

## BS4659 BA2 Tool Steel

**BS4659 BA2 tool steel stockholders and suppliers, delivering to the whole of the UK.** BA2 tool steel is stocked in round bar, flat and plate and can be cut to your required sizes. BA2 is an air hardening tool steel offering high abrasion resistance with toughness.

We welcome export enquiries for BS 4659 BA2 tool steel. Please 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](#) | [BS1](#) | [BH13](#) | [BP20](#) | [BP30](#) | [BM2](#) | [BM35](#) | [BM42](#)

## Form of Supply

BA2 is supplied as round bar, flat bar and plate cut to your requirements. Ground BA2 tool steel can be produced providing a high quality precision bar to tight tolerances

Contact our experienced sales team who will assist you with your BA2 tool steel enquiry.

- Flat
- Diameter

## Ground Flat Stock

Precision ground flat stock / gauge plate can be produced in BA2 tool steel subject to size and availability of raw material. Pieces can be produced in approximately 2 to 3 weeks. Standard and non-standard sizes are available.

## Typical Analysis

Carbon	0.95-1.05%	Chromium	4.75-5.25%
Manganese	0.30-0.70%	Molybdenum	0.90-1.10%
Silicon	0.40% max	Vanadium	0.15-0.40%

## Forging

To forge BA2 tool steel, preheat at 650-680°C before raising the temperature to 1050-1100°C. Ensure the steel is fully and uniformly heated. Initial hammer blows should be light due to the comparatively high hot strength of BA2. The forging temperature must be maintained above 1000°C, the final forging should not be carried out below 900°C. To avoid the possibility of cracking, slow cool after forging.

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## Annealing

As BA2 tool steel is supplied in the annealed condition re-annealing will only be necessary if the toolmaker has forged the steel, or if a hardened tool has to be re-machined or re-hardened. Heat the steel slowly to 850-870°C. After a minimum of two hours the furnace temperature should be lowered to 730-750°C, hold there for four to six hours. Allow to cool very slowly in the furnace to 600°C or below before removing the steel. Cool in air.

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## Stress Relieving

If the BA2 tool steel has been heavy machined or ground, it is advisable to stress relieve in order to minimise the danger of distortion or cracking during the subsequent heat treatment. Heat the steel slowly to 670-700°C, soak for a minimum of two hours per 25mm of section and allow to cool down in the furnace. The tools can then be finish machined.

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## Hardening

Pre-heat the steel slowly to 790-820°C and soak at this temperature. Continue heating to the hardening temperature of 950-980°C. Allow sufficient time for the steel component to become heated through. Withdraw from the furnace and then air cool.

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## Tempering

Temper with the least possible delay after hardening when the steel is hand warm. Heat slowly to the required tempering temperature between 150-550°C. and soak for one hour per 25mm of section. Cool in air. Double tempering is recommended.

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## Heat Treatment

Heat treatment temperatures for BA2, 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 tool steels.

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## Quality Assured Supply

BS4659 BA2 tool steel is supplied in accordance with our ISO 9001:2015 registration.