



735A51 Spring Steel

735A51 round bar

735A51 steel stockholders and suppliers, delivering throughout the UK.

735A51 chromium vanadium type spring steel in round bar. Supplied in the as rolled condition 735A51 is suitable for oil hardening and tempering. When used in the oil hardened and tempered condition this spring steel combines spring characteristics with good wear and abrasion resistance. When hardened 735A51 offers excellent toughness and shock resistance which makes it a suitable alloy spring steel for parts exposed to stress, shock and vibration.

Spring steel grades we supply

[CS70](#) | [CS80](#) | [CS95](#) | [CS100](#)
[EN42](#) | [301](#) | [75Cr1](#)

Form of Supply

Suppliers of round bar we can offer diameters in 735A51 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 tight tolerances.



- Round
- Flat (limited range)

Contact our experienced sales team who will assist you with your 735A51 spring steel enquiry.

Applications

Used widely in the motor vehicle industry 735A51 is suitable for many general engineering applications that require high tensile strength and toughness. Typical applications include crankshafts, steering knuckles, spindles, pumps and gears.

Analysis

Carbon	0.48-0.54%	Silicon	0.20-0.30%
Manganese	0.70-1.00%	Chromium	0.90-1.20%
Sulphur	0.035% max	Phosphorous	0.035% max
Vanadium	0.10-0.20%		

Forging

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

Annealing

Heat the steel slowly to 820-840°C, soak well. Cool slowly in a furnace.

Hardening

Heat slowly to 650-700°C and thoroughly soak. Continue to heat the 735A51 to the final hardening temperature of 830-860°C and allow the component to be heated through. Quench in oil.

Tempering

Temper the component immediately after quenching 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. For most applications tempering of 735A51 will be between 400-600°C.

Welding

We recommend you contact your welding consumables supplier who should provide you full assistance and information on welding 735A51 steel

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 735A51 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 735A51 steel.

Certification

735A51 as rolled spring steel is available with a cast and analysis certificate or certificate of conformity, please request when placing any orders.

Quality Assured Supply

735A51 spring steel is supplied in accordance with our ISO 9001:2015 registration.



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