

1.2631

X50CrMoW9-1-1/ NZ3

COLD WORK TOOL STEEL

APPLICATION

Wood cutting knives, flat and round shear knives, knives for the paper industry. Medium-alloy steel for cold work with very good hardenability, good through hardenability, high compressive strength, high ductility

CHEMICAL COMPOSITION

Chemical composition (in weight %)

Element	C	Si	Mn	P	S	Cr	Mo	W
min	0.45	0.80	0.40	max	max	8.00	1.10	1.10
maks.	0.55	1.00	0.60	0.035	0.035	9.00	1.30	1.30

APPLICATION

Hardening	1020 - 1050°C / oil, pressure gas (N ₂), air or hot bath (500 - 550°C)			
Tempering	see tempering diagram			
Temperature [°C]	100	200	300	400
Hardness [HRC]	58	57	56	55

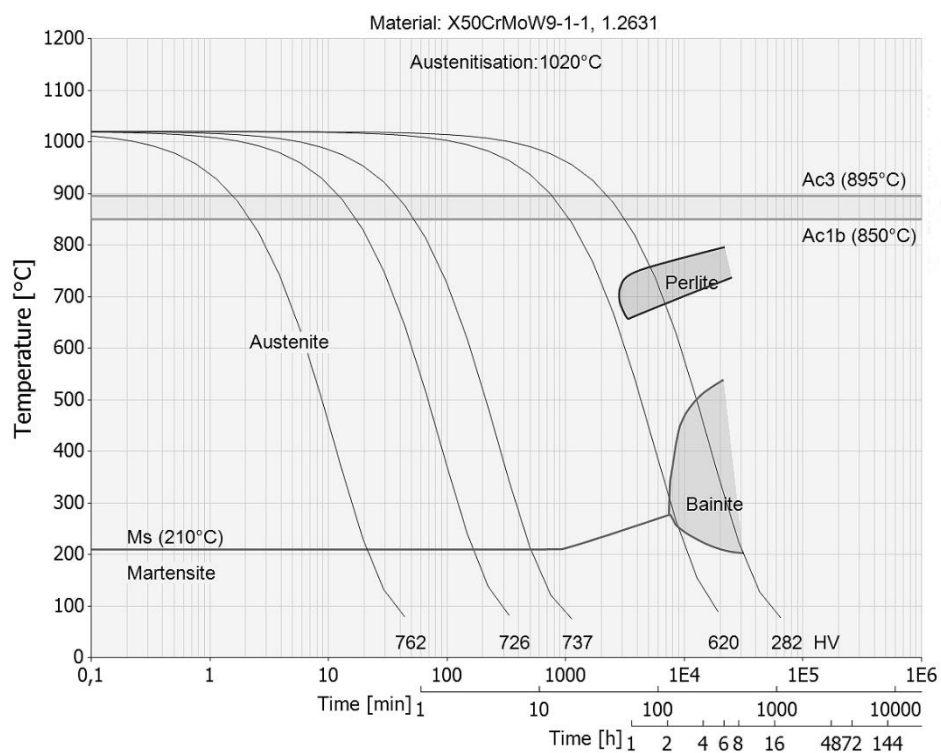
ADDITIONAL HEAT TREATMENT

Soft annealing	710 - 750°C
Stress relieving	600 - 650°C / slow cooling in furnace
Additional quenching media	Hot bath 180 - 220°C

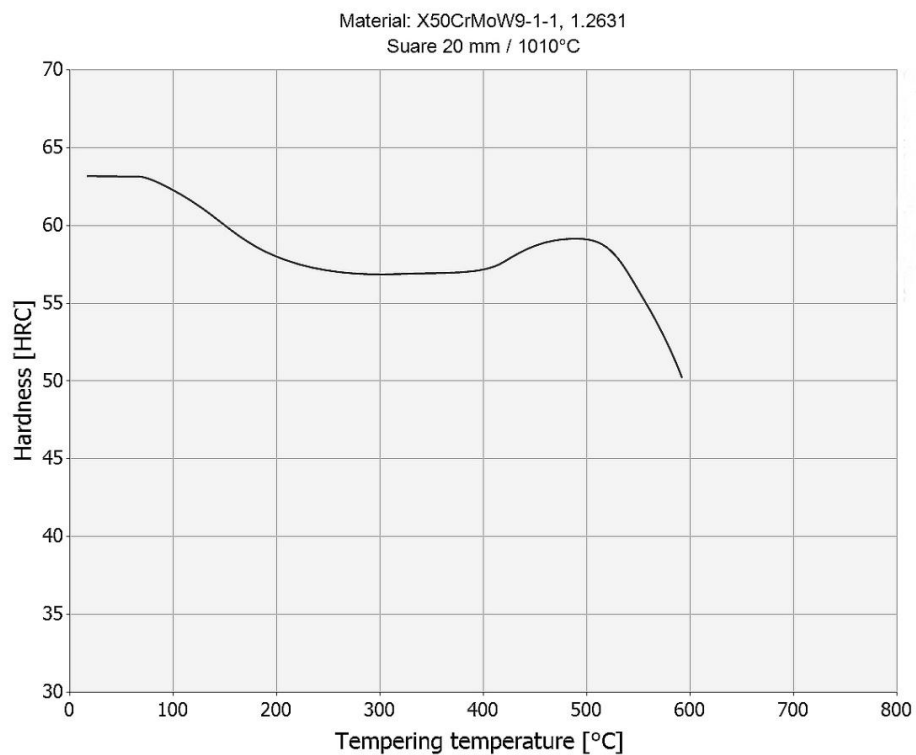
MECHANICAL PROPERTIES

Condition	Quenched and tempered (+QT)	Soft annealed (+A)
Hardness [HB]	-	max. 240
Hardness [HRC]	max. 229	-

CONTINUOUS COOLING TRANSFORMATION (CCT) DIAGRAM



TEMPERING DIAGRAM



NOTE: All technical information is for reference only.