

This page is mainly introduced the 1025 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1025, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Data Table for Grades Structural Steel 1025

| 1025 Standard Number: | | |
|-----------------------|------------------------|--|
| ITEM | Standard Number | Descriptions |
| 1 | SAE AMS 5046D (2012) | Carbon Steel, Sheet, Strip, and Plate (SAE 1020 and 1025) Annealed |
| 2 | SAE AMS 5075F (2001) | Steel Tubing, Seamless 0.22 - 0.28C (SAE 1025) Cold Drawn and Stress Relieved |
| 3 | SAE AMS 5077G (2006) | Steel Tubing, Welded (0.22 - 0.28C) (SAE 1025) Normalized or Stress Relieved |
| 4 | SAE AMS-S-7952A (1998) | Steel, Sheet and Strip, Uncoated, Carbon (1020 and 1025) (Aircraft Quality) |
| 5 | SAE AMS-T-5066A (2005) | Tubing, Carbon Steel (1025), (Aircraft Quality) |
| 6 | A 1040 (2010) | Standard Guide for Specifying Harmonized Standard Grade Compositions for Wrought Carbon, Low-Alloy, and Alloy Steels |
| 7 | A 108 | Steel Bar, Carbon and Alloy, Cold-Finished |
| 8 | A 29/A 29M (2012) | Steel Bars, Carbon and Alloy, Hot-Wrought, General Requirements for |
| 9 | A 510/A 510M (2011) | General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel |
| 10 | A 512 (2006) | Cold-Drawn Buttweld Carbon Steel Mechanical Tubing |
| 11 | A 513/A 513M (2012) | Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing |
| 12 | A 519 (2006) | Seamless Carbon and Alloy Steel Mechanical Tubing |
| 13 | A 575 (2007) | Steel Bars, Carbon, Merchant Quality, M-Grades |
| 14 | A 576 (1990) | Steel Bars, Carbon, Hot-Wrought, Special Quality |
| 15 | A 830/A 830M (2011) | Plates, Carbon Steel, Structural Quality, Furnished to Chemical Composition Requirements |
| 16 | SAE J 1397 (1992) | Estimated Mechanical Properties and Machinability of Steel Bars |
| 17 | SAE J 403 (2009) | Chemical Compositions of SAE Carbon Steels |

| 1025 Chemical composition(mass fraction)(wt.%) | | |
|--|---------|---------|
| Chemical | Min.(%) | Max.(%) |
| C | 0.22 | 0.28 |
| Mn | 0.30 | 0.60 |
| P | | 0.040 |
| S | | 0.050 |

1025 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 | - |

1025 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 | - |

1025 Heat Treatment Regime

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

1025 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 | Φ 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 Structural Steel the specifications follows:

Note:

- (1) listed in the table apex diameter (d), to steel thickness (a) multiples said.
- (2) in the ASTM A6 standard specified scope can meet any additional conditions.
- (3) from the standard for 50 mm (2 in).

Mechanical properties

Mechanische Eigenschaften

Caracteristiques mecaniques

ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d'elasticite minimale

Rm Tensile strength / Zugfestigkeit / Resistance a la traction

A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal

J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc

Round bar:

Diameter : 1mm-2000mm

Square bar:

Size: 50mm * 50mm-600mm *600mm

Plate steel/flat bar:

Size: Thickness: 0.1mm-800mm Width: 10mm to 1500mm

Tube/pipe:

Size: OD: 6-219mm WT: 1-35 mm.

Cold-rolled sheet: Thickness: 2-5mm Width:1000mm Length: 2000mm

Hot-rolled sheet: Thickness:6-80mm Width: 210-610mm

Length: We can supply any length based on the customer's requirement.

Forging/hot rolling/ extrusion of steel.

Forging: Shafts with flanks/pipes/tubes/slugs/donuts/cubes/other shapes

Finished goods condition: hot forging/hot rolling + annealing/normalizing + tempering/quenching + tempering/any conditions based on the customer's requirement

Surface conditions: scaled (hot working finish)/ground/rough machining/fine machining/based on the customer's requirement

Furnaces for metallurgical processing: electrode arc + LF/VD/VOD/ESR/Vacuum consumable electrode.

Ultrasonic inspection: 100% ultrasonic inspection for any imperfections or based on the customer's requirement.

UTS according to SEP 1921 C/c,D/d,E/e;A388 or GB/T 6402

Excellent service for all kinds of industries, with advantages of technologies, equipment and price.

We serve you with our honesty, integrity, and professionalism.