

## X45NiCrMo4 Tool Steel

Quality X45NiCrMo4 tool steel cut and delivered straight to your tool room.

### X45NiCrMo4 tool steel stockholders and suppliers, delivering to the whole of the UK.

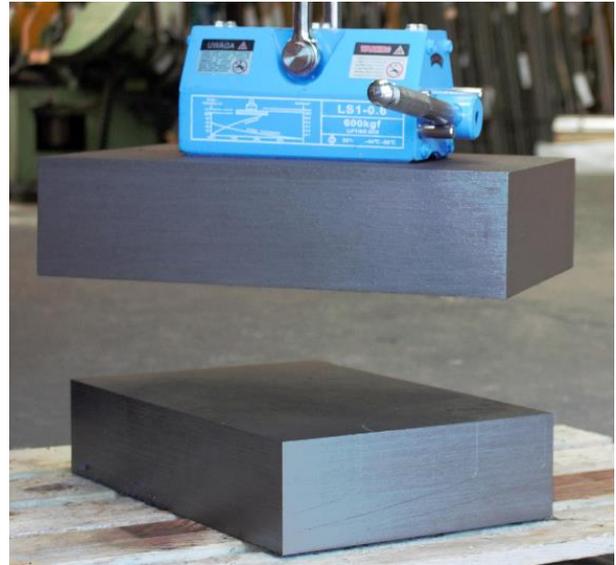
West Yorkshire Steel are suppliers of round bar and plate. This grade is a higher carbon version of the standard 4.25% nickel steel. A good quality tool steel X45NiCrMo4 achieves high impact and compressive strength and is suitable for applications demanding extra wear resistance. With its characteristics of good full hardenability, good polishability and excellent toughness it is widely used for plastic mould applications.

### Form of Supply

West Yorkshire Steel are stockholders and suppliers of plate, flat and round bar. Diameters can be sawn to your required lengths as one offs or multiple cut pieces. Rectangular pieces can be sawn from block or plate to your specific sizes. Ground tool steel bar can be supplied, providing a quality precision ground bar to your required tolerances.

### Applications

Typical applications and components produced in X45NiCrMo4 include plastic moulds, cutlery dies, shear blades for heavy gauge material, cutting tools, drawing jaws and highly stressed coining tools



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

- Sheet
- Flat
- Plate
- Diameter

### DIN Standard steel grades we supply

[45NiCrMo16](#) | [55NiCrMoV7](#) | [90MnCrV8](#)  
[42CrMo4](#) | [X45NiCrMo4](#) | [60WCrV8](#) | [31CrMoV9](#)  
[X100CrMoV5](#) | [X153CrMoV12](#) | [X210Cr12](#)  
[60WCrV7](#) | [X210CrW12](#) | [X40Cr14](#) | [X40CrMoV5-1](#)  
[40CrMnMoS8-6](#) | [HS6-5-2C](#) | [40CrMnMo7](#)  
[X155CrMoV12-1](#) | [100MnCrW4](#)

## Analysis

Carbon	0.40-0.50%	Chromium	1.20-1.50%
Manganese	0.20-0.50%	Silicon	0.10-0.40%
Sulphur	0.03% max	Nickel	3.80-4.30%
Phosphorous	0.03% max	Molybdenum	0.15-0.35%

## Forging

Heat slowly and uniformly to 1050°C. Re heat as necessary and avoid working below 850°C. After forging cool slowly in furnace or thermoinsulating material.

## Annealing

Heat uniformly to 630-650°C. Soak well and cool slowly in the furnace to approximately 600°C then cool in air.

## Stress Relieving

When tools produced in X45NiCrMo4 tool steel are heavily machined, stress relieving is recommended just before finish machining in order to relieve machining strains. Heat to approximately 650°C. Soak well and allow to cool in air.

## Hardening

Pre heat the X45NiCrMo4 tool slowly and uniformly to 650-700°C and thoroughly soak. Continue heating to the final hardening temperature of 840-870°C and allow the component to be heated through. Quench the component in oil or cool in air.

## Tempering

Slowly heat the tool uniformly and thoroughly at the selected tempering temperatures and hold at heat for one hour per 25mm of total thickness but for a minimum of two hours. Cool in air. X45NiCrMo4 tool steel can be hardened by vacuum furnace, gas quench process.

Temperature °C	100	200	300	400	500	600
Hardness HRC	56	54	50	46	42	38

## 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 X45NiCrMo4 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

X45NiCrMo4 tool steel is supplied in accordance with our ISO 9001:2015 registration.