



## BS4659 BO2 Tool Steel

Quality BO2 tool steel cut and delivered straight to your tool room, whatever size you need.

### BS4659 BO2 tool steel stockholders and suppliers, delivering to the whole of the UK.

West Yorkshire Steel are stockholders and suppliers of BS4659 BO2 tool steel round and flat. BS4659 BO2 is an oil hardening tool steel type supplied in the annealed condition and characterised by its characteristics of offering good durability, excellent wear resistance and its ability to hold a good cutting edge. BS4659 BO2 tool steel is a good quality general purpose tool steel often used where the expense of a high carbon high chromium tool steel would not be justified.

### Popular [tool steel](#) grades we supply

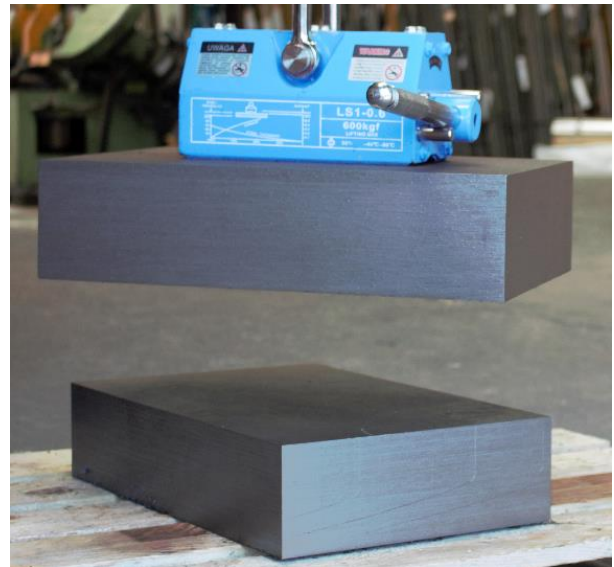
[BO1](#) | [BD2](#) | [BD3](#) | [BA2](#) | [BS1](#) | [BH13](#) | [BP30](#) | [BP20](#) | [BM2](#) | [BM35](#) | [BM42](#)

### Form of Supply

West Yorkshire Steel are stockholders and suppliers of BS4659 BO2 flat bar and round bar. BS4659 BO2 ground steel bar can be supplied, providing a high quality tool steel precision ground bar to close tolerances.

### Applications

Typical applications for BS4659 BO2 tool steel include medium run dies, press tools, drawing punches, broaches, bushings, lathe centres, chuck jaws, master cavity sinking hobs, plug gauges, thread gauges, thread cutting tools and precision measuring tools. It is also a popular tool steel for cams, cloth cutting knives, cold taps, reamers, collets, cutting hobs, strip slitting cutters, trimmer dies, tube expander rolls, plastic moulds and woodworking knives. Ground tool steel bar can be supplied, providing a quality precision finish bar to close tolerances.



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

- Sheet
- Flat
- Plate
- Diameter

## Typical Analysis

Carbon	0.90%	Chromium	0.50%
Manganese	1.90%	Silicon	0.35%
Vanadium	0.15%		

## Ground Flat Stock

Precision [ground flat stock / gauge plate](#) can be supplied in BS4659 BO2 tool steel. Stocks are available in a wide range of sizes. Metric sizes are supplied in 500mm and 1000mm lengths. Imperial sizes are supplied in 18" and 36" lengths. Subject to size suitability and availability non standard sizes and lengths can be produced in approximately 2 to 3 weeks.

## Forging

Heat uniformly to 1000°C. Forge within a range of 850-1050°C reheating if necessary. Cool slowly (preferably in a furnace) to avoid setting up stresses.

## Annealing

BS4659 BO2 tool steel is supplied in the annealed and machinable condition. Re-annealing will only be necessary if the steel has been forged or hardened. To anneal, heat uniformly to 720°C, equalise, then furnace cool (hardness about 229 Brinell). Fully machined tools in grade BS4659 BO2 should be packed during annealing.

## Hardening

Heat uniformly to 790-820°C until heated through. (If possible pre-heat at 300-500°C). Allow thirty minutes per 25 millimetre of ruling section and quench immediately in oil.

## Martempering

Heat uniformly to 790-820°C until heated through. (If possible pre-heat at 300-500°C). Allow thirty minutes per 25 millimetre of ruling section and quench immediately in oil.

## Tempering

Heat the BS4659 BO2 uniformly and thoroughly at the selected tempering temperatures and hold for at least one hour per inch of total thickness.

Temperature °C	100	150	200	250	300	400
Hardness HRC	64	63	62	60	56	50

## 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 BS4659 BO2 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.

## 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.

## Quality Assured Supply

BO2 tool steel is supplied in accordance with our ISO 9001:2015 registration.



**West Yorkshire Steel Ltd**  
Sandbeck Industrial Estate,  
Wetherby, Leeds,  
LS22 7DN UK

Call: 01937 584440  
Fax: 01937 580128  
Email: [sales@westyorkssteel.com](mailto:sales@westyorkssteel.com)



QUOTE ME



Information provided on our datasheets has been drawn from various recognised sources, including British, European and International Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources. Material supplied by the Company may vary significantly from this data but will conform to all relevant and applicable standards. Any of the products detailed may be used for a large range of purposes and as WYS has no control over their use; WYS specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied. © West Yorkshire Steel Ltd. All Rights Reserved.