1.2083 X40Cr14

Chemical Composition :

		C	Si	Mn	P	S	Cr
Min.	%	0.36					12.50
Max.	%	0.42	1.00	1.00	0.030	0.030	14.50

Material Code :

DIN	ASTM	JIS	GOST
1.2083 X40Cr14	420	SUS 420J2	40Ch13

Properties :

Martensitic stainless chromium steel for plastic moulds, excellent polishability and corrosion resistance in hardened condition, high wear resistance, high compression strength, through hardening, low distorsion, good machinability and photoetching properties. This grade can be produced on request by the process ESR and quenched and tempered condition.

Applications :

Moulds for corrosive plastic materials such as PVC, recycled polymers etc., moulds for chemically aggressive plastics and plastics containing abrasive fillers, mould inserts, dies and gauges for PVC extrusions, screws and barrels for extruders, moulds for automotive, food, medical and optical industry such as spectacles, compact discs, lenses.

Physical Properties :

Density : at 20 °C 7,70 kg/dm^3

Thermal conductivity : at 20 °C 22,0 W/(m.K)

Thermal expansion between : 20 °C and... °C, 10^{-6} m/(mK)

100 °C	200 °C	300 °C	400 °C	500 °C
10,5	11,0	11,0	11,5	12,0

Heat Treatment :

Annealing : 810 - 830 °C

Hardness after annealing : Max. 230 HB

Stress relieving : Approx. 650 °C

Hot forming : 1050 - 850 °C

Hardening : 970 - 990 °C

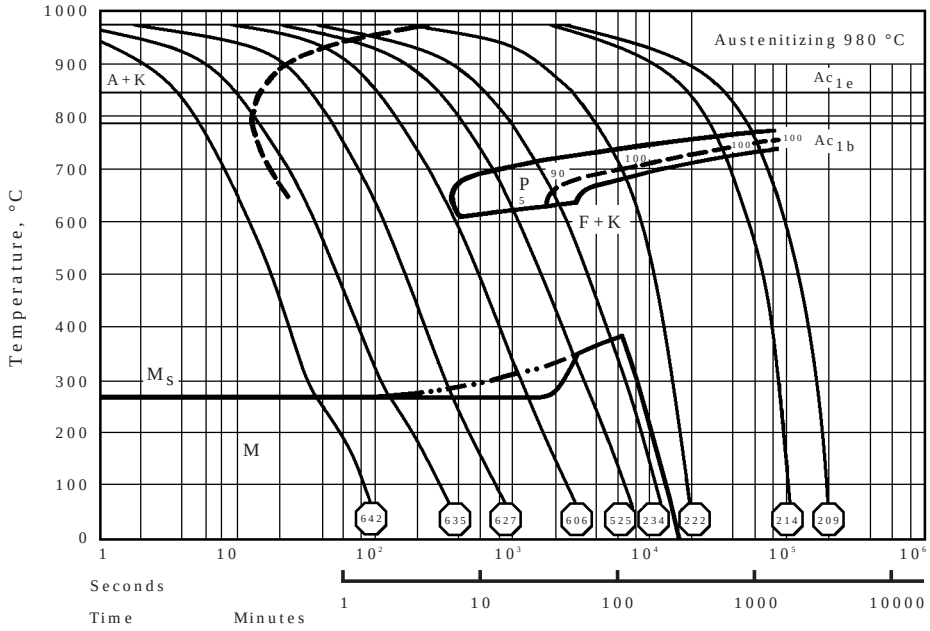
Quenching media : Oil, Vacuum

Hardness after quenching : 52 - 56 HRC

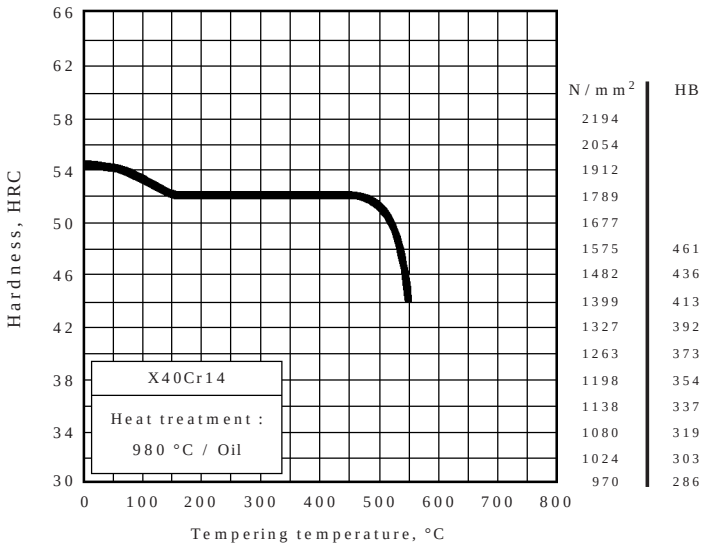
Hardness after tempering :

100 °C	200 °C	300 °C	400 °C
54 HRC	52 HRC	52 HRC	52 HRC

Time - Temperature - Transformation Diagram



Tempering Diagram



This grade is produced on request.