

## EN47 Spring Steel

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**EN47 spring steel stockholders and suppliers, delivering to the whole of the UK.** West Yorkshire Steel are suppliers of EN47 chromium vanadium type spring steel supplied in the as rolled condition. EN47 is suitable for oil hardening and tempering. When used in the oil hardened and tempered condition EN47 spring steel combines spring characteristics with good wear and abrasion resistance. When hardened EN47 offers excellent toughness and shock resistance which make it a suitable alloy spring steel for parts exposed to stress, shock and vibration.

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

### Related Specifications

BS970 735A50 735A51 1.8159 AISI 6150 50CrV4 50CV4 ASTM A829

### Alternative spring steel grades we supply

[CS70](#) | [CS80](#) | [CS95](#) | [CS100](#) | [EN42](#) | [EN43](#) | [EN45](#) | [735A50](#) | [6150](#) | [301](#)

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## Form of Supply

Suppliers of round bar we can offer diameters in EN47 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.

- Diameter
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## Applications

EN47 is used widely in the motor vehicle industry and many general engineering applications. Suitable for applications that require high tensile strength and toughness. Typical applications include crankshafts, steering knuckles, gears, spindles and pumps.

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## Analysis

Carbon	0.45-0.55%	Silicon	0.50% max
Manganese	0.50-0.80%	Phosphorous	0.06% max
Chromium	0.80-1.20%	Sulphur	0.06% max
Vanadium	0.15% min		

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## Forging

Preheat the steel carefully, then raise temperature to 1050°C for forging. Do not forge below 840°C. After forging EN47 spring steel cool slowly, preferably in a furnace.

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## Annealing

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

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## Hardening

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

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## Tempering

Temper the EN47 spring steel 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 this grade will be between 400-600°C.

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## 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 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 EN47.

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## Welding

We recommend you contact your welding consumables supplier who should provide you full assistance and information on welding EN47 chrome vanadium spring steel.

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## Certification

Spring steel EN47 is a chrome vanadium grade commonly supplied as rolled and available with cast and analysis certification, please request when placing any orders.

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## Quality Assured Supply

EN47 spring steel is supplied in accordance with our ISO 9001:2015 registration.