

AISI 4340 Alloy Steel

AISI 4340 steel stockholders and suppliers, delivering to the whole of the UK. AISI 4340 is a nickel chromium molybdenum alloy steel specification widely used in the oil and gas sectors. 4340 steel offers toughness and high strength in the heat treated condition, with good fatigue strength. Available in round bar 4340 is available fully certified and suitable for applications requiring a quality high tensile alloy steel. AISI 4340 is commonly supplied quenched and tempered with a hardness of between 24 to 29HRc.

We welcome export enquiries for AISI 4340 steel. Contact our sales office and consult our [shipping policy](#) for further details.

Form of Supply

West Yorkshire Steel are suppliers AISI 4340 in round bar. Diameters can be supplied as full bar lengths or cut blanks. 4340 ground steel bar can be produced, providing a good quality alloy steel precision ground bar to close tolerances.

Contact our experienced sales team who will assist you with your AISI 4340 alloy steel enquiry.

- Diameter
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Applications

This grade of steel is suited for shock loading or stress concentration applications such as shafts, gears, bolts, nuts, pins and couplings.

Analysis

| | | | |
|-------------|------------|------------|------------|
| Carbon | 0.38-0.43% | Chromium | 0.70-0.90% |
| Manganese | 0.60-0.80% | Molybdenum | 0.20-0.30% |
| Silicon | 0.15-0.35% | Nickel | 1.65-2.00% |
| Phosphorous | 0.025% max | Sulphur | 0.025% max |

Forging

Preheat the steel carefully, then raise the temperature to 1150-1210°C for forging. Do not forge below 850°C. 4340 has good forging characteristics but care must be taken when cooling as the steel shows susceptibility to cracking. Cooling in ash or lime after forging is recommended.

Annealing

Heat the steel slowly to 800-860°C and allow enough time for the steel to be thoroughly heated. Cool slowly in the furnace.

Stress Relieving

When components are heavily machined, ground or otherwise subject to cold work, stress relieving will be beneficial prior to hardening.

Hardening

4340 steel is usually supplied ready heat treated. If further heat treatment is required annealed 4340 should be heated slowly to 830-865°C and after adequate soaking at this temperature quench in oil. Temper as soon as the steel reaches room temperature.

Tempering

Heat the steel carefully to a suitable temperature selected by reference to a tempering chart or table, soak at the temperature for 2 hours per 25mm of section, then allow to cool in air.

Heat Treatment

Heat treatment temperatures, such as rate of heating, cooling and soaking times can vary due to factors such as the shape and size of each steel component. Other considerations during the heat treatment of 4340 include the type of furnace, quenching medium and work piece transfer facilities. Please consult a heat treatment specialist for full guidance on heat treatment.

Certification

AISI 4340 alloy steel is available with a cast and analysis certificate or a BS EN 10204 3.1 mill certificate, please request with our sales department when placing any orders.

Quality Assured Supply

AISI 4340 round bar is supplied in accordance with our ISO 9001:2015 registration.