

## BS4659 BD3 Tool Steel

**BS4659 BD3 tool steel stockholders and suppliers, delivering to the whole of the UK.** West Yorkshire Steel are suppliers of BD3 flats cut from large plate and a limited range in diameters and round bar. BD3 is a high carbon high chromium specification suitable for through hardening. BD3 offers good resistance to abrasion and dimensional stability in heat treatment.

We welcome export enquiries for BS 4659 BD3 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](#) | [BO2](#) | [BA2](#) | [BS1](#) | [BH13](#) | [BP20](#) | [BP30](#) | [BM2](#) | [BM35](#) | [BM42](#)

## Form of Supply

BD3 is available in flat and round bar. Rectangular pieces can be sawn from flat bar or block to your specific sizes as one offs or multiple cut pieces.

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

- Flat
- Diameter

## Ground Flat Stock

Precision ground flat stock / gauge plate can be produced in BD3 tool steel. Subject to size and availability BD3 pieces can be produced in approximately 2 to 3 weeks with standard and non-standard sizes available.

## Typical Analysis

Carbon	1.90-2.30%	Chromium	12.00-13.00%
Silicon	0.60% max		
Manganese	0.60% max		

## Forging

Pre-heat at 900-950°C then raise to 1050-1100°C. Final forging should not be done below 900°C.

---

## Annealing

AS BD3 is supplied in the annealed and machineable condition re-annealing will only be necessary if the steel has been forged or hardened. Heat slowly and uniformly to 850-870°C. Soak for three to four hours and allow to cool in the furnace. Re-heat and again soak for three to four hours. Allow to cool in the furnace to room temperature.

---

## Stress Relieving

Stress relieving of BD3 should be done after rough machining. To stress relieve, heat the tool steel component to 600-650°C. Soak well and cool in the furnace or in air then finish machined before hardening.

---

## Tempering

Temper BD3 tool steel with the least possible delay after hardening, preferably when the steel is hand warm. Select a suitable tempering temperature between 150-220°C or 450-550°C. The lower tempering range is used for BD3 when maximum hardness is required and the higher tempering range should be used when maximum toughness is required. When the tool steel has reached the required temperature, soak for at least one hour per 25mm of section. Double tempering is recommended.

---

## Hardening

Pre heat the steel to 750-800°C. and allow to soak at this temperature. The tools may then be brought up to 950-1000°C. Soak thoroughly for thirty minutes per 25mm of ruling section, then cool or quench accordingly. It is important not to exceed 1000°C when heating for hardening.

---

## 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 BD3 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.

---

## Quality Assured Supply

BS4659 BD3 tool steel is supplied in accordance with our ISO 9001:2015 registration.