

Formadur 2764

(X19NiCrMo4)

C 0.19 Cr 1.30 Mo 0.20 Ni 4.10

Steel properties Case-hardening steel, high core strength, good polishability.

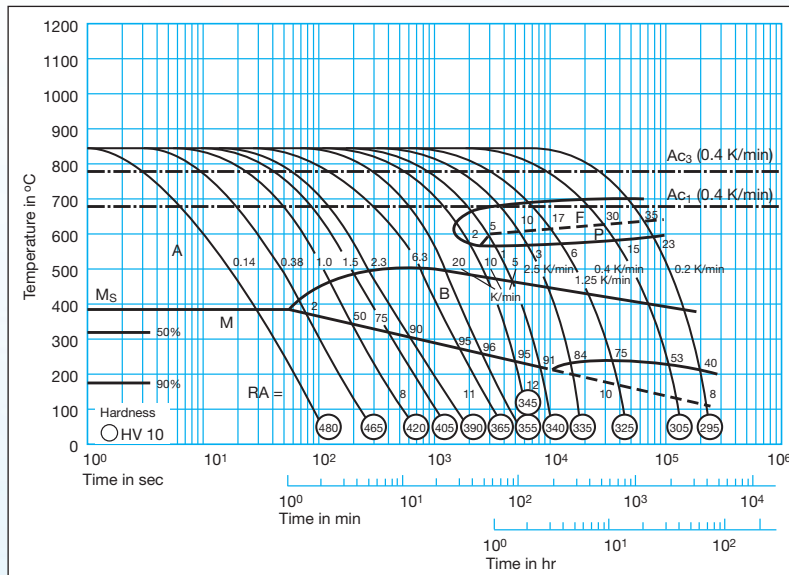
Standards AISI ~P21

| Physical properties | Coefficient of thermal expansion | | | | |
|----------------------------|---|----------|----------|----------|----------|
| | at °C | 20 – 100 | 20 – 200 | 20 – 300 | 20 – 400 |
| | $10^{-6} \text{ m}/(\text{m} \cdot \text{K})$ | 12.1 | 13.0 | 13.1 | 13.5 |
| | Thermal conductivity | | | | |
| | at °C | 20 | 350 | 700 | |
| | $\text{W}/(\text{m} \cdot \text{K})$ | 33.5 | 32.5 | 32.0 | |

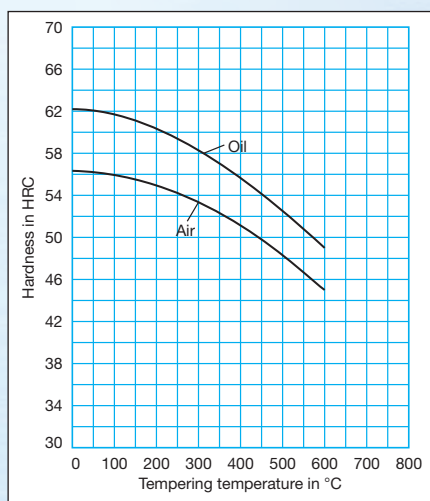
Applications Highly stressed plastic moulds, tool holders for cutter picks.

| Heat treatment | Soft annealing °C | Cooling | Hardness HB | | | | |
|-----------------------|-----------------------------------|----------------------------------|---------------------|-------------------------------|-------------------------------------|-----|-----|
| | | 620 – 660 | Furnace | Max. 250 | | | |
| | Stress-relief annealing °C | Cooling | | | | | |
| | 600 | Furnace | | | | | |
| | Carburizing °C | Intermediate annealing °C | Hardening °C | Quenching | Hardness after quenching HRC | | |
| | 860 – 890 | 600 – 630 | 780 – 810 | Oil or saltbath, 180 – 220 °C | 62 | | |
| | 860 – 890 | 600 – 630 | 800 – 830 | Air | 56 | | |
| | Tempering °C | 100 | 200 | 300 | 400 | 500 | 600 |
| | after oil hardening HRC | 62 | 60 | 58 | 56 | 52 | 49 |
| | after air hardening HRC | 56 | 55 | 53 | 51 | 48 | 45 |

Time-temperature-transformation diagram



Tempering diagram



Reference numbers in brackets are not standardized in EN ISO 4957.