

AISI P20 +Ni P20 +Ni DIN 2738

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

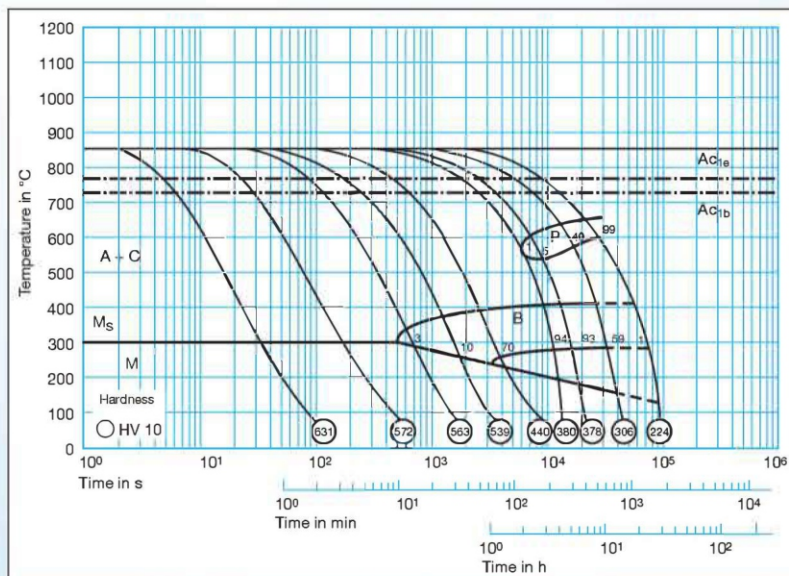
Quenching
Polymer or oil

Hardness after quenching HRC
51

Tempering °C
HRC

100	200	300	400	500	600	700
51.5	50.2	48	46.5	43	39	29

Time-temperature-transformation diagram



Tempering diagram

