

## 100MnCrW4 Steel

**100MnCrW4 steel suppliers delivering throughout the UK.** West Yorkshire Steel are stockholders and suppliers of round, flat, plate and block. This grade is an oil hardening type supplied in the annealed condition. Its properties offer good durability, give excellent wear resistance and hold a good cutting edge.

We welcome export enquiries for 100MnCrW4 tool steel. Contact our sales office and consult our [shipping policy](#) for further details.

### Form of Supply

West Yorkshire Steel are suppliers of fully annealed diameters, flat, plate and block. Rounds can be sawn to your required lengths as one off or multiple pieces. Rectangular pieces can be sawn from flat bar or block to your required sizes. 100MnCrW4 precision ground steel bar can be supplied to tight tolerances.

Contact our experienced sales team who will assist you with your 100MnCrW4 enquiry.

- Sheet
- Plate
- Flat
- Diameter

### Applications

As an oil hardening grade it is suited for applications such as dies, press tools, punches, broaches, bushings, lathe centres and chuck jaws.

### Analysis

Carbon	0.90-1.05%	Chromium	0.50-0.70%
Manganese	1.00-1.20%	Vanadium	0.05-0.15%
Silicon	0.15-0.35%	Nickel	0.30% max
Tungsten	0.50-0.70%	Phosphorous	0.035% max
		Sulphur	0.035% max

## Ground Flat Stock

Precision ground flat stock / gauge plate can be supplied in 100MnCrW4 steel. Available in a wide range of sizes, metric and imperial. Non standard sizes and lengths can be produced in approximately 3 weeks.

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### Forging

Heat slowly, forging at 980-1000°C. Do not forge below 800°C. After forging cool slowly.

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### Annealing

As this grade is supplied in the annealed and machineable condition re-annealing will only be necessary if the steel has been forged or hardened. To anneal, heat the steel slowly to 740-760°C, soak well and allow to cool in a furnace to 500°C or below. Annealed hardness will be about 229 Brinell.

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### Stress Relieving

When the steel has been heavily machined, stress relieving will be beneficial prior to hardening. Heat the component carefully to 670-700°C, soak well and allow to air cool.

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### Hardening

Ideally pre heat at 300-500°C before raising to the hardening temperature of 780-820°C. Pre heating is desirable for complex sections. Soak thoroughly and allow 30 minutes per 25mm of section before quenching. Light sections should be quenched in oil from the lower end of the hardening temperature range. Tempering is necessary after hardening.

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### Tempering

Temper between 100°-350°C. Soak well at the selected temperature and soak for at least one hour per 25mm of total thickness.

<b>Temperature [°C]</b>	100	150	200	250	300	350
<b>Hardness [HRc]</b>	64-63	63-62	62-61	60-59	58-57	56-55

## Heat Treatment

Consideration should be given to heat treatment temperatures, including rate of heating, cooling and soaking times which will vary due to factors such as the shape and size of each 100MnCrW4 component. Other considerations during the heat treatment process include the type of furnace, quenching medium and work piece transfer facilities. Please consult a heat treatment specialist for full guidance on heat treatment.

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## Final Grinding

Always select the correct grade of wheel in consultation with a grinding wheel supplier. 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 soft wheel.

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## Quality Assured Supply

100MnCrW4 steel is supplied in accordance with our ISO 9001:2008 registration.