

<b>General Information</b>	Steel with wear resistance and fairly good dimensional stability during heat treatment. Rolls for cold strip mills and wire squeezer mills, circular knives and shear blades, dies for small metal parts, punches and drawing dies, dies for sintering, forming tool rollers, shear blades, molds for plastic materials.					
<b>Comparable standards</b>	<b>AISI/SAE</b>	<b>DIN</b>	<b>W.N</b>	<b>AFNOR</b>	<b>BS</b>	<b>SIAU</b>
	D3	X210Cr12	1.2080	Z200C12	D3	K12
<b>Chemical analysis (%)</b>	<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>Cr</b>	<b>P</b>	<b>S</b>
	1.90-2.20	0.15-0.45	0.10-0.40	11.0-12.0	≤0.03	≤0.03

<b>Heat Treatment</b>
<p><b>Isothermal annealing:</b></p> <ul style="list-style-type: none"> <li>- Heat to 850°C hold for 1/2 hour to 1 hour;</li> <li>- Furnace cooling to 770°C and hold at temperature for at least 10 hours;</li> <li>- Cool by 10°C /h to 720°C;</li> <li>- Cooling in air.</li> </ul> <p><b>Stress relieving:</b></p> <p>To be carried out after machining and before the final heat treatment.</p> <ul style="list-style-type: none"> <li>- Heat to 650÷700°C, hold for 4/6 hours;</li> <li>- Furnace cooling to 330÷350°C;</li> <li>- Cooling in air.</li> </ul> <p><b>Hardening:</b></p> <ul style="list-style-type: none"> <li>- Initial preheating to 350÷450°C;</li> <li>- Second preheating to 750÷850°C in salt bath at 850°C;</li> <li>- Austenitizing at 960±100°C;</li> <li>- Cooling in fluid oil.</li> </ul> <p>Quenched hardness: 64÷65 HRC</p>

**Tempering Curve (only for reference):**

