

This page is mainly introduced the Q195 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Q195, 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 Q195

Q195 Standard Number:

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

Q195 Chemical composition (mass fraction) (wt.%)

| Chemical | | | Min.(%) | | | | Max.(%) | | |
|-----------|-------|-----------|---------|--------|-------|-------|---------|----|-------|
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| 0.06~0.12 | ≤0.30 | 0.25~0.50 | ≤0.045 | ≤0.050 | ≤0.30 | ≤0.30 | | | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | ≤0.30 | | | | | | | |

Mechanics performance

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | ≤ 16:195

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:185

Tensile strength σ_b /MPa: 315 ~ 430

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | than 16:33

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:32

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 40 to 60:-

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 60 ~ 100:-

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 100 ~ 150:-

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 150:-

Impact test (1) | temperature / °C :-

Impact test (1) | impact absorption power AKV/J:-

Cold bending property

Sample direction: vertical

180 ° of cold bending test $b = 2a$ different thickness or in steel diameter/mm | than 60:0

180 ° of cold bending test $b = 2a$ different thickness or in steel diameter/mm | > 60 ~ 100:-

180 ° of cold bending test $b = 2a$ different thickness or in steel diameter/mm | > 100 ~ 200:-

Performance characteristics and applications

High plasticity and toughness and welding performance, good pressure processing performance, but low strength.

Load small parts, spacers, rivets, the anchor bolt, colter, funnel, roof, low carbon steel wire, plates, welded pipe, bars, split cotters, and stamping parts, components etc.

GB/T 700-1988 standard and GB 700-1979 standard steel grade comparison

GB/T 700-1988 standadr:

Regardless of rank, the chemical composition and mechanical properties (σ_s , σ_b , the delta and the cold bending) are to be guaranteed

Rolling plate and rod of products, the mechanical properties of the guarantee condition, can according to product characteristics and

application requirements, in the standard separately

GB 700-1979 standard

A1 the mechanical properties of the steel guarantee (σ_s , σ_b , the delta and the cold bending), B1 steel guarantee the chemical composition of the same with Q195

A1 steel cold bending test is additional guarantee conditions

1 no special steel of steel

| Q195 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 | - |

| Q195 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 | - |

| Q195 Heat Treatment Regime | | | | |
|----------------------------|-----------|-----------|-------------|-------|
| Annealing | Quenching | Tempering | Normalizing | Q & T |
| √ | √ | √ | √ | √ |

| Q195 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 | Φ8-1200mm*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: