

This page is mainly introduced the **F 899 S42010 Datasheet**, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of F 899 S42010, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel F 899 S42010

### F 899 S42010 Standard Number:

| ITEM | Standard Number | Descriptions   |
|------|-----------------|--|
| 1    | F 899 (2012)    | Standard Specification for Wrought Stainless Steels for Surgical Instruments |

### F 899 S42010 Chemical composition (mass fraction) (wt.%)

| Chemical |    | Min.(%) |    | Max.(%) |    |    |    |    |       |
|----------|----|---------|----|---------|----|----|----|----|-------|
| C        |    | 0.15    |    | 0.30    |    |    |    |    |       |
| Mn       |    |         |    | 1.00    |    |    |    |    |       |
| Si       |    |         |    | 1.00    |    |    |    |    |       |
| P        |    |         |    | 0.04    |    |    |    |    |       |
| S        |    |         |    | 0.03    |    |    |    |    |       |
| Cr       |    | 13.50   |    | 15.00   |    |    |    |    |       |
| Ni       |    | 0.25    |    | 1.00    |    |    |    |    |       |
| Mo       |    | 0.40    |    | 1.00    |    |    |    |    |       |
| C        | Si | Mn      | P  | S       | Cr | Ni | Mo | V  | Ta    |
| W        | N  | Cu      | Co | Pb      | B  | Nb | Al | Ti | Other |
|          |    |         |    |         |    |    |    |    |       |

Standard Specification for Wrought Stainless Steels for Surgical Instruments

### F 899 S42010 Physical Properties

| F 899 S42010 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      | -                        |

### F 899 S42010 Mechanical Properties

| F 899 S42010 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      | -                        |

### F 899 S42010 Heat Treatment Regime

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

### F 899 S42010 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, | $\Phi 8$ -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:**