ES 65 S

Name:
X 100 CrMoV 5

Material No.:
1.2363

Typical analysis in %:

C	Cr	Mo	V
1.0	5.2	1.2	0.3

As-supplied condition:
Soft-annealed to max. 241 HB
(810 N/mm²)

Characteristics:
Air-hardening special cold work steel, with respect to toughness and wear resistance it is between medium and high alloyed steels; good machinability, high hardenability, low dimensional changes as a result of heat treatment, good through-hardening properties and excellent compressive strength

General fields of application:
Cutting and pressing tools, rollers, shearing knives, thread rolling dies, cold stamping tools, calibration and pilger mandrels, moulds for plastic processing, gauges and measuring tools

Special note:
If electrical discharge machining takes place after hardening then the material should be tempered three times above 520 °C after quenching.

Heat treatment data:

	Temperature	*Duration*	*Cooling*
Soft annealing	820 - 850 °C	4 - 6 h	furnace
Stress-relief annealing	600 - 650 °C	min. 4 h	furnace
Hardening	950 - 980 °C	Group II	oil, air, WB 500 °C
Tempering	180 - 600 °C see tempering curve	min. 2 h depending on cross section	still air

Physical characteristics:

Coefficient of thermal expansion: between 20 °C and:

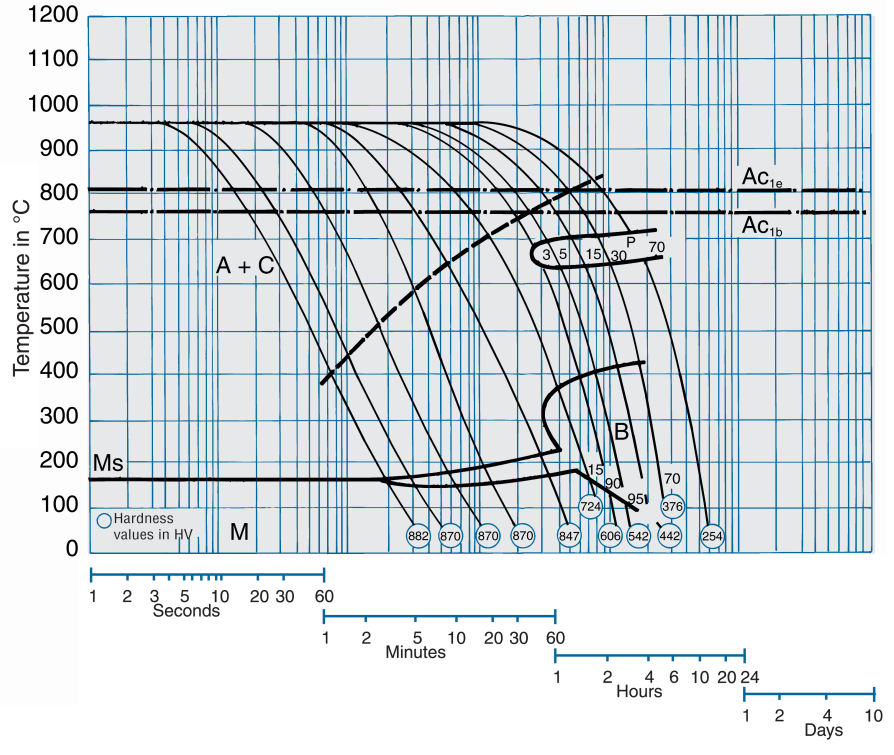
10^{-6} x m	100	200	300	400 °C
m x K	9.9	12.5	13.2	14.5

Thermal conductivity:

W	20	350	700 °C
m x K	15.8	26.7	29.1

Normal working hardness: 58 - 62 HRC

Continuous time-temperature-transformation diagram



Tempering curve