

**This page is mainly introduced the 302 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 302, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel 302

| 302 Standard Number: |                          |  |
|----------------------|--------------------------|--|
| ITEM                 | Standard Number          | Descriptions   |
| 1                    | A 240/A 240M (2012)      | Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications |
| 2                    | A 313/A 313M (2010)      | Stainless Steel Spring Wire  |
| 3                    | A 314 (2008)             | Stainless Steel Billets and Bars for Forging   |
| 4                    | A 368 (2009)             | Stainless Steel Wire Strand  |
| 5                    | A 473 (2009)             | Stainless Steel Forgings   |
| 6                    | A 478 (2008)             | Chromium-Nickel Stainless Steel Weaving and Knitting Wire  |
| 7                    | A 479/A 479M (2011)      | Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels  |
| 8                    | A 492 (2009)             | Stainless Steel Rope Wire  |
| 9                    | A 493 (2009)             | Stainless Steel Wire and Wire Rods for Cold Heading and Cold Forging   |
| 10                   | A 511/A 511M (2012)      | Seamless Stainless Steel Mechanical Tubing   |
| 11                   | A 554 (2011)             | Welded Stainless Steel Mechanical Tubing   |
| 12                   | A 580/A 580M (2012)      | Stainless Steel Wire   |
| 13                   | A 666 (2010)             | Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar                                   |
| 14                   | A 959 (2011)             | Standard Guide for Specifying Harmonized Standard Grade Compositions for Wrought Stainless Steels                      |
| 15                   | SAE AMS-QQ-S-763B (1998) | Steel, Corrosion Resistant, Bars, Wire, Shapes, and Forgings Standard Withdrawn  |
| 16                   | SAE AMS-S-7720A (1997)   | Steel, Corrosion-Resistant (18-8) Bars, Wire and Forging Stock (Aircraft Quality)                                      |
| 17                   | SAE J 405 (1998)         | Chemical compositions of SAE wrought stainless steels  |
| 18                   | SAE J 467 (1968)         | Special Purpose Alloys   |

| 302 Chemical composition(mass fraction)(wt.%) |         |         |
|---|---------|---------|
| Chemical                                      | Min.(%) | Max.(%) |
| C   |         | 0.15    |
| Si  |         | 1.00    |
|   |         |         |

|    |    |      |    |       |    |    |    |    |       |
|----|----|------|----|-------|----|----|----|----|-------|
| Mn |    |      |    | 2.00  |    |    |    |    |       |
| P  |    |      |    | 0.045 |    |    |    |    |       |
| S  |    |      |    | 0.03  |    |    |    |    |       |
| Cr |    | 18.0 |    | 19.0  |    |    |    |    |       |
| Ni |    | 8.00 |    | 10.00 |    |    |    |    |       |
| C  | Si | Mn   | P  | S     | Cr | Ni | Mo | V  | Ta    |
| W  | N  | Cu   | Co | Pb    | B  | Nb | Al | Ti | Other |
|    |    |      |    |       |    |    |    |    |       |

A 240/A 240M (2012) Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General

Comment Austenitic (Chromium-Nickel) (Chromium-Manganese-Nickel)

| 302 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      | -                        |

| 302 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      | -                        |

### 302 Heat Treatment Regime

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

### 302 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:**