

1.2080 / D3 Cold Work Tool Steel

Standards	DIN	AISI	JIS	ГОСТ
X210Cr12	1.2080	D3	SKD1	X12

Chemical composition (typical analysis in %)

C	Si	Mn	P	S	Cr
1.90-2.20	0.10-0.40	0.15-0.45	≤0.030	≤0.030	11.0-13.0

Steel properties :

High-alloy chrome steel with big hardenability for hardening in oil and in air, especially high resistance to the wear both by metal and by mineral substances, good cutting power, very high hardness in the pressure, significantly low toughness especially in traverse, significant carbide spacing. This steel has a good dimensional stability during the heat treatment but the change of dimensions is bigger than by the steel 1.2842. The steel is sensitive to the fast and uneven heating, suitable for hardening on the secondary hardness (the possibility of nitriding). Further the steel is brushed with big difficulties, at the heat it is forged with big difficulties and it has a rather difficult workability in the annealed state.

Applications :

Cutting, blanking die, punch, rolling cylindrical dies, slitting knife, cold heading die, clay mold, thermosetting plastic molding etc.

Size range :

Diameter (mm)	Thickness (mm)	Width (mm)
6 - 450	6 - 350	Max 810

Delivery condition : Soft annealed to max. 241 HB

Heat Treatment:

Soft annealing

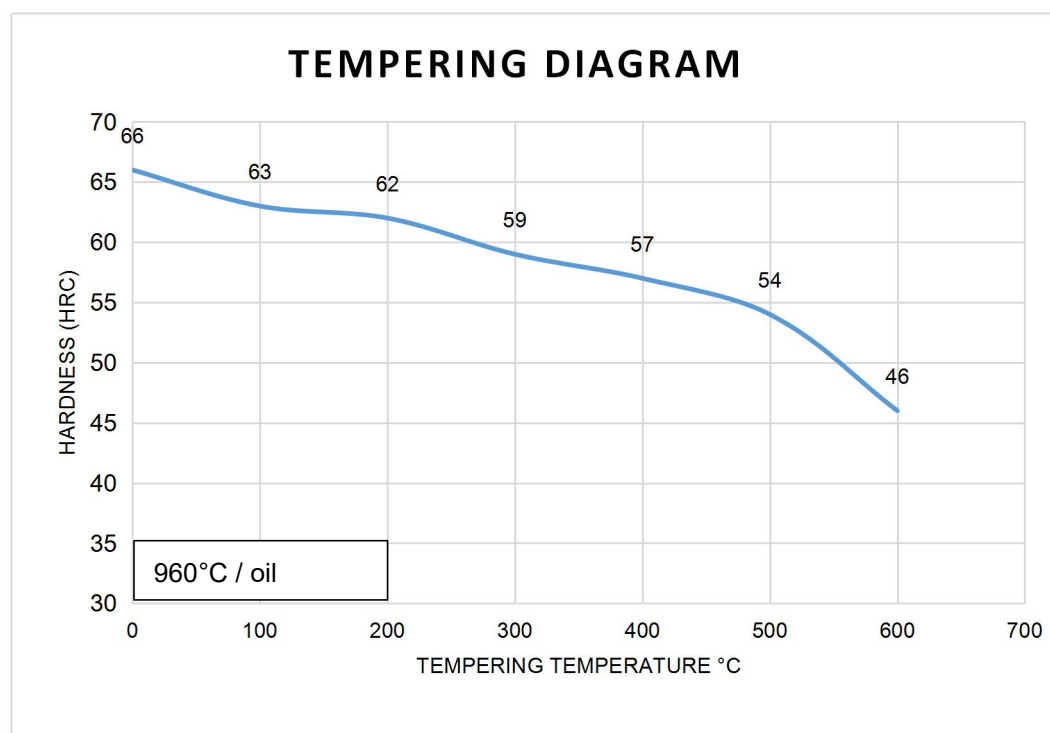
Temperature(°C)	Cooling	Hardness
850 - 870	furnace	max. 241 HB

Forging

Temperature(°C)	Cooling	
850 - 1050	furnace	

Hardening

Temperature(°C)	Cooling	Tempering
950 - 1150	oil or air	see tempering diagram usually 180 - 250°C



Remarks: All technical information is for reference only.

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