

1.2312/40CRMNMOS8-6



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NAZWA GATUNKU: 1.2312/40CRMNMOS8-6

NAZWA: TOOL STEEL FOR PLASTIC MOULDING AND EXTRUSION

NORM: DIN 17350

APPLICATION

Steel with high level of machinability used for pressure mould and stamping die bases, gauges etc.

CHEMICAL COMPOSITION:

C	Si	Mn	P	S	Cr	Mo	W	V	Co	Ni
0,35-0,45	0,30-0,50	1,40-1,60	Max 0,030	0,050-0,100	1,80- 2,00	0,15- 0,25	-	-	-	-

MECHANICAL PROPERTIES:

Hardness after	Tempering °C	Symbol	Value
Soft annealing	-	HB	≤230
Quenching with 860 °C in oil	-	HRC	54
Quenching with 860 °C in oil and tempering	100	HRC	≥53
	200	HRC	52
	300	HRC	50
	400	HRC	47.5
	500	HRC	43
	600	HRC	36
	700	HRC	30

PHYSICAL PROPERTIES:

Property	Unit	Value
Density, ρ	g*cm ⁻³	7.85
Thermal expansion, α _{30-100°C}	K ⁻¹	12.8*10 ⁻⁶
Thermal conductivity, λ _{20°C}	W*m ⁻¹ *K ⁻¹	34

TECHNOLOGICAL TREATMENT PROCESSES:

Technological treatment processes		Possible application	Temperature, °C
Hot forming	Forging	+	1050-850
	Rolling	+	1050-850
Heat treatment	Toughening	Quenching	840-880
		Normalisation	850-900
		Tempering	600-680
	Precipitation strengthening	Supersaturation	-
		Ageing	-
	Annealing	Soft annealing	700-740
		Stress relieving	550-630
Thermochemical treatment	Nitriding	+	480-570
	Other	-	-

INTERNATIONAL STEEL GRADES:

WERKSTOFF		Germany (DIN)		ANFOR	
1.2312	-	40CrMnMoS8-6	-	40CMB8S	
US		Russia		China	
~P20+S	ASTM A 681-08	40X2TM-Y	-	-	-