

**This page is mainly introduced the STS316 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of STS316, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel STS316

| STS316 Standard Number: |                 |  |
|-------------------------|-----------------|--|
| ITEM                    | Standard Number | Descriptions   |
| 1                       | D 3535 (2002)   | Stainless steel wires for springs                    |
| 2                       | D 3692 (2001)   | Cold finished stainless steel bars                   |
| 3                       | D 3698 (2008)   | Cold rolled stainless steel plates, sheets and strip |
| 4                       | D 3702 (2008)   | Stainless steel wire rods                            |
| 5                       | D 3703 (2007)   | Stainless steel wires                                |
| 6                       | D 3705 (2008)   | Hot rolled stainless steel plates, sheets and strip  |
| 7                       | D 3706 (2008)   | Stainless steel bars                                 |
| 8                       | D 3749 (2008)   | Special alloys steel for chemical plant              |

| STS316 Chemical composition(mass fraction)(wt.%) |    |         |    |    |    |         |    |    |       |
|--|----|---------|----|----|----|---------|----|----|-------|
| Chemical   |    | Min.(%) |    |    |    | Max.(%) |    |    |       |
| C  |    |         |    |    |    | 0.08    |    |    |       |
| Si   |    |         |    |    |    | 1.00    |    |    |       |
| Mn   |    |         |    |    |    | 2.00    |    |    |       |
| P  |    |         |    |    |    | 0.045   |    |    |       |
| S  |    |         |    |    |    | 0.030   |    |    |       |
| Cr   |    | 16.00   |    |    |    | 18.00   |    |    |       |
| Ni   |    | 10.00   |    |    |    | 14.00   |    |    |       |
| Mo   |    | 2.00    |    |    |    | 3.00    |    |    |       |
| N  |    |         |    |    |    |         |    |    |       |
| C  | Si | Mn      | P  | S  | Cr | Ni      | Mo | V  | Ta    |
| W  | N  | Cu      | Co | Pb | B  | Nb      | Al | Ti | Other |
|  |    |         |    |    |    |         |    |    |       |

Special alloys steel for chemical plant

### STS316 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      | -                        |

### STS316 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      | -                        |

### STS316 Heat Treatment Regime

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

### STS316 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, | Φ8-1200mm*L       | Forging, hot rolling and              | Black, Rough Turning,   |

|               |  |                            |                                   |   |
|---------------|--|----------------------------|-----------------------------------|---|
|               | Square Bar                               |                            | cold rolling, Cast                | 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 Specialsteel the specifications follows:**