

DIN - Material - No.	1.2080
Code	X210Cr12
Comparable standards	AISI:D3

Chemical composition	C	Si	Mn	Cr
(Typical analysis %)	2.05	0.25	0.30	11.50

Steel properties	It is an oil hardening tool steel with high wear resistance, Good cutting capability. High compressive strength and is deep hardening.
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Physical properties	Thermal conductivity W/(m K)	20°C						
		20						
	Density g/cm³	20°C						
		7.67						
	Coefficient of linear thermal expansion							
	10 ⁻⁶ °C ⁻¹	20-100	20-200	20-300	20-400	20-500	20-600	20-700°C
		11.7	12.0	12.4	12.9	13.3	13.6	14.0

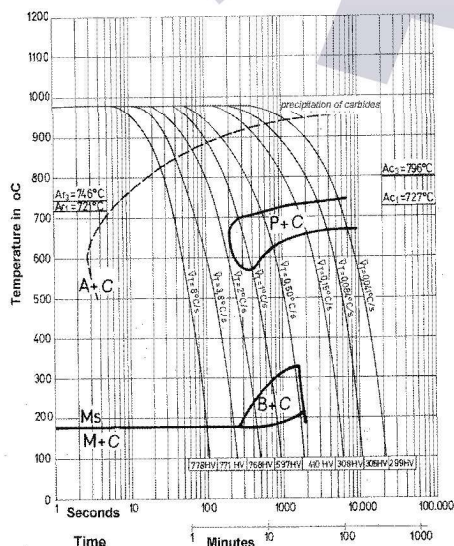
Applications	High performance cutting tools, stamping, woodworking, drawing, deep drawing and pressing tools, for ceramics and pharmaceutical industries, rolls, measuring tools, plastic moulds, shear blades.
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Stress Relieving	Holding at approx 650°C for one hour.
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Heat treatment

Soft annealing°C	Cooling		Hardness HB					
800 - 840	furnace		max. 250					
Hardening from°C	in		Hardness after quenching HRC					
940 - 980	oil, thermal bath approx. 400°C		64 - 66					
960 - 1000	air, compressed air for thickness upto 30 mm		63 - 65					
Tempering	°C	100	200	300	400	500	600	
	HRC	64	62	60	57	53	42	

Time - Temperature - Transformation - Diagram



Tempering Diagram

