



AISI P20+Ni P20+Ni DIN2738

40CrMnNiMo8-6-4

C 0.42 Mn 1.50 Cr 1.95 Ni 1.10 Mo 0.21

Steel properties

P20 +Ni is upgrade version of plastic mold steel Of 2311, which normally supply in Pre hardened condition. Hardness in as supplied condition 280-320 HB. The additional nickel content of 1 % increases through hardening. It is micro-alloyed. It has good machinability, suitable for texturing, outstanding polishability, adequate corrosion resistance. vacuum-degassed steel with the following excellent features.

Standards

AISI P20+Ni

Physical properties

Coefficient of thermal expansion

at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
10 ⁻⁶ m/(m · K)	11.2	12.8	13.5	13.7	14.3	14.7	14.9

Thermal conductivity

at °C	20	350	700
W/(m · K)	35	34	33

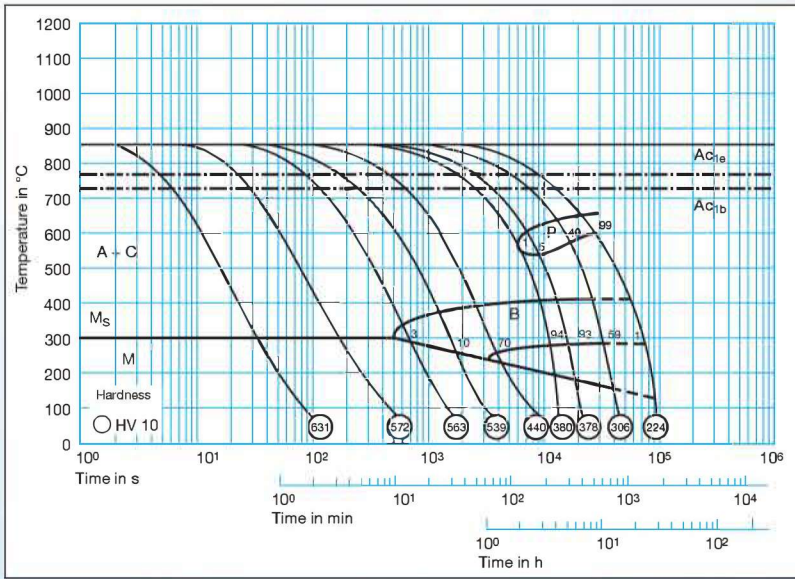
Applications

P20 is equivalent grade of most popular steel grade of DIN 2738 which is applicable for large & small plastic mould dies for Automotive Industries, Dies for Domestic goods , High finishing plastic Die, Boaster Plates of Presses, Die Holders & Shoe blocks for drop Hammers, Press Cassettes , Upsetter Blocker, forging dies, Different dies & mold for plastic products etc.

Heat treatment

Soft annealing °C 710 – 740	Cooling Furnace	Hardness HB max. 235
Hardening °C 840 – 870	Quenching Polymer or oil	Hardness after quenching HRC 51
Tempering °C HRC	100 51.5	200 50.2
	300 48	400 46.5
	500 43	600 39
	700 29	

Time-temperature-transformation diagram



Tempering diagram

