

EN19T Alloy Steel

EN19T steel stockholders and suppliers, delivering to the whole of the UK. A high quality alloy steel specification usually supplied as a high tensile steel grade to EN19T or EN19U. This grade offers good ductility and shock resisting properties combined with resistance to wear. With these characteristics it is a popular high tensile engineering steel with a tensile of 850/1000 N/mm². At low temperatures EN19T has reasonably good impact properties. It is also suitable for a variety of elevated temperature applications. For maximum wear and abrasion resistance EN19T can be nitrided to give a shallow depth wear resistant case. Flame or induction hardening can give a case hardness of 50 HRc or higher.

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

Alternative grades we supply

[EN16T](#) | [EN24T](#) | [EN26W](#) | [EN30B](#) | [EN31](#) | [EN32](#) | [EN36](#) | [EN40B](#) | [EN41B](#) |

Form of Supply

West Yorkshire Steel are stockholders and suppliers of EN19T round bar and flat section bandsaw cut. Diameters in EN19T can be sawn to your required lengths as one offs or multiple cut pieces. EN19T ground steel bar can be supplied, providing a high tensile steel precision ground bar to tight tolerances.

- Flat
- Diameter

Applications

EN19T was originally introduced for the use in the machine tool and motor industries for gears, pinions, shafts, spindles and the like. Later its applications became much more extended and it is now widely used in areas such as the oil and gas industries. EN19T is suitable for applications such as gears, bolts, studs and a wide variety of applications where a good quality high tensile steel grade is suited.

Analysis

Carbon	0.35-0.45%	Silicon	0.10-0.35%
Manganese	0.50-0.80%	Phosphorous	0.035% max
Chromium	0.90-1.50%	Sulphur	0.050% max
Molybdenum	0.20-0.40%		

Forging

Pre heat carefully, then raise temperature to 850-1200°C for forging. Do not forge below 850°C. After forging cool slowly in still air.

Annealing

Heat the EN19T slowly to 680-700°C. Cool in air.

Hardening

This steel grade is commonly supplied ready heat treated. If further heat treatment is required annealed EN19 should be heated slowly to 860-890°C and after adequate soaking at this temperature quench in oil. Temper as soon as tools reach room temperature.

Tempering

Heat carefully to a suitable temperature selected by reference to a tempering chart or table. Soak at the temperature for 2 hours per 25mm of ruling section, then allow to cool in air. Tempering between 250-375°C is not advised as tempering within this range will reduce the impact value.

Typical Mechanical Properties*

Condition	Tensile N/ mm ²	Yield N/mm ²	Elongation %	Izod KCV J	Hardness Brinell
S	775-925	555	13	22	223-277
T	850-1000	680	13	50	248-302
U	925-1075	755	12	42	269-331

(*subject to ruling section)

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 EN19T alloy steel.

Certification

EN19T alloy steel is available with BS EN 10204 3.1 mill certificate, please request when placing any orders.

Quality Assured Supply

EN19T is supplied in accordance with our ISO 9001:2015 registration.