Buderus | Edelstahl

2714 ISO-B
Plastic Mould Steel

	C	Si	Mn	P	S	Cr	Ni	Mo	V
■ **Typical analysis**	0,52	0,25	0,80	0,025	0,004	1,10	1,70	0,45	0,10
■ **Chemical composition as per SEL**	0,50	0,10-	0,60-	≤0,030	≤0,030	0,80-	1,50-	0,35-	0,05-
	0,60	0,40	0,90			1,20	1,80	0,55	0,15

Figures in % by mass.

■ **Standards**	
Register of European Steels (SEL)	55 NiCrMoV 7
DIN EN ISO 4957	55 NiCrMoV 7
AFNOR	55 NCDV 07
AISI	L 6

■ Characteristics
Classic die steel with through-hardening properties up to a reference diameter of 450 mm.
For larger dimensions we recommend grade 2714 ISO-B MOD or hardening and tempering aftercontour roughing. For hardness up to 440 HB (≙ approx. 1500 MPa).

■ Aplications
Large press dies for forming aluminium, forging dies for large quantities regardless of die size and shape of cut, die and mould holders, tool holders and cold forging die holders, tool cassettes.
Hydroforming moulds (IHU).

■ Delivered condition
Annealed to max. 248 HB,
Quenched and tempered to 370–415 HB (≙ approx. 1250–1400 MPa)* or to customer specification.

■ **Physical properties (reference values)**			
Thermal expansion coefficient (10-6/K)	20–100 °C 12,2	20–250 °C 13,1	20–500 °C 14,2
Thermal conductivity (W/mK)	20 °C 36,0	250 °C 37,5	500 °C 34,5
Young's modulus (GPa)	20 °C 215	250 °C 198	500 °C 175

■ **High-temperature yiel strength**				
Hardened and tempered state	0,2 % yield strength in MPa at temperature			
	450°C	500°C	550°C	600°C
~ 1570 MPa	900	740	460	220
~ 1370 MPa	810	590	390	200
~ 1230 MPa	610	460	280	150

* Surface hardness in Brinell, converted to DIN EN ISO 18265, Table A.1.

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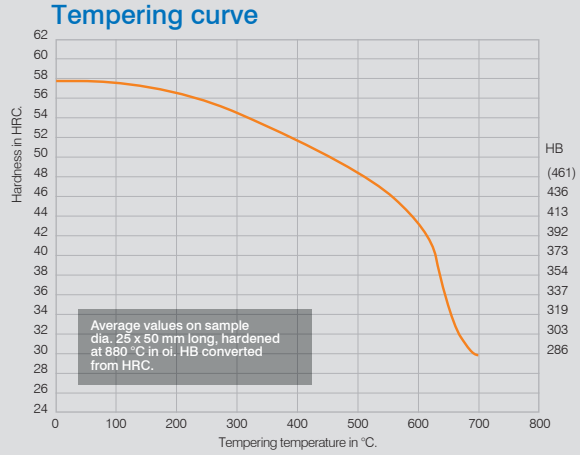
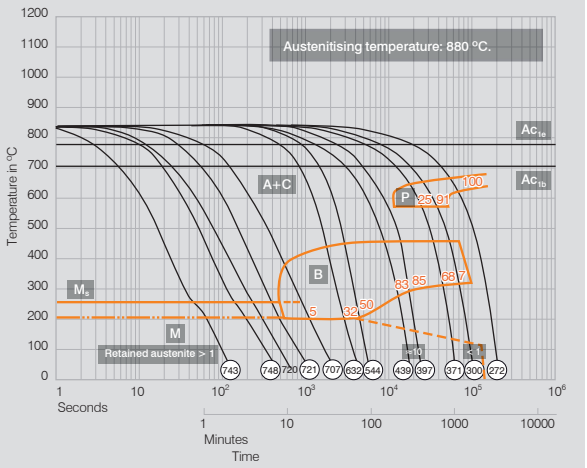
Heat Treatment		
Stress relieving	Temperature:	Approx. 650 °C in the annealed state.
	Duration:	1 hour per 50 mm wall thickness.
	Cooling:	Furnace.
Soft annealing	Temperature:	700 °C
	Duration:	1 hour per 25 mm wall thickness.
	Cooling:	Furnace.
Hardening	Hardening:	880 °C
	Duration:	1 minute per mm wall thickness.
Quenching hardness	Max.58 HRC	in water/oil, protective atmosphere/oil, oil, hot bath or vacuum
Tempering	Temperature:	See tempering curve
	Duration:	1 hour per 25 mm wall thickness.
	Cooling:	Air
Working Hardness	Max. 300-440 HB	

Note: Pre-heating of the tools to 250-280 °C is recommended.

Tempering curve



TTT curve (continuous)



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