

**This page is mainly introduced the X7CrNi18-9 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X7CrNi18-9, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Special Steel X7CrNi18-9

### X7CrNi18-9 Standard Number:

| ITEM | Standard Number     | Descriptions  |
|------|---------------------|---|
| 1    | ISO 15510 (2010)    | Stainless steels -- Chemical composition  |
| 2    | ISO 16143-3 (2005)  | Stainless steels for general purposes -- Part 3: Wire   |
| 3    | ISO 4955 (2005)     | Heat-resistant steels   |
| 4    | ISO 9327-5          | Steel forgings and rolled or forged bars for pressure purposes - Technical delivery conditions - Part 5: Stainless steels                     |
| 5    | ISO 9328-5          | Steel plates and strips for pressure purposes - Technical delivery conditions - Part 5: Weldable fine grain steels, thermomechanically rolled |
| 6    | ISO 9329-4          | Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 4: Austenitic stainless steels                              |
| 7    | ISO/TS 15510 (2003) | Stainless steels - Chemical composition   |

### X7CrNi18-9 Chemical composition (mass fraction) (wt.%)

| Chemical |    | Min.(%) |    | Max.(%) |    |    |    |    |       |
|----------|----|---------|----|---------|----|----|----|----|-------|
| C        |    | 0.04    |    | 0.07    |    |    |    |    |       |
| Si       |    |         |    | 1.00    |    |    |    |    |       |
| Mn       |    |         |    | 2.00    |    |    |    |    |       |
| P        |    |         |    | 0.040   |    |    |    |    |       |
| S        |    |         |    | 0.030   |    |    |    |    |       |
| Cr       |    | 17.00   |    | 19.00   |    |    |    |    |       |
| Mo       |    | 8.00    |    | 11.00   |    |    |    |    |       |
| Ni       |    |         |    |         |    |    |    |    |       |
| C        | Si | Mn      | P  | S       | Cr | Ni | Mo | V  | Ta    |
| W        | N  | Cu      | Co | Pb      | B  | Nb | Al | Ti | Other |
|          |    |         |    |         |    |    |    |    |       |

Welded steel tubes for pressure purposes - Technical delivery conditions - Part 6: Longitudinally

welded austenitic stainless steel tubes

| X7CrNi18-9 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      | -                        |

| X7CrNi18-9 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      | -                        |

| X7CrNi18-9 Heat Treatment Regime |
|----------------------------------|
|----------------------------------|

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

| X7CrNi18-9 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 Specialsteel the specifications follows:**