

This page is mainly introduced the 12Cr18Ni9 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 12Cr18Ni9, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Special Alloy 12Cr18Ni9

12Cr18Ni9 Standard Number:

| ITEM | Standard Number | Descriptions |
|------|-----------------|--------------|
|------|-----------------|--------------|

12Cr18Ni9 Chemical composition (mass fraction) (wt.%)

| Chemical | | | Min.(%) | | | | Max.(%) | | | |
|----------|---------|---------|-----------|----------|-----------|----------|---------|----|-------|--|
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta | |
| Max 0.15 | Max 1.0 | Max 2.0 | Max 0.045 | Max 0.03 | 17.0-19.0 | 8.0-10.0 | | | | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other | |
| | Max 0.1 | | | | | | | | | |

This standard specifies the stainless steel rods order contents, classification, code, size, shape, weight and allowable deviation, technical requirements, test methods, inspection rules, packaging, logo and certificate of quality. This standard applies to the size is not more than 250 mm hot rolled and forged stainless steel rods. The supply and demand both sides talks things over, can also supply the size larger than 250 mm hot rolled and forged stainless steel rods.

12Cr18Ni9 Physical Properties

| | | |
|------------------|---------|--------------------------|
| Tensile strength | 115-234 | σ_b /MPa |
| Yield Strength | 23 | $\sigma_{0.2} \geq$ /MPa |
| Elongation | 65 | $\delta_5 \geq$ (%) |
| ψ | - | $\psi \geq$ (%) |
| Akv | - | $Akv \geq$ /J |
| HBS | 123-321 | - |

| | | |
|-----|----|---|
| HRC | 30 | - |
|-----|----|---|

| 12Cr18Ni9 Mechanical Properties | | |
|---------------------------------|---------|--------------------------|
| Tensile strength | 231-231 | σ_b /MPa |
| Yield Strength | 154 | $\sigma_{0.2} \geq$ /MPa |
| Elongation | 56 | $\delta_5 \geq$ (%) |
| ψ | - | $\psi \geq$ (%) |
| Akv | - | Akv \geq /J |
| HBS | 235-268 | - |
| HRC | 30 | - |

| 12Cr18Ni9 Heat Treatment Regime | | | | |
|---------------------------------|-----------|-----------|-------------|-------|
| Annealing | Quenching | Tempering | Normalizing | Q & T |
| √ | √ | √ | √ | √ |

| 12Cr18Ni9 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 |

We can produce Special Alloy the specifications follows: