

## 080M50 Carbon Steel

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**080M50 steel suppliers and stockholders delivering to the whole of the UK.** West Yorkshire Steel are suppliers 080M50 in round and flat bar. We also supply 080M50 as flame cut profiles which can be cut to your required sizes and normalised. 080M50 flame cut steel profiles can be supplied surface ground or precision ground. 080M50 is a similar specification to [080M40](#) but with a slightly higher carbon content, providing better mechanical properties and heat treatment capabilities. As a medium carbon steel grade with a reasonable tensile strength it is commonly supplied in the cold drawn or as rolled condition. It is suited for use in applications where better properties than a lower carbon mild steel are required, but the costs of an alloy steel are not justified. 080M50 is capable of being flame or induction hardened to produce a good surface hardness with moderate wear resistance.

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

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### Form of Supply

As steel stockholders and suppliers of 080M50 West Yorkshire Steel can offer round, square, hexagon and flat bar. 080M50 bar can be bandsaw cut to your required length as one offs or multiple cut pieces. Flame cut steel profiles can be supplied in this grade, profiles can be surface ground if required. 080M50 ground steel bar can be supplied, providing a precision ground steel bar to tight tolerances.

Contact our experienced sales team who will assist you with your 080M50 enquiry.

- Sheet
  - Plate
  - Flat
  - Diameter
  - Hexagonal
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### Applications

080M50 is used commonly for many general engineering applications. Typical applications include, wood working drills, hammers, shafts, axes, knives, bushes, crankshafts, screws and sickles.

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## Analysis

Carbon	0.45-0.55%	Phosphorous	0.05% max
Manganese	0.60-1.00%	Sulphur	0.05% max
Silicon	0.10-0.40%		

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## Flame Cut Profiles

080M50 can be flame cut to your required sizes. A hard edge can occur when flame cutting medium carbon steel plate therefore this grade is commonly normalised after cutting. Profiles can be supplied Lumsden ground or precision ground.

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## Forging

Preheat carefully, then raise the temperature to 1100°C for forging. Do not forge below 850°C. After forging cool slowly, preferably in a furnace.

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## Annealing

Heat the steel slowly to 680-720°C, soak well. Cool slowly in the furnace.

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## Hardening

Heat the component slowly to 800-850°C and allow it to be heated through. Quench in oil or water.

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## Tempering

Temper the 080M50 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 (two hours minimum) Cool in air. For most applications tempering will be between 550-660°C.

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## Welding

We recommend you contact your welding consumables supplier who should provide you full assistance and information on welding 080M50 steel.

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## 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 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 carbon steel grades.

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## Certification

080M50 carbon steel is available with a cast and analysis certificate or a certificate of conformity, please request when placing any orders.

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## Quality Assured Supply

080M50 is supplied in accordance with our ISO 9001:2015 registration.