

ES Aktuell 1000

Name:

40 CrMnNiMo 8-6-4

Material No.:

1.2738

Typical analysis in %:

| C | Mn | Cr | Mo | Ni |
|-----|-----|-----|------|-----|
| 0.4 | 1.5 | 2.0 | 0.25 | 1.0 |

As-supplied condition:

Quenched and tempered to a hardness of 280 to 325 HB (950 - 1100 N/mm²)

Characteristics:

Uniform hardness throughout the cross section, good polishability, good machinability, nitridable, suitable for chromium plating, weldable to standards using all welding processes

General fields of application:

Mould steel for plastic moulds with plate thicknesses of approx. 400 mm upwards if uniform hardness, increased toughness and polishability are required, even in the base of the mould. Moulds for television casings and backs, copier bodies, bumper moulds, moulds for vehicle dashboards and large external car body parts, refuse container moulds, die casting frames

Special note:

ES Aktuell 1000 – a tool steel designed for the largest plastic moulds. The additional 1 % nickel content considerably improves full thickness heat treatability compared with material 1.2311. Preworking the mould in the annealed condition followed by hardening and tempering after rough machining is not required.

Also available in EST grade.

If grained or polished only ES Aktuell 1000 in EST grade, Mat. No. 1.2738 EST should be used.

Heat treatment data:

| | Temperature | Duration | Cooling |
|-------------------------|-------------|----------|---------|
| Stress-relief annealing | max. 480 °C | min. 4 h | furnace |

We recommend stress-relief annealing for more than 30 % machining before finish machining.

Physical characteristics:

Coefficient of thermal expansion: between 20 °C and:

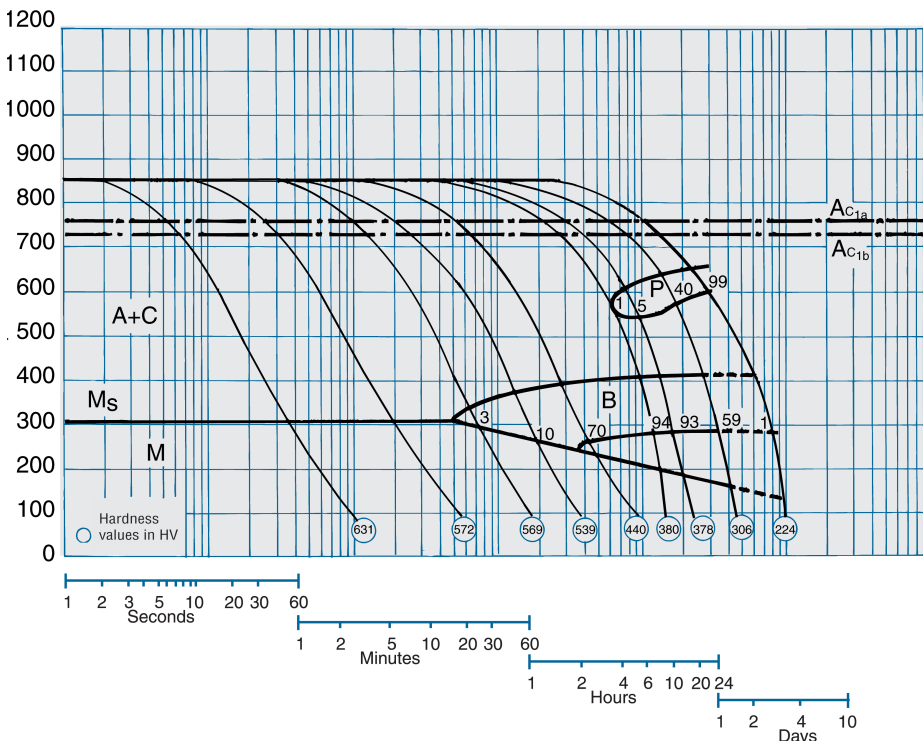
| 10 ⁻⁶ x m | 100 | 200 | 300 | 400 | 500 | 600 | 700 °C |
|----------------------|------|------|------|------|------|------|--------|
| m x K | 11.1 | 12.9 | 13.4 | 13.8 | 14.2 | 14.6 | 14.9 |

Thermal conductivity:

| W | 20 | 350 | 700 °C |
|-------|------|------|--------|
| m x K | 35.5 | 33.2 | 31.9 |

Normal working hardness: Used in the as-supplied condition

Continuous time-temperature-transformation diagram



Tempering curve

