

ES Aktuell S

Name:

40 CrMnMo S 8-6

Material No.:

1.2312

Typical analysis in %:

| C | Mn | S | Cr | Mo |
|-----|-----|------|-----|-----|
| 0.4 | 1.5 | 0.07 | 1.9 | 0.2 |

As-supplied condition:

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

Characteristics:

The very best machinability, high compressive loads

General fields of application:

Plastic moulds, for which the main requirement is for machinability; mould frames and mould plates; mould frames for plastic and die casting moulds

Special note:

ES Aktuell S can be nitrided to improve its wear resistance.

ES Aktuell S is not suitable for graining or polishing. For this we recommend ES Aktuell EST, Mat.-No. 1.2311.

For material cross sections over 400 mm we recommend ES Aktuell 1000 or ES Aktuell 1200 for better full quenching and tempering.

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:

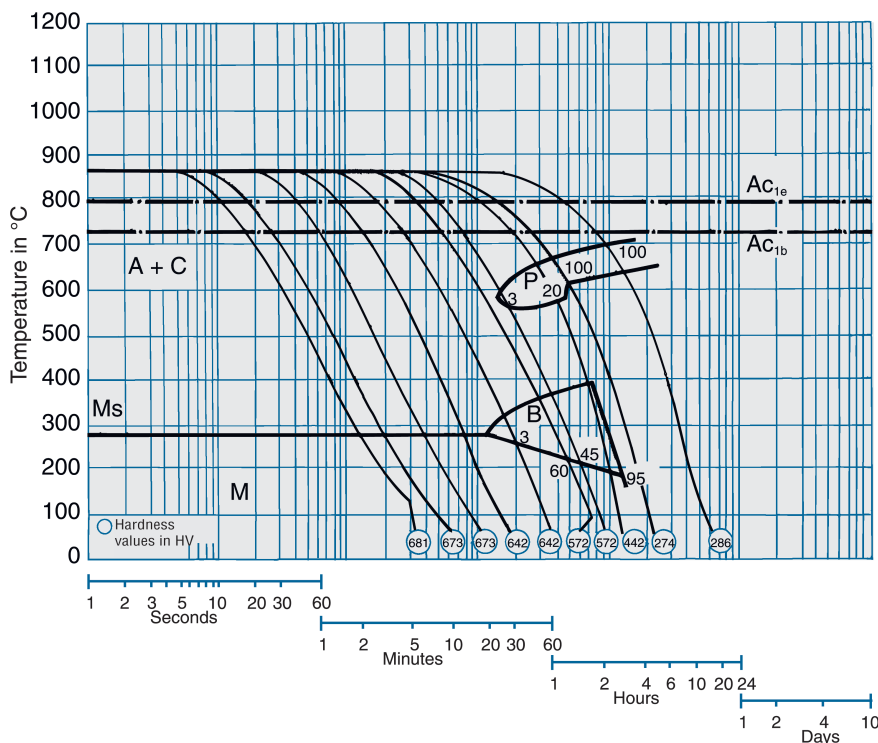
| 10 ⁻⁶ x m | 100 | 200 | 300 | 400 | 500 | 600 | 700 °C |
|----------------------|------|------|------|------|------|------|--------|
| m x K | 12.2 | 12.9 | 13.5 | 13.9 | 14.2 | 14.5 | 14.8 |

Thermal conductivity:

| W | 20 | 350 | 700 °C |
|-------|------|------|--------|
| m x K | 39.5 | 36.5 | 33.5 |

Normal working hardness: Used in the as-supplied condition

Continuous time-temperature-transformation diagram



Tempering curve

