

51CrV4 Spring Steel

51CrV4 spring steel suppliers, delivering throughout the whole of the UK. West Yorkshire Steel are suppliers of this chromium vanadium type spring steel commonly supplied in the as rolled condition. 51CrV4 grade is suitable for oil hardening and tempering. and when used in the oil hardened and tempered condition 51CrV4 gives spring characteristics with good wear and abrasion resistance. Hardened 51CrV4 offers excellent toughness with shock resistance making it a suitable alloy spring steel for parts exposed to stress, shock and vibration.

We welcome export enquiries for 51CrV4 spring steel. Contact our sales office and consult our [shipping policy](#) for further details.

Alternative spring steel grades we supply

[CS70](#) | [CS80](#) | [CS95](#) | [CS100](#) | [EN42](#) | [EN43](#) | [EN45](#) | [EN47](#) | [735A50](#) | [301](#)

Form of Supply

Suppliers of 51CrV4 round bar we can offer diameters which can be sawn to your required lengths as 1 offs or multiple cut pieces. Ground steel bar can be supplied, providing a high quality precision ground spring steel bar to your required tolerances.

- Diameter

Applications

51CrV4 is used widely in the motor vehicle industry and is suitable for many general engineering applications that require high tensile strength and toughness with spring steel characteristics. Typical applications include spindles, pumps, gears crankshafts and steering knuckles

Analysis

Carbon	0.47-0.55%	Silicon	0.40% max
Manganese	0.70-1.10%	Chromium	0.90-1.20%
Phosphorous	0.025% max	Sulphur	0.025% max
Vanadium	0.10-0.25%		

Forging

Preheat carefully, then raise temperature to 1050°C for forging. Do not forge below 840°C. After forging cool slowly in a furnace.

Annealing

Heat slowly to 820-840°C, soak well and cool slowly in a furnace.

Hardening

Heat slowly to 650-700°C and thoroughly soak. Continue to heat the 51CrV4 steel to the final hardening temperature of 830-860°C and allow to be heated through. Oil quench.

Tempering

Temper immediately after hardening whilst tools are still hand warm. Re-heat to the tempering temperature then soak for one hour per 25 millimetre of total thickness (2 hours minimum) Cool in air. Tempering of this grade will be between 400-600°C for most applications.

Heat Treatment

Heat treatment temperatures, including rate of heating, cooling and soaking times etc. will vary due to factors such as the shape and size of each component. Other considerations during heat treatment of 51CrV4 spring steel include the type of furnace, quenching medium and work piece transfer facilities. Please consult a heat treatment provider for full guidance on heat treatment of.

Welding

We recommend you contact your welding consumables supplier who should provide you full assistance and information on welding 51CrV4 chromium vanadium spring steel.

Certification

51CrV4 is a chrome vanadium grade commonly supplied as rolled and available with cast and analysis certification, please request when placing any orders.

Quality Assured Supply

51CrV4 spring steel is supplied in accordance with our ISO 9001:2015 registration.