

## 2343 ISO-B

### Hot Work Tool Steel

	C	Si	Mn	P	S	Cr	Mo
■ Typical analysis	0,38	1,05	0,40	0,025	0,003	5,20	1,30
■ Chemical composition as per SEL	0,33-	0,80-	0,25-	≤0,030	≤0,020	4,80-	1,10-
	0,41	1,20	0,50			5,50	1,50

Figures in % by mass.

#### ■ Standards

Register of European Steels (SEL)	X 37 CrMoV 5-1
DIN EN ISO 4957	X 37 CrMoV 5-1
AFNOR	Z 38 CDV 5
AISI	H 11
BS	BH 11

#### ■ Characteristics

Tungsten-free hot work tool steel on a CrMoV base. Insensitive to temperature shock, and with high wear resistance.

#### ■ Applications

Extruder tools including pipe extruders, such as extrusion stems, die holders, insert and bridge type tools, liners and liner holders, outer mantles.

Highly stressed plastic moulds. Mould inserts with abrasive stress, such as occurs in processing thermosetting plastics, thermoplastics and composite materials.

Die-casting moulds, mould inserts, sliders and cores; for processing Al, Mg and zinc die-casting.

#### ■ Delivered condition

Annealed to max. 229 HB.

Hardened and tempered to customer specification on request.

#### ■ Physical properties (reference values)

Thermal expansion coefficient (10 <sup>-6</sup> /K)	20–100 °C	20–250 °C	20–500 °C
	10,3	11,6	12,8
Thermal conductivity (W/mK)	20 °C	250 °C	500 °C
	23,0	25,0	27,0
Young's modulus (GPa)	20 °C	250 °C	500 °C
	210	195	172

#### ■ High-temperature yield strength

Hardened and tempered state	0,2 % yield strength in MPa at temperature			
	450°C	500°C	550°C	600°C
~ 1570 MPa	1050	960	690	430
~ 1370 MPa	900	830	650	390
~ 1230 MPa	800	720	500	310

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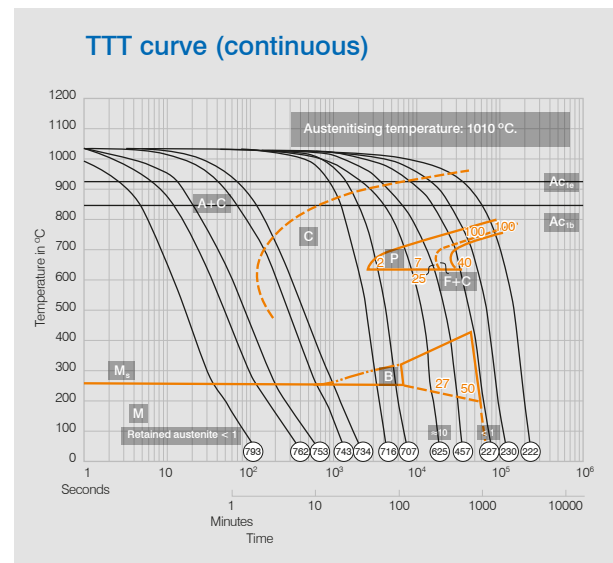
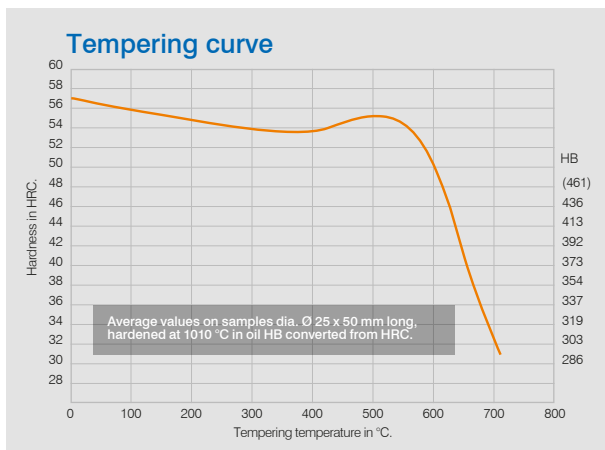
# Sermetal

a voestalpine company

## 2343 ISO-B Hot Work Tool Steel

■ 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:	820 °C
	Duration:	1 hour per 25 mm wall thickness.
	Cooling:	Furnace.
Hardening	Hardening:	980 °C
	Duration:	1 minute per mm wall thickness.
	Quenching hardness	Max. 64 HRC
Tempering	Temperature:	See tempering curve
	Duration:	1 hour per 25 mm wall thickness.
	Cooling:	Air
Working Hardness	Max. 50-54 HB	

**Note on hardening:** To avoid pitting, holding at hardening temperature must not be done in salt baths, but packed or in a vacuum. Quenching in nitric salts should likewise be avoided with the hot bath method of vacuum hardening.



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