

This page is mainly introduced the 1.4542 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1.4542, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 1.4542

| 1.4542 Standard Number: | | |
|-------------------------|-----------------|--|
| ITEM | Standard Number | Descriptions |
| 1 | NF EN 10088-1 | Stainless steels - Part 1: List of stainless steels |
| 2 | NF EN 10088-2 | Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes |
| 3 | NF EN 10088-3 | Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes |
| 4 | NF EN 10088-4 | Stainless steels - Part 4: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes |
| 5 | NF EN 10088-5 | Stainless steels - Part 5: Technical delivery conditions for bars, rods, wire, sections and bright products of corrosion resisting steels for construction purposes |
| 6 | NF EN 10250-4 | Open die steel forgings for general engineering purposes - Part 4: Stainless steels |

| 1.4542 Chemical composition (mass fraction) (wt.%) | | | | | | | | | |
|--|----|---------|----|----|---------|----|----|----|-------|
| Chemical | | Min.(%) | | | Max.(%) | | | | |
| C | | | | | 0.07 | | | | |
| Si | | | | | 0.70 | | | | |
| Mn | | | | | 1.50 | | | | |
| P | | | | | 0.040 | | | | |
| S | | | | | 0.015 | | | | |
| Cr | | 15.00 | | | 17.00 | | | | |
| Mo | | | | | 0.60 | | | | |
| Ni | | 3.00 | | | 5.00 | | | | |
| Cu | | 3.00 | | | 5.00 | | | | |
| Nb | | 5×C | | | 0.45 | | | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

Open die steel forgings for general engineering purposes - Part 4: Stainless steels

1.4542 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 | - |

1.4542 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 | - |

1.4542 Heat Treatment Regime

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

1.4542 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: