Contact: **01937 584440**
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55NiCrMoV7 Steel

55NiCrMoV7 steel suppliers, delivering throughout the UK. West Yorkshire Steel are suppliers of this grade in diameters. As a nickel chromium tool and die steel it has good hardening properties and combines very good high temperature toughness with shock and fatigue strength characteristics.

We welcome export enquiries for 55NiCrMoV7 steel. Contact our sales office and consult our shipping policy for further details.

Form of Supply

West Yorkshire Steel are stockholders and suppliers of diameter bar which can be cut to your requirements . Rounds can be cut as one offs or multiple cut pieces to your required lengths.

Contact our experienced sales team who will assist you with your 55NiCrMoV7 steel enquiry.

- Diameter

Applications

Typical applications include hot shear knives, backing plates, embossing tools, forming dies and punches.

Analysis

Carbon	0.50-0.60%	Chromium	0.80-1.20%
Manganese	0.60-0.90%	Molybdenum	0.35-0.55%
Sulphur	0.03% max	Silicon	0.10-0.40%
Phosphorous	0.03% max	Nickel	1.50-1.80%
		Vanadium	0.05-0.15%

Forging

Preheat the steel slowly to 700°C then increase temperature more rapidly to 1050°C. Do not forge below 800°C. Cool slowly after forging, either in a furnace or in vermiculite.

Annealing

Soak the 55NiCrMoV7 thoroughly at 740-760°C before furnace cooling at a maximum rate of 10°C per hour down to 600°C followed by air cooling.

Stress Relieving

When tools made from 55NiCrMoV7 are heavily machined or ground, the relief of internal strains is advisable before hardening to minimise the possibility of any distortion. Stress relieving of this grade should be done after rough machining. To stress relieve, heat the steel carefully to 600 to 650°C, allow a generous soaking period (two hours per 25mm of ruling section). Cool in the furnace to 500°C then freely in air.

Hardening

Preheat to 600 to 700°C. Soak thoroughly, then increase rapidly to the hardening temperature of 850 to 880°C. Air or oil quench. Tools should be tempered once they become hand-warm.

Tempering

Heat uniformly to the required temperature allowing a soaking time of about two hours per 25mm of ruling section. Withdraw the steel from the furnace and allow to cool in air. Double tempering is highly recommended, the tool being allowed to cool to room temperature between each temper.

Temperature [°C]	200	250	300	400	500
Hardness [HRc]	55	54	53	49	45

Nitriding

55NiCrMoV7 can be nitrided to give a hard surface case. This steel grade is then very resistant to wear and erosion. Nitriding also improves the steels resistance to corrosion. Before nitriding the steel should be hardened and tempered at approximately 50°C above the nitriding temperature.

Temperature	Time	Approx. Depth of Case
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525°C	20 hours	0.250mm
525°C	30 hours	0.300mm
525°C	60 hours	0.400mm

Heat Treatment

Heat treatment temperatures, such as the rate of heating, cooling and soaking times will vary due to factors such as the shape and size of each component. 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 55NiCrMoV7.

Final Grinding

Select the correct grade of wheel in consultation with the grinding wheel manufacturer. Ensure that 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 necessary then use a very soft wheel.

Quality Assured Supply

55NiCrMoV7 steel is supplied in accordance with our ISO 9001:2008 registration.