

This page is mainly introduced the Custom 455 Grade 1 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Custom 455 Grade 1, 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 Custom 455 Grade 1

Custom 455 Grade 1 Standard Number:

| ITEM | Standard Number | Descriptions |
|------|----------------------|--|
| 1 | SAE AMS 5617J (2006) | Steel, Corrosion-Resistant, Bars, Wire, and Forgings 12Cr - 8.5Ni - 1.2Ti - 2.0Cu Vacuum Induction Plus Vacuum Consumable Electrode Melted Solution Heat Treated, Precipitation Hardenable |

Custom 455 Grade 1 Chemical composition (mass fraction) (wt.%)

| Chemical | Min.(%) | Max.(%) |
|----------|---------|-----------|
| C | | 0.02 |
| Si | | |
| Mn | | |
| P | | |
| S | | |
| Ni | | 8.50 |
| Cr | | 12.00 |
| Al | | |
| Cu | | 2.00 |
| Ti | | 1.15 |
| Fe | | remaining |
| Mo | | |
| Co | | |
| Nb | | 0.38 |
| B | | 0.003 |

| | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|-------|
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |

Steel, Corrosion-Resistant, Bars, Wire, and Forgings 12Cr - 8.5Ni - 1.2Ti - 2.0Cu Vacuum Induction

Plus Vacuum Consumable Electrode Melted Solution Heat Treated, Precipitation Hardenable

Custom 455 Grade 1 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 | - |

Custom 455 Grade 1 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 | - |

Custom 455 Grade 1 Heat Treatment Regime

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

| Custom 455 Grade 1 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 Specialsteel the specifications follows: