

This page is mainly introduced the 15-5PH Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 15-5PH, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 15-5PH

| 15-5PH Standard Number: | | |
|-------------------------|----------------------|--|
| ITEM | Standard Number | Descriptions |
| 1 | SAE AMS 5346C (2006) | Steel, Corrosion-Resistant, Investment Castings 15Cr - 4.6Ni - 0.22Cb (Nb) - 2.8Cu Solution and Precipitation Heat Treated (H925) 180 ksi (1241 MPa) Tensile Strength (15-5) |
| 2 | SAE AMS 5347B (2006) | Steel, Corrosion-Resistant, Investment Castings 15Cr - 4.6Ni - 0.22Cb (Nb) - 2.8Cu Solution and Precipitation Heat Treated (H1000) 150 ksi (1034 MPa) Tensile Strength (15-5) |
| 3 | SAE AMS 5357C (2011) | Steel, Corrosion Resistant, Investment Castings 15Cr - 4.6Ni - 0.22Cb - 2.8Cu Solution Heat Treated, Precipitation Hardenable |
| 4 | SAE AMS 5400B (2007) | Steel, Corrosion-Resistant, Investment Castings 15Cr - 4.6Ni - 0.22Cb - 2.8Cu Solution and Precipitation Heat Treated (H935) 170 ksi (1172 MPa) Tensile Strength |
| 5 | SAE AMS 5659N (2012) | Steel, Corrosion-Resistant, Bars, Wire, Forgings, Rings, and Extrusions 15Cr - 4.5Ni - 0.30Cb (Nb) - 3.5Cu Consumable Electrode Melted Solution Heat Treated, Precipitation Hardenable |

| 15-5PH Chemical composition(mass fraction)(wt.%) | | | | | | | | | |
|--|----|----|---------|----|----|---------|----|----|-------|
| Chemical | | | Min.(%) | | | Max.(%) | | | |
| C | | | | | | 0.07 | | | |
| Si | | | | | | | | | |
| Mn | | | | | | | | | |
| Cr | | | 14.0 | | | 15.5 | | | |
| Ni | | | 3.5 | | | 5.5 | | | |
| Cu | | | 2.5 | | | 4.5 | | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| | | | | | | | | | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

High temperature alloys and other special alloys

15-5PH 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 | - |

15-5PH 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 | - |

15-5PH Heat Treatment Regime

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

15-5PH 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 |

□ □ □□ □□□□□□□□□□□□□□□□□□□□