

This page is mainly introduced the 416S41 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 416S41, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 416S41

| 416S41 Standard Number: | | |
|-------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITEM | Standard Number | Descriptions |
| 1 | BS 1554 | Specification for stainless and heat-resisting steel round wire |
| 2 | BS 970-1 | Specification for wrought steels for mechanical and allied engineering purposes. General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels |
| 3 | BS 970-3 | Specification for wrought steels for mechanical and allied engineering purposes. Bright bars for general engineering purposes |

| 416S41 Chemical composition (mass fraction) (wt.%) | | | | | | | | | |
|----------------------------------------------------|----|---------|----|----|---------|----|----|----|-------|
| Chemical | | Min.(%) | | | Max.(%) | | | | |
| C | | 0.09 | | | 0.15 | | | | |
| Si | | | | | 1.00 | | | | |
| Mn | | | | | 1.50 | | | | |
| P | | | | | 0.06 | | | | |
| S | | | | | 0.06 | | | | |
| Cr | | 11.50 | | | 13.50 | | | | |
| Mo | | | | | 0.60 | | | | |
| Ni | | | | | 1.00 | | | | |
| Se | | 0.15 | | | 0.35 | | | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

Specification for wrought steels for mechanical and allied engineering purposes. Bright bars for

general engineering purposes

416S41 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 | - |

416S41 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 | - |

416S41 Heat Treatment Regime

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

| 416S41 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: