

## 1.2083

**Material no.:** 1.2083

**HASCO colour code:** yellow / white

**Abbreviated DIN name:** X 40 Cr 14

**Hardness when supplied:** soft-annealed to max. 241 HB (~ 810 N/mm<sup>2</sup>)

**Chemical analysis (%):**

C	Cr				
0,4	14,0				

### Characteristics

**Material properties:** Corrosion-resistant mould steel with uniform through-hardness, low distortion, high wear resistance and high compressive strength. Readily machinable. To achieve optimum eroding surfaces, the material must be highly tempered, which in turn limits the corrosion resistance.

**Uses:** Cavity plates and inserts for plastics processing when using corrosive and chemically aggressive plastics and under strongly corroding conditions such as cooling/heating media or wet climatic conditions.

### Physical properties

**Thermal expansion coefficient** (10<sup>-6</sup>·m)/(m·K)

100	200	300	400	500	600	700	°C
10,5	11,0	11,6	11,9				

**Thermal conductivity** W/(m·K)

20	200	300	400				°C
21,0	22,0	23,8	24,7				

### Remarks

**Polishing:** Possible in the hardened state.

**Graining:** Possible. With sensitive grain etchings, we recommend prior consultation with the etching shop.

**Nitriding:** Possible using any of the well-known processes. At temperatures above 470°C, the hardness declines and corrosion resistance decreases.

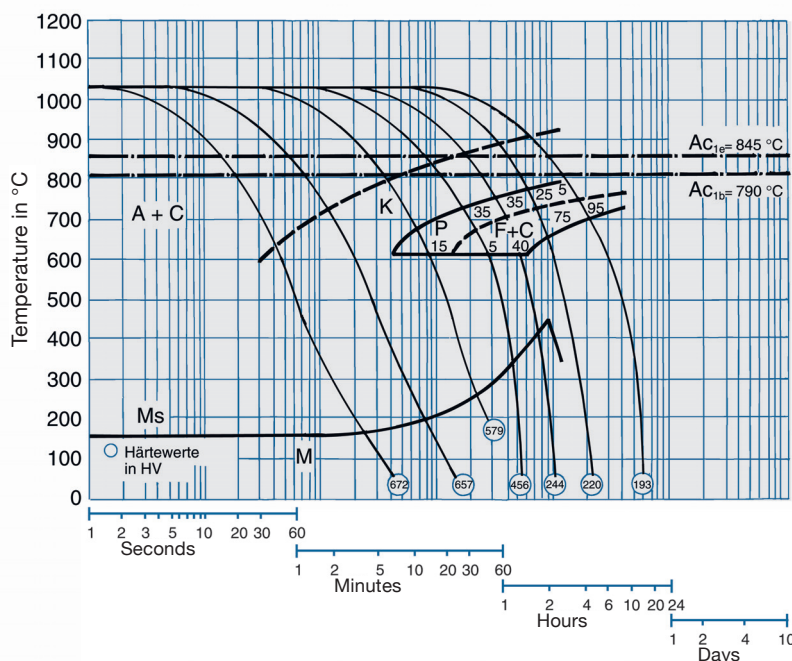
**Hardening:** At 1000°C – 1050°C  
Details can be taken from the time-temperature conversion and tempering charts. The most suitable heat treatment for the relevant work piece should be fixed by the hardening shop. The hardness should be specified by the hardening shop and checked on delivery.

**Soft annealing:** 760°C – 800°C, approx. 4 h

**Stress-relief annealing:** To eliminate residual stress after coarse machining at approx. 600°C – 650°C, approx. 4 h with slow heating and furnace cooling.

**Normal working hardness:** 50 - 54 HRC

### Time-temperature conversion chart



### Tempering chart

