

Description

420C/1.4034 is a martensitic stainless steel known for its high hardness, wear resistance, and moderate corrosion resistance. It is commonly used in applications requiring good mechanical properties and resistance to wear and tear.

Chemical Composition

The chemical composition of 420C stainless steel is as follows:

Element	Composition (%)
Carbon (C)	0.43 - 0.50
Silicon (Si)	1.00 max
Manganese (Mn)	1.00 max
Phosphorus (P)	0.040 max
Sulfur (S)	0.030 max
Chromium (Cr)	12.50 - 14.50

Mechanical Properties

The mechanical properties of 420C include:

- Hardness: 54 - 60 HRC

- Ultimate Tensile Strength: 1700 - 1900 MPa
- Yield Strength: 650 - 800 MPa (varies with heat treatment)
- Elongation (A5): Minimum 7% (depending on size)

Thermal & Physical Properties

- Specific Weight: 7.73 g/cm³
- Maximum Working Temperature: 400 °C
- Magnetism: Magnetic

Other Designations

420C is also known by various designations, including:

- DIN: 1.4034
- EN: X46Cr13
- AISI: 420C
- JIS: SUS420J2

Fabrication and Heat Treatment

- Heat Treatment: **420C/1.4034** can be quenched and tempered to enhance its mechanical properties. Typical heat treatment involves heating to 950-1050 °C followed by quenching in oil or air and tempering at 650-700 °C.

Applications

420C/1.4034 is widely used in:

- Special bearings
- Anti-friction bearings
- Valves and pumps
- Lighters
- Ballpoint pens
- Automotive components

Supplied Form

420C/1.4034 stainless steel is typically supplied in the form of:

- Balls (3.00 mm to 76.20 mm)
- Bars

- Sheets

Features

- Excellent hardness and wear resistance
- Good corrosion resistance in specific environments
- Suitable for high-stress applications

This datasheet provides a comprehensive overview of the **420C/1.4034** grade, highlighting its key properties and applications relevant to various industries.

