

This page is mainly introduced the ASTM 1013 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of ASTM 1013, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Structure Steel ASTM 1013

ASTM 1013 Standard Number:

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

ASTM 1013 Chemical composition (mass fraction) (wt.%)

| Chemical | | | Min.(%) | | | | Max.(%) | | |
|-----------|----|-----------|---------|--------|----|----|---------|----|-------|
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| 0.11~0.16 | | 0.50~0.80 | ≤0.040 | ≤0.050 | | | | | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

- Note: 1. ASTM standard quality level of carbon steel rod can see ASTM cold A108-1999, its GangHao the chemical composition of the same with this form.
2. ASTM special levels of quality carbon steel rod can see the hot working ASTM A576 (90 b) (2000), the GangHao the chemical composition of the same with this form.
3. Require Si content (mass fraction), usually in the following 4 files a choice: 0.10% or Si, Si 0.10 ~ 0.20%, Si 0.20 ~ 0.40%, Si 0.30 ~ 0.60%.
4. Require Cu content (quality score) is 0.20% or Cu.

ASTM 1013 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 | - |

| ASTM 1013 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 | - |

| ASTM 1013 Heat Treatment Regime | | | | |
|---------------------------------|-----------|-----------|-------------|-------|
| Annealing | Quenching | Tempering | Normalizing | Q & T |
| √ | √ | √ | √ | √ |

| ASTM 1013 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 Structure Steel the specifications follows: