

This page is mainly introduced the A 511 S31803 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of A 511 S31803, 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 511 S31803

A 511 S31803 Standard Number:

| ITEM | Standard Number | Descriptions |
|------|---------------------|--|
| 1 | A 511/A 511M (2012) | Seamless Stainless Steel Mechanical Tubing |

A 511 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 |
| | | | | | | | | | |

Seamless Stainless Steel Mechanical Tubing

A 511 S31803 Physical Properties

| | | |
|------------------|---------|--------------------------|
| Tensile strength | 115-234 | σ_b /MPa |
| Yield Strength | 23 | $\sigma_{0.2} \geq$ /MPa |
| Elongation | 65 | $\delta 5 \geq$ (%) |
| ψ | - | $\psi \geq$ (%) |
| Akv | - | $Akv \geq$ /J |
| HBS | 123-321 | - |
| HRC | 30 | - |

A 511 S31803 Mechanical Properties

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

A 511 S31803 Heat Treatment Regime

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

A 511 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, | $\Phi 8$ -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: