



## 835M30

Quality 835M30 cut and delivered in rounds or flats, whatever size you need.

### 835M30 flat and round bar steel stockholders and 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.

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

### Alternative [alloy steel](#) grades we supply

[605M36](#) | [708M40](#) | [709M40](#) | [817M40](#) | [826M40](#)  
[535A99](#) | [080A15](#) | [655M13](#) | [722M24](#) | [905M39](#)

### Form of Supply

835M30 is supplied as round bar and flat section, this grade can be sawn cut to your required sizes. Ground steel bar can be supplied, providing a high quality steel precision ground bar to close tolerances.



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

- Flat
- Diameter

## Applications

835M30 alloy steel can be used for many purposes where toughness and high tensile strength are requirements. For example: components of small presses including anvils, collars, strikers or 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. It will machine readily in the annealed condition in which it is supplied.

## Analysis

Carbon	0.26-0.34%	Silicon	0.10-0.35%
Manganese	0.45-0.70%	Nickel	3.90-4.30%
Chromium	1.10-1.40%	Molybdenum	0.20-0.35%
Phosphorous	0.05% max	Sulphur	0.05% max

## 835M30 Flat Section

835M30 flat section pieces are available cut from large rectangular block, pieces can be cold sawn to your specific sizes.

## 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.

## Annealing

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

## Stress Relieving

Where the machining operations have been severe, we recommend stress relieving 835M30 alloy steel before finish machining and hardening. Heat carefully to 630-650°C then cool in the furnace or in still 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. Alternatively, tools may be vacuum hardened. If desired, hardened and tempered tools can be cyanide hardened to give a shallow carburised case to die surfaces with increased hardness values up to Rockwell C56-60. Temper as soon as tools are hand-warm.

## Tempering

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. Tempering between 275-450°C is not advised as tempering within this range will reduce the impact value.

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 835M30 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 this 4.25% nickel alloy steel.

## Certification

835M30 alloy steel is available with a cast and analysis certificate or BS EN 10204 3.1 mill certificate, please request when placing any orders.

## Quality Assured Supply

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



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