

## X210CrW12 Steel

**X210CrW12 steel suppliers delivering throughout the UK.** West Yorkshire Steel supply this quality high carbon high chromium tool steel in flat and round bar. This quality grade offers very high wear resistance with edge holding quality. As an air hardening steel grade it offers excellent resistance to abrasion and wear. X210CrW12 has good through hardening properties and dimensional stability, combined with high resistance to tempering.

We welcome export enquiries for X210CrW12 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 X210CrW12 steel round and flat bar. Diameters can be sawn to your required lengths as one offs or cut pieces. Rectangular pieces can be supplied from flat bar. Ground X210CrW12 bar can be supplied, providing a quality precision ground bar to tight tolerances.

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

- Flat
- Diameter

### Applications

X210CrW12 is suited to applications where maximum wear resistance is required. Applications such as blanking tools, drawing tools, drawing dies, mandrels, forming tools, shear blades and press tools.

### Analysis

Carbon	2.00-2.30%	Chromium	11.00-13.00%
Manganese	0.30-0.60%	Tungsten	0.60-0.80%
Silicon	0.10-0.40%	Phosphorous	0.03% max
		Sulphur	0.03% max

### Forging

Heat slowly to 700°C and then more rapidly to 900-1050°C. After forging cool slowly, preferably in a furnace.

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## Annealing

As this grade is supplied in the annealed and machineable condition re-annealing will only be necessary if it has been forged or hardened. Anneal the steel at 800-840°C and slow furnace cool. Hardness after annealing will be approximately 225HB.

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## Stress Relieving

When machining operations have been heavy or if the tool has an unbalanced section, remove stresses before hardening by heating up to 650-700°C, equalise, cool slowly.

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## Hardening

Pre heat slowly to 750-800°C and soak thoroughly. Continue heating up to the final hardening temperature of 950-980°C, allow the component to be heated through. Cool in air or quench in oil. X210CrW12 is suitable for vacuum (high speed gas) hardening.

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## Tempering

Heat the steel uniformly and thoroughly at the selected tempering temperature and hold for at least one hour per 25mm of total thickness. Double tempering of X210CrW12 should be carried out with intermediate cooling to room temperature.

<b>Temperature [°C]</b>	100	200	300	400	500	600
<b>Hardness [HRc]</b>	63	62	60	58	56	48

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## Heat Treatment

Heat treatment temperatures, rate of heating, cooling and soaking times will vary due to factors such as the shape and size of each component. Other considerations during the heat treatment process include the type of furnace, the 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

Ensure to select the correct grade of wheel in consultation with a grinding wheel manufacturer. The grinding wheel should be 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

X210CrW12 steel is supplied in accordance with our ISO 9001:2008 registration.