

**This page is mainly introduced the 420S37 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 420S37, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel 420S37

| 420S37 Standard Number: |                 |                                                                                                                                                                                                               |
|-------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITEM                    | Standard Number | Descriptions                                                                                                                                                                                                  |
| 1                       | BS 1554         | Specification for stainless and heat-resisting steel round wire                                                                                                                                               |
| 2                       | BS 6258         | Specification for hollow steel bars for machining                                                                                                                                                             |
| 3                       | 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 |
| 4                       | BS 970-3        | Specification for wrought steels for mechanical and allied engineering purposes. Bright bars for general engineering purposes                                                                                 |

| 420S37 Chemical composition(mass fraction)(wt.%) |    |         |    |    |         |    |    |    |       |
|--------------------------------------------------|----|---------|----|----|---------|----|----|----|-------|
| Chemical                                         |    | Min.(%) |    |    | Max.(%) |    |    |    |       |
| C                                                |    | 0.20    |    |    | 0.28    |    |    |    |       |
| Si                                               |    |         |    |    | 1.00    |    |    |    |       |
| Mn                                               |    |         |    |    | 1.00    |    |    |    |       |
| P                                                |    |         |    |    | 0.04    |    |    |    |       |
| S                                                |    |         |    |    | 0.03    |    |    |    |       |
| Cr                                               |    | 12.00   |    |    | 14.00   |    |    |    |       |
| Mo                                               |    |         |    |    |         |    |    |    |       |
| Ni                                               |    |         |    |    | 1.00    |    |    |    |       |
| 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

### 420S37 Physical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 115-234 | $\sigma_b$ /MPa          |
| Yield Strength   | 23      | $\sigma_{0.2} \geq$ /MPa |
| Elongation       | 65      | $\delta_5 \geq$ (%)      |
| $\psi$           | -       | $\psi \geq$ (%)          |
| Akv              | -       | Akv $\geq$ /J            |
| HBS              | 123-321 | -                        |
| HRC              | 30      | -                        |

### 420S37 Mechanical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 231-231 | $\sigma_b$ /MPa          |
| Yield Strength   | 154     | $\sigma_{0.2} \geq$ /MPa |
| Elongation       | 56      | $\delta_5 \geq$ (%)      |
| $\psi$           | -       | $\psi \geq$ (%)          |
| Akv              | -       | Akv $\geq$ /J            |
| HBS              | 235-268 | -                        |
| HRC              | 30      | -                        |

### 420S37 Heat Treatment Regime

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

### 420S37 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:**