

31CrMoV9 Steel

31CrMoV9 steel suppliers and stockholders delivering to the whole of the UK. West Yorkshire Steel are stockholders and suppliers of this grade in round bar in this grade which is commonly used in the automotive industry. 31CrMoV9 is a chromium molybdenum vanadium nitriding steel type grade commonly supplied in the quenched and tempered condition.

Form of Supply

West Yorkshire Steel are stockholders and suppliers of round bar. Diameters can be sawn to your required lengths as one offs or multiple cut pieces. Precision ground tool steel bar can be supplied, providing a quality precision ground bar to tight tolerances.

Contact our experienced sales team who will assist you with your 31CrMoV9 steel enquiry

- Diameter

Applications

With its high wear resistance 31CrMoV9 steel is used widely in the engineering and automotive industries. It is suitable for components with medium and large cross sections which require high tensile strength and good toughness. Typically used in gear and engine construction for components such as crankshafts, connecting rods, steering knuckles, screws and bolts.

Analysis

Carbon	0.27-0.34%	Chromium	2.30-2.70%
Manganese	0.40-0.70%	Molybdenum	0.15-0.25%
Sulphur	0.035% max	Silicon	0.40% max
Phosphorous	0.025% max	Vanadium	0.10-0.25%

Forging

Heat the 31CrMoV9 component slowly, allowing sufficient time for the steel to become heated through. Begin forging at 1050°C. Do not forge below 930°C reheating if necessary. After forging, cool very slowly.

Normalising

Heat to 860-900°C. Soak well and allow to cool in the air.

Annealing

Heat the steel uniformly to 680-720°C. Soak well, cool slowly in the furnace. Hardness after annealing is 248 HB max.

Hardening

Heat slowly and uniformly to 840-880°C until heated through. Quench in oil or water.

Tempering

Heat carefully to a suitable temperature, selected by reference to a tempering chart or table (usually between 540-680°C). Soak at the temperature for 2 hours per 25mm of ruling section, then allow to cool in the air.

Nitriding

Tools machined from pre-hardened 31CrMoV9 may be nitrided to give a wear resistant case of approximately 800 HV surface hardness.

Heat Treatment

Heat treatment temperatures, including rate of heating, cooling and soaking times will vary due to factors such as the shape and size of each steel component. Other considerations during the heat treatment process include the type of furnace, quenching medium and work piece transfer facilities. Please consult your heat treatment provider for full guidance on heat treatment of 1.8519 tool steel.

Quality Assured Supply

1.8519 tool steel is supplied in accordance with our ISO 9001:2015 registration.