

This page is mainly introduced the 51CrMnV4 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 51CrMnV4, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Tool Steel And Hard Alloy 51CrMnV4

51CrMnV4 Standard Number:

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

51CrMnV4 Chemical composition (mass fraction) (wt.%)

| Chemical | | | | Min.(%) | | | Max.(%) | | |
|-----------|-----------|-----------|-----------|-----------|-----------|----|---------|-----------|-------|
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| 0.47-0.55 | 0.15-0.35 | 0.80-1.10 | Max 0.030 | Max 0.030 | 0.90-1.20 | | | 0.10-0.20 | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

51CrMnV4

51CrMnV4 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 | - |

51CrMnV4 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 | - |

51CrMnV4 Heat Treatment Regime

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

51CrMnV4 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 Tool Steel And Hard Alloy the specifications follows: