

This page is mainly introduced the S31803 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of S31803, 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 S31803

### S31803 Standard Number:

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

### S31803 Chemical composition (mass fraction) (wt.%)

| Chemical | Min.(%) | Max.(%) |
|----------|---------|---------|
| C        |         | 0.03    |
| Mn       |         | 2.00    |
| Si       |         | 1.00    |
| P        |         | 0.03    |
| S        |         | 0.02    |
| Cr       | 21.00   | 23.00   |
| Ni       | 4.50    | 6.50    |
| Mo       | 2.50    | 3.50    |
| N        | 0.08    | 0.20    |

  

|   |    |    |    |    |    |    |    |    |       |
|---|----|----|----|----|----|----|----|----|-------|
| C | Si | Mn | P  | S  | Cr | Ni | Mo | V  | Ta    |
| W | N  | Cu | Co | Pb | B  | Nb | Al | Ti | Other |

Duplex (Austenitic-Ferritic) Chromium Nickel Molybdenum Nitrogen Stainless Steel

### S31803 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      | -                        |

### S31803 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      | -                        |

### S31803 Heat Treatment Regime

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

### S31803 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          | $\Phi 8$ -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:**