

## 1.2379 Tool Steel

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**1.2379 steel suppliers and stockholders delivering to the whole of the UK.** West Yorkshire Steel are suppliers of 1.2379 high carbon, high chromium tool steel in round bar, plate, sheet and block which can be bandsaw cut to your requirements. A tool steel grade offering very high wear resistance and toughness 1.2379 tool steel hardens in air with a low order of movement and offers a measure of corrosion resistance when polished. It is used for tools operating under conditions of severe wear and abrasion or as an alternative to oil hardening tool steel grades when long runs are required.

We welcome export enquiries for tool steel. Contact our sales office and consult our [shipping policy](#) for further details.

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### Form of Supply

West Yorkshire Steel are stockholders and suppliers of 1.2379 cold work tool steel round bar, flat bar, plate and block. Diameters can be sawn to length as one offs or multiple cut pieces. Square and rectangular sections can be sawn from flat bar or block to your specific sizes. Ground tool steel bar can be supplied, providing a quality precision ground bar to tight tolerances.

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

- Sheet
  - Plate
  - Flat
  - Diameter
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### Applications

A popular grade for toolmakers, this tool steel is used in a wide variety of tool making applications. Typical applications include punching and blanking dies for stainless steel sheet, brass, copper, zinc and hard abrasive materials generally. Other application suitable for this tool steel include deep drawing dies, cupping dies, forming dies, sheet metal forming rolls, shear blades for strip and sheet including flying shears, circular cutters for cold rolled strip, trimmer dies, thread rolling dies, cold extrusion dies, broaches, plug gauges, ring gauges, master hobs for cold hobbing plastic moulds, cut moulds for plastics, special taps, straybolt taps, brick and tile mould liners.

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## Analysis

Carbon	1.45-1.60%	Chromium	11.00-13.00%
Manganese	0.20-0.60%	Phosphorous	0.030% max
Molybdenum	0.70-1.00%	Sulphur	0.030% max
Vanadium	0.70-1.00%		

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## Ground Flat Stock

Subject to size, suitability and availability 1.2379 pieces can be produced as ground flat stock in approximately 2 to 3 weeks. Standard and non-standard sizes are available.

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## Forging

Heat the 1.2379 tool steel slowly and uniformly to 700°C then more rapidly to 900-1040°C. After forging cool down slowly.

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## Annealing

As supplied 1.2379 is in the annealed and machineable condition. Re-annealing will only be necessary if the steel has been forged or hardened by the toolmaker. To anneal, heat slowly and uniformly to 900°C. Soak for three to four hours and allow to cool in the furnace to room temperature. Re-heat to 800-1040°C and again soak for three to four hours. Allow to cool in the furnace to room temperature.

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## Stress Relieving

If tools are heavily machined, ground or otherwise subjected to cold work, the relief of internal strains is advisable before hardening to minimise the possibility of distortion. Stress relieving should be done after rough machining. To stress relieve, heat the 1.2379 steel component to 600-650°C. Soak well and cool in the furnace or in air. The tools may then be finish machined before hardening.

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## Hardening

It is preferable to heat the tools in a controlled atmosphere. If this is not possible, pack hardening is recommended. A reducing atmosphere is desirable. Pre heat the 1.2379 tool steel component to 750-800°C. and allow to soak at this temperature. The tool temperature should then be brought up to 1000-1040°C for air cooling, or 980°C for oil quenching. Soak thoroughly at the temperature for thirty minutes per 25mm of ruling section, then cool or quench accordingly. It is important not to exceed 1020°C when heating for hardening.

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## Tempering

Double tempering of is recommended. The tempering should be done with the least possible delay after hardening, preferably when the tools are still hand warm. Select a suitable tempering temperature, bearing in mind the service requirements. Heat slowly and uniformly. When the 1.2379 component has reached the desired temperature, soak for at least sixty minutes. The second tempering should be a repetition of the first.

<b>Temperature [°C]</b>	150	200	250	300	350	400
<b>Hardness [HRc]</b>	62-61	61-60	60-59	57-56	56-55	56-55

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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 tool 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

1.2379 tool steel is supplied in accordance with our ISO 9001:2015 registration.