

This page is mainly introduced the **A 693 Type 631 Datasheet**, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of **A 693 Type 631**, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel A 693 Type 631

A 693 Type 631 Standard Number:

| ITEM | Standard Number | Descriptions |
|------|-----------------|--|
| 1 | A 693 (2006) | Precipitation-Hardening Stainless and Heat-Resisting Steel Plate, Sheet, and Strip |

A 693 Type 631 Chemical composition(mass fraction)(wt.%)

| Chemical | | Min.(%) | | | | Max.(%) | | | |
|----------|----|---------|----|----|----|---------|----|----|-------|
| C | | | | | | 0.09 | | | |
| Mn | | | | | | 1.00 | | | |
| Si | | | | | | 1.00 | | | |
| P | | | | | | 0.04 | | | |
| S | | | | | | 0.03 | | | |
| Cr | | 16.00 | | | | 18.00 | | | |
| Ni | | 6.50 | | | | 7.75 | | | |
| Mo | | | | | | | | | |
| Al | | 0.75 | | | | 1.50 | | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

Precipitation-Hardening Stainless and Heat-Resisting Steel Plate, Sheet, and Strip

A 693 Type 631 Physical Properties

| | | |
|------------------|---------|-----------------|
| Tensile strength | 115-234 | σ_b /MPa |
|------------------|---------|-----------------|

| | | |
|----------------|---------|----------------------------------|
| Yield Strength | 23 | $\sigma_{0.2} \geq / \text{MPa}$ |
| Elongation | 65 | $\delta 5 \geq (\%)$ |
| ψ | - | $\psi \geq (\%)$ |
| Akv | - | $Akv \geq / \text{J}$ |
| HBS | 123-321 | - |
| HRC | 30 | - |

A 693 Type 631 Mechanical Properties

| | | |
|------------------|---------|----------------------------------|
| Tensile strength | 231-231 | σ_b / MPa |
| Yield Strength | 154 | $\sigma_{0.2} \geq / \text{MPa}$ |
| Elongation | 56 | $\delta 5 \geq (\%)$ |
| ψ | - | $\psi \geq (\%)$ |
| Akv | - | $Akv \geq / \text{J}$ |
| HBS | 235-268 | - |
| HRC | 30 | - |

A 693 Type 631 Heat Treatment Regime

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

A 693 Type 631 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 | $\Phi 8-1200\text{mm} * L$ | 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: