

EN47

EN47 round and flat bar

EN47 steel stockholders and suppliers, delivering throughout the UK.

EN47 is a chrome 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.

[Related Specifications](#)

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

Spring steel grades we supply

[CS95](#) | [CS95](#) | [CS95](#) | [CS100](#) |
[EN42](#) | [EN47](#) | [EN47](#) | [301](#) | [75Cr1](#)

[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.



- Round
- Flat (limited range)

Contact our experienced sales team who will assist you with your EN47 spring steel enquiry.

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.

Analysis

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

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.

Annealing

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

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.

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.

Temperature °C	400	450	500	550	600	650
Hardness HRc	49	47	45	42	41	40

Welding

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

Certification

EN47 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

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



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