

SM - 2311

Plastic Mould Steel

	C	Mn	Si	Cr	Mo	S	P
■ Typical analysis	0,38	1,50	0,30	2,00	0,20	0,20	
■ Chemical composition as per SEL	0,35	1,30	0,30	1,80	0,15	0,15	
	0,45	1,60	0,40	2,10	0,25	0,25	0,030 Max

Figures in % by mass.

■ Standards	
W.Nr	1.2311
DIN EN ISO 4957	X40CrMnMo7
AFNOR	40CMD8
AISI/SAE	~ P20
BS	~ P20

■ Supply Conditions	
Hardened and Tempered HB	280-325

■ Characteristics and applications

Steel with good hardening penetration up to 400mm. Generally supplied in hardened and tempered condition with excellent polishing and photoengraving properties. This steel is suitable for nitriding (around 800 HV), chrome and nickel plating. Used for plastic dies with good surface finish properties. It is also used for dies of light alloys with low melting point, plates, dies box, etc.

■ Heat Treatment		
Annealing	Temperature:	Heat to 720-750 °C
	Duration:	For 2 - 4 h
	Cooling:	Furnace cool
Stress relieving	Temperature:	Up to 560-600 °C
	Duration:	For 2 - 4 h
	Cooling:	Furnace or steel air cooling
Hardening	Preheating:	600-650 °C
	Hardening:	840-870 °C
	Cooling:	in oil
	Hardening:	HRC 51
Tempering		580-650 °C for 1 hour for 25mm of thickness minimum 2h

■ Critical points	
Ac1	740° C
Ms	310° C

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