

# Formadur 2738

40CrMnNiMo8-6-4

C 0.40 Mn 1.50 Cr 1.90 Ni 1.00 Mo 0.20

## Steel properties

Pre-hardened plastic mould steel, hardness in as-delivered condition 280 to 325 HB. Good machinability, suitable for texturing, improved through hardening in comparison to Formadur 2711, good polishability.

## 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 |
|---|----------|----------|----------|----------|----------|----------|----------|
| $10^{-6} \text{ m}/(\text{m} \cdot \text{K})$ | 11.1     | 12.9     | 13.4     | 13.8     | 14.2     | 14.6     | 14.9     |

### Thermal conductivity

| at °C                                | 20   | 350  | 700  |
|--------------------------------------|------|------|------|
| $\text{W}/(\text{m} \cdot \text{K})$ | 34.5 | 33.5 | 32.0 |

## Applications

Large plastic moulds with deep engravings and intensive impacts on the core. Formadur 2738 is the logical development of Formadur 2311, a pre-hardened plastic mould steel for use in large moulds, which also have to display high core strength. The additional nickel content of 1 % increases through hardening. Formadur 2738 is a micro-alloyed, vacuum-degassed steel with the following excellent features: good machinability, outstanding polishability, good texturing properties.

## 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

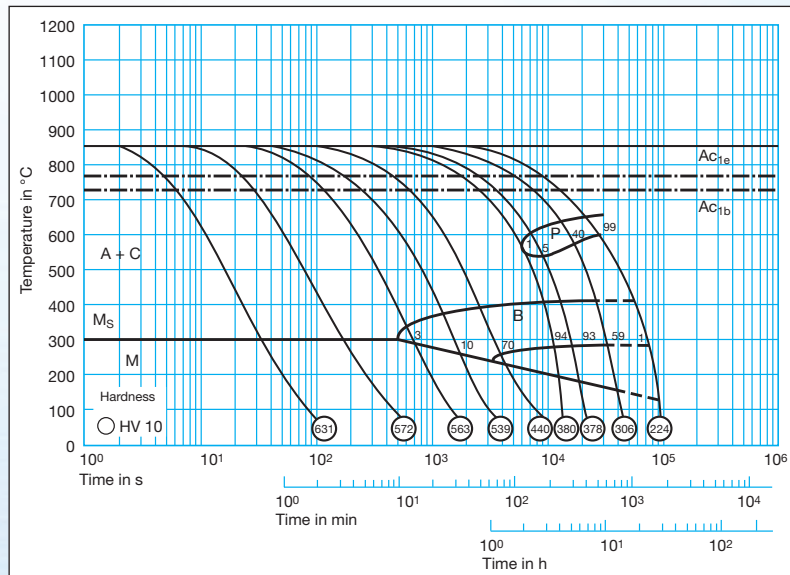
### Tempering °C

HRC

100    200    300    400    500    600    700

51    50    48    46    42    39    28

## Time-temperature-transformation diagram



## Tempering diagram

