

## BS4659 BM35 High Speed Steel

**BS4659 BM35 high speed steel stockholders and suppliers, delivering to the whole of the UK.** M35 is supplied in round bar. The addition of cobalt to this high speed steel grade helps increase hot hardness. BM35 offers excellent cutting performance when hardened.

We welcome export enquiries for BS 4659 BM35 high speed steel. Contact our sales office and consult our [shipping policy](#) for further details.

### Related Specifications

ASTM A681 DIN 17350 BS EN ISO 4957

### Alternative BS4659 tool steel grades we supply

[BO1](#) | [BD2](#) | [BD3](#) | [BO2](#) | [BA2](#) | [BS1](#) | [BH13](#) | [BP20](#) | [BP30](#) | [BM2](#) | [BM42](#)

### Form of Supply

BM35 is available in round round bar. Diameters can be sawn as one offs or multiple cut pieces. Ground BM35 high speed steel bar can be supplied precision ground bar to tight tolerances.

- Diameter

### Forging

Pre heat the BM35 slowly and uniformly to 450-500°C and equalise. Increase more quickly to the forging temperature of 950-1100°C. Do not allow the temperature to drop below 950°C when forging, if this occurs re heating will be necessary. After forging cool the steel very slowly.

### Typical Analysis

Carbon	0.85-0.95%	Chromium	3.75-4.50%
Silicon	0.40% max	Vanadium	1.75-2.15%
Manganese	0.40% max	Tungsten	6.00-6.75%
Cobalt	4.60-5.20%	Molybdenum	4.75-5.25%

## Annealing

BM35 is supplied in the annealed and machineable condition and re annealing will only be necessary if the steel has been hot worked, forged, or hardened. To anneal heat the steel to 870-900°C at a rate of no more than 220°C per hour. Hold at temperature for one hour per 25mm of thickness, with two hours being minimum. Cool slowly in the furnace.

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## Stress Relieving

Heat the steel to 600-700°C and soak well. Cool slowly in the furnace. The BM35 tools can be finish machined before heat treatment.

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## Hardening

Pre heat thoroughly in two steps to 450-500°C, then to 840-870°C. The exact hardening temperature for BM35 will depend on the type of work being treated, but in general the steel should be hardened from the range of 1215-1235°C. Quench in oil, air or salt bath at 500-560°C followed by cooling in air.

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## Tempering

Temper the BM35 immediately after quenching at a temperature of between 530-550°C. Triple tempering is recommended with a minimum of two hours per cycle at temperature. The steel should be cooled in still air to room temperature between tempering.

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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 BM35 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 BS4659 high speed steels.

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## Final Grinding

Select the correct grade of wheel in consultation with the grinding wheel manufacturer. Ensure the grinding wheel is in good condition by means of a suitable dressing tool. Wet grinding is a preferable option using a copious supply of coolant. If dry grinding is resorted to then use a very soft wheel.

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## Quality Assured Supply

BS4659 BM35 high speed steel is supplied in accordance with our ISO 9001:2015 registration.