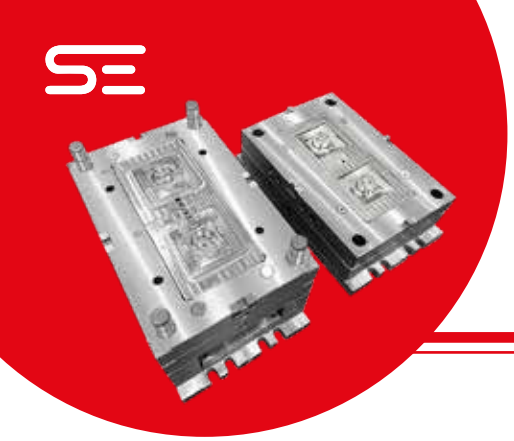


1.2083

Plastic Mould Steel

TECHNICAL SHEET

1 Comparision Standards

W.Nr	DIN	JIS equivalent	AISI/SAE	AFNOR	BS	UNI
1.2083	X40Cr14	-	420C	-	-	X42Cr13

2 Chemical Composition

C	Si	Mn	P (max)	S (max)	Cr	Supply Condition	Supply Hardness (HB)
0.38-0.45	≤ 1.00	≤ 1.00	0.03	0.03	12.50-14.50	Annealed	240

3 Main Characteristics and Applications

1.2083 plastic mold steel is a martensitic stainless steel known for its high hardenability, excellent polishing properties, and outstanding resistance to corrosion and rust.

Applications:

- White goods industry
- Injection Moulds
- Blow Moulding Tools
- Extrusion Dies
- Precision Components
- Optical and Medical Products

4 Production Route

EAF - LF - VD Forging - Heat Treatment + A

5 Physical Properties (Reference Values)

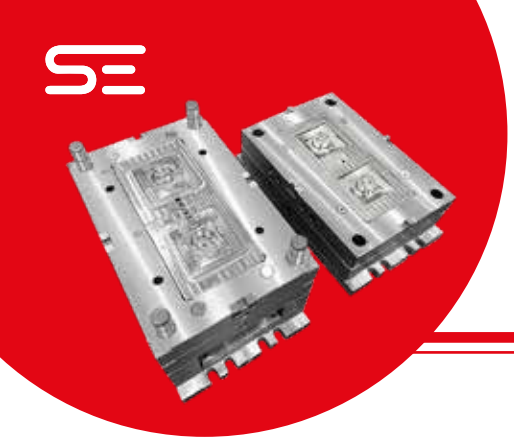
	20°C	100°C	250°C	500°C
Thermal expansion coefficient (10-6/K)	11.1	11.4	11.8	12.6
Thermal Conductivity (W/mk)	20.5	22.1	23.6	25.1
Young modulus (Kn/mm2)	218	210	202	180

6 Heat Treatment

TREATMENT	TEMPERATURE	HOLDING TIME (HT)	COOLING	COMMENTS
Annealing	Heat to 780 - 800 °C	Min. H.T. for 2 minute /mm	Air or Furnace	To achieve a hardness below 240 HB (23 HRC) and enhance machinability
Stress relieving	Heat to max 30 °C below tempering temperature	Min. H.T. for 2 minute /mm	Air or Furnace	It is recommended to eliminate the residual stresses induced by mechanical working after machining
Hardening	Heat to 1000 - 1050 °C	Min. H.T. for 1 minute /mm	Oil - Gas Air	
Tempering	Heat to 170 - 270 °C	Min. H.T. for 3 minute /mm	Air	Tempering should be done soon after hardening at 170 - 270 °C, based on the desired hardness. Maintain the process for at least 2 hours and repeat it at least twice, each time at a temperature 30°C lower than the previous cycle

SANDEEP EDGETECH LIMITED
NCR | New Delhi | Mumbai
+91-9654956890, +91-11-43360000 | sales@sandeepedgetech.com
www.sandeepedgetech.com

SANDEEP EDGETECH
STEEL SOLUTIONS

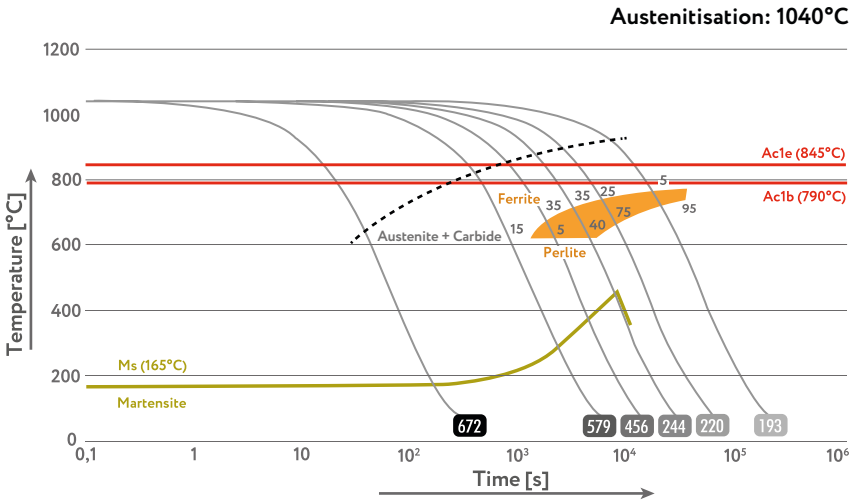


1.2083

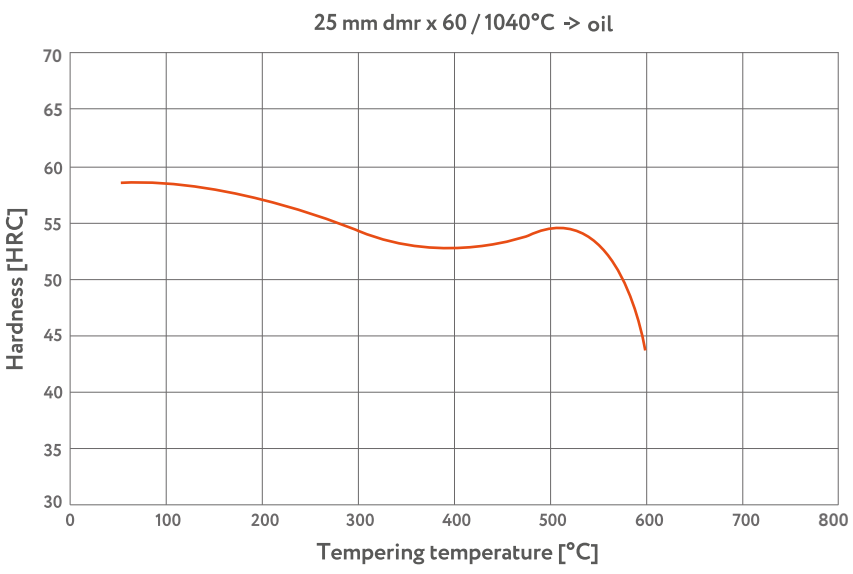
Plastic Mould Steel

TECHNICAL SHEET

7 C.C.T. Curve



8 Tempering Curve



SANDEEP EDGETECH LIMITED
NCR I New Delhi I Mumbai
+91-9654956890, +91-11-43360000 I sales@sandeepedgetech.com
www.sandeepedgetech.com

SANDEEP EDGETECH
STEEL SOLUTIONS