

SIMOLD[™] 2083

TOOL STEEL

SIMOLD 2083 is a tool steel, characterised by good micro cleanliness, excellent polishability, good machinability, good temperature resistance, good dimensional stability and good wear resistance.

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

SPECIFICATIONS

SIMOLD 2083 is designated as EN X40Cr14 (Mat. No. 1.2083) and conforms to the following standards:

- EN ISO 4957
- EN 10029
- EN 10160 *
- SEP 1920
- EN 10163
- EN 10204
- DIN 50602 or ASTM E45 or ISO 4967 *
- ASTM E112 *

* Tested upon request.

CHEMICAL COMPOSITION – Typical values [mas.%]

SIMOLD 2083 is a martensitic steel alloyed with chromium, manganese and molybdenum with an extremely low sulphur and phosphorus content.

	C	Si	Mn	P	S	Cr	Ni	Mo
Min.	0.36	—	—	—	—	12.5	—	—
Max.	0.42	1.00	1.00	0.025	0.001	14.5	1.00	0.08

PHYSICAL PROPERTIES

Density at 20 °C: 7800 kg/m³

Modulus of elasticity: 220 MPa

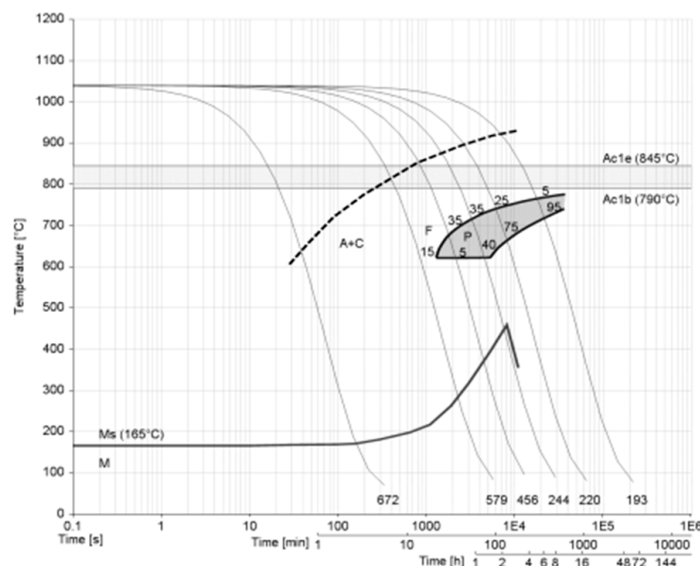
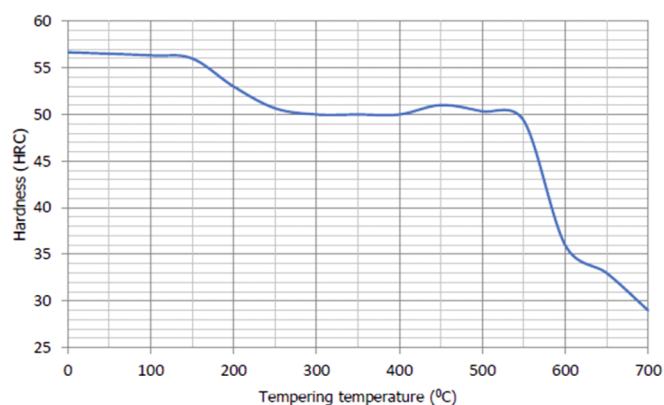
MECHANICAL PROPERTIES

Soft annealed: max. 240 HB

Quenched & tempered QT: 280–325 HB

HEAT TREATMENTS

Soft annealing	760–810 °C	Hardness HB after annealing: 230
Stress relief annealing	600–650 °C	
Hardening	1000–1050 °C/air	Hardness HRC after quenching: approx. 51–55
Tempering	1h/25 mm, min. 2 h	See tempering chart



SIZE OF CRYSTAL GRAINS

Size of crystal grains 5 to 8, according to ASTM E112

CLEANLINESS OF STEEL

- DIN 50602 method K1 max. 20
- ASTM E45 method A: thin max. B2–C2–D2 and thick max. B1.5–C1.5–D1.5
- ISO 4967

DELIVERY CONDITIONS

- QT + shotblasted
- QT + shotblasted + painted
- Annealed + shotblasted

DIMENSIONS AND TOLERANCES

SIMOLD 2083	Thickness [mm]	Width [mm]	Length [mm]	Max. weight [kg]
Quarto plates	15–100	1000–2000	2000–12000	9600

- Thickness: according to EN 10029
- Flatness: according to EN 10029

INSPECTION DOCUMENTS

The type of document shall be agreed upon at the time of enquiry and order. A test certificate according to EN 10204/3.1 is issued mandatorily.

The information and data in this product data sheet are intended for informative purpose only and may be revised at any time without notice. Presented typical properties of the materials are described only to help readers make their own evaluations and decisions. They are not guaranteed.