

## 080M46 Carbon Steel

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**080M46 steel suppliers and stockholders delivering to the whole of the UK.** West Yorkshire Steel are suppliers of round and flat bar, cold drawn or as rolled. Flame cut profiles are available cut to your required sizes and commonly normalised. Profiles can also be Lumsden or precision ground. This is an unalloyed carbon steel specifications suitable for flame or induction hardening.

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

080M46 is supplied in round, square and flat bar. Diameters can be sawn cut to your required length. Centreless ground bar can be supplied, offering a precision ground steel bar to tight tolerances.

Contact our experienced sales team who will assist you with your 080M46 carbon steel enquiry.

- Plate
  - Flat
  - Diameter
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### Applications

Used for a wide variety of engineering applications such as shafts, bolts, screws and rollers.

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### Analysis

Carbon	0.42-0.50%	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

West Yorkshire Steel are suppliers of steel profiles flame cut from plate. When flame cutting 080M46 a hard edge can occur, therefore it is normalised after flame cutting. Flame cut profiles can be supplied Lumsden ground or precision ground.

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## Forging

Preheat carefully, then raise to the forging temperature to 1050°C. Do not forge below 850°C. After forging slowly cool, preferably in a furnace.

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## Annealing

Heat the 080M46 steel slowly to 680-720°C, soak well. Cool slowly in the furnace.

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## Hardening

Heat slowly to 820-870°C and allow it to be heated through. Quench in oil or water.

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## Tempering

Temper immediately after quenching whilst tools are hand warm. Heat to the tempering temperature then soak for one hour per 25 millimetre of total thickness (2 hours minimum) Cool in air.

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## Welding

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

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## Certification

080M46 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

080M46 is supplied in accordance with our ISO 9001:2015 registration.