   |         | 1.00    |
| P  |         | 0.035   |
| S  |         | 0.015   |
| Cr   | 24.00   | 26.00   |
| Mo   | 3.00    | 4.00    |
| Ni   | 6.00    | 8.00    |
| Cu   | 0.50    | 1.00    |

|   |      |      |
|---|------|------|
| W | 0.05 | 1.00 |
| N | 0.20 | 0.30 |

### 1.4501 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      | -                        |

### 1.4501 Mechanical Properties

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

### 1.4501 Heat Treatment Regime

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

### 1.4501 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          | Φ8-1200mm*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                |

