

# Formadur 2162

21MnCr5

C 0.21 Mn 1.30 Cr 1.20

**Steel properties** Case hardening steel, good polishability, suitable for cold hobbing.

**Standards** AISI ~P2

**Physical properties**

**Coefficient of thermal expansion**

at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
10 <sup>-6</sup> m/(m · K)	12.2	12.9	13.5	13.9	14.2	14.5	14.8

**Thermal conductivity**

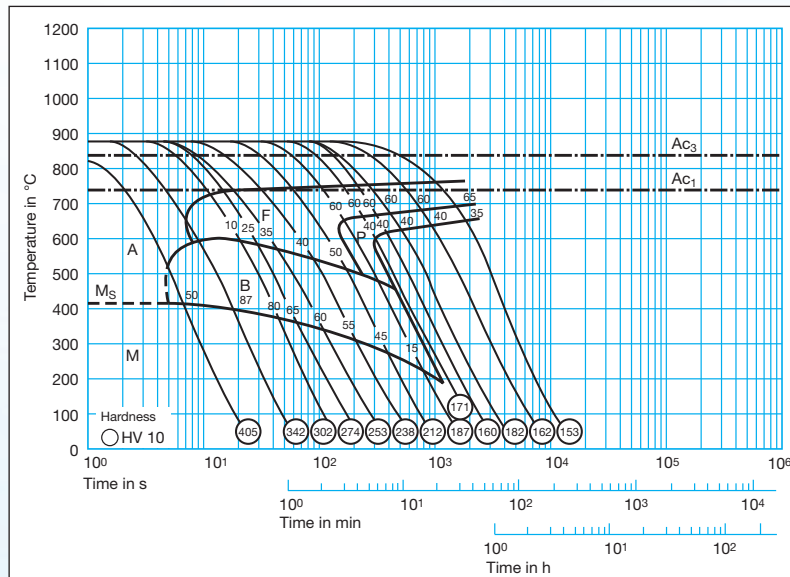
at °C	20	350	700
W/(m · K)	39.5	36.5	33.5

**Applications** Mirror-finished plastic moulds and guide pins.

**Heat treatment**

Soft annealing °C	Cooling	Hardness HB				
670 – 710	Furnace	max. 210				
Carburizing °C	Intermediate annealing °C	Hardening °C	Quenching	Surface hardness after quenching HRC		
870 – 900	620 – 650	810 – 840	Oil or saltbath, 180 – 220 °C	62		
Tempering °C	100	200	300	400	500	600
HRC	61	60	57	54	50	48

**Time-temperature-transformation diagram**



**Tempering diagram**

