

835M30 Alloy Steel

835M30 steel suppliers, delivering to the whole of the UK. 835M30 is widely used for plastic moulds, but is also suitable for many other applications. The hardening treatment is relatively simple, quenching in air or oil from 810-830°C followed by tempering, with excellent mechanical properties being obtained. Owing to its strength this steel can be used for compression and transfer moulding as well as injection moulding and the relative freedom from distortion makes it superior to case hardening steels for complex mould applications. With limited availability of certain sizes in 835M30.

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

Alternative grades we supply

[605M36T](#) | [709M40T](#) | [708M40T](#) | [817M40T](#) | [826M40W](#) | [535A99](#) | [655M13](#) | [722M24](#) | [905M39](#)

Form of Supply

Supplied as round bar or plate – squares, flats and diameters can be sawn cut to your required sizes. Ground steel round bar and plate can be supplied, providing a high quality steel precision ground bar to tight tolerances.

- Plate
- Flat
- Diameter

Applications

Alloy steel grade 835M30 can be used for many purposes where toughness and high tensile strength are requirements. For example: components of small presses including anvils, collars, hammers, rams or punch holders. Other applications include rivet snaps, air hardening cold chisels, crimping tools, clutch keys, racks, pinions and angle pins for pressure die casting tooling. 835M30 will machine readily in the supplied annealed condition.

Analysis

Carbon	0.26-0.34%	Silicon	0.10-0.35%
Nickel	3.90-4.30%	Manganese	0.45-0.70%
Chromium	1.10-1.40%	Phosphorous	0.050% max
Molybdenum	0.20-0.35%	Sulphur	0.050% max

Forging

Heat the steel carefully to the forging temperature of 1000-1100°C, soak well. After forging, cool slowly in a furnace to 100°C maximum and anneal immediately thereafter.

Annealing

To obtain the softest condition heat carefully to 630-650°C. Soak for a minimum of 2 hours, then cool in the furnace / in air. It is advisable to repeat this treatment to obtain the best machining.

Stress Relieving

Where the machining operations have been severe, we recommend stress relieving 835M30 steel before finish machining and hardening. Heat carefully to 630-650°C then cool in the furnace or in air.

Hardening

Heat uniformly to 810-830°C and when thoroughly soaked at this temperature cool in air or quench in oil according to mass. Hardening from neutral salt baths will help to prevent scaling or decarburisation and is strongly recommended. Pre heat at 300-400°C, raise to the hardening temperature of 810-830°C, quench into salt standing at 300-320°C. Withdraw and cool in air. As an alternative tools may be vacuum hardened. If desired the hardened and tempered tools can be cyanide hardened which gives a shallow carburised case to die surfaces with increased hardness values up to Rockwell C56-60. Temper as soon as tools are at hand-warm temperature.

Tempering

Tempering between 275-450°C is not advised as tempering within this range will reduce the impact value. Re heat to the relevant tempering temperature. Soak for at least 2 hours per 25mm of ruling section. Withdraw from the furnace and cool in still air.

Temperature [°C]	150	250	350	450
Hardness [HRc]	49	47	44	38

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 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 835M30 steel.

Quality Assured Supply

835M30 is supplied in accordance with our ISO 9001:2015 registration.