

This page is mainly introduced the ASTM 633 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of ASTM 633, 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 ASTM 633

ASTM 633 Standard Number:

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

ASTM 633 Chemical composition (mass fraction) (wt.%)

| Chemical | | | Min.(%) | | | | Max.(%) | | |
|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----|-------|
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| 0.07-0.11 | Max 0.50 | 0.50-1.25 | Max 0.04 | Max 0.03 | 16.0-17.0 | 4.00-5.00 | 2.50-1.25 | | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | 0.07-0.13 | | | | | | | | |

ASTM 633

ASTM 633 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 633 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 633 Heat Treatment Regime

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

ASTM 633 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 Special Steel the specifications follows: