

Material No.: Code:
1.8550 34CrAlNi7

DE - Brand:
Ni50

Chemical composition:
 (Typical analysis in %)

C	Cr	Mo	Ni	Al			
0,34	1,70	0,20	1,00	1,00			

Steel properties:

CrAlNiMo-alloyed nitriding steel with a surface hardness after nitriding of minimum 950HV.

Applications:

Barrels and screws for injection moulding machines, plungers, piston rods, parts for general engineering.

Condition of delivery:

Quenched and tempered

Physical properties:

Thermal expansion coefficient	$\left[\frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
		12,1	12,7	13,2	13,7
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C			
		33,7			

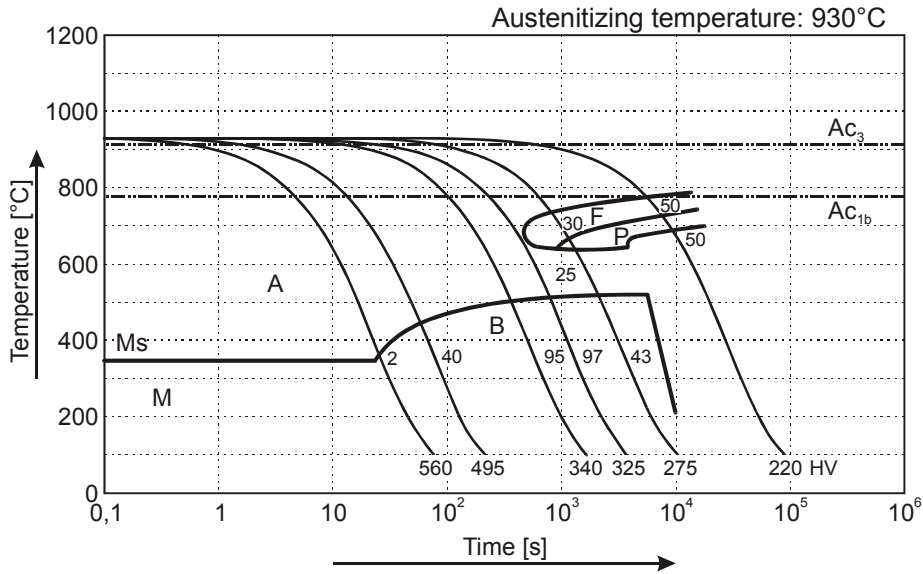
Heat treatment:

Soft annealing	Temperature	Cooling	Hardness
	650 - 700°C	furnace	
Stress relief annealing	Temperature	Cooling	
	860 - 900°C	furnace	
Hardening	Temperature	Cooling	Tempering
	870 - 930°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram

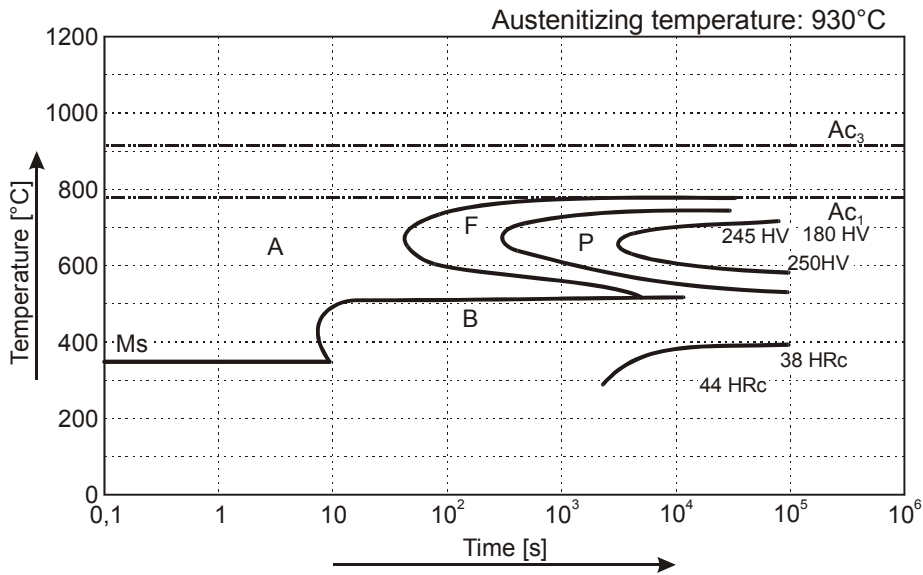
Mechanical properties in quenched and tempered condition (DIN EN 10085, 07/2001)

Diameter d [mm]	16 ≤ d ≤ 40	40 ≤ d ≤ 100	100 ≤ d ≤ 160	160 ≤ d ≤ 250
Yield strength Re [N/mm²]	min. 680	min. 650	min. 600	min. 600
Tensile strength Rm [N/mm²]	900 - 1100	850 - 1050	800 - 1000	800 - 1000
Fracture elongation A [%]	min. 10	min. 12	min. 13	min. 13
Toughness CVN [J]	min. 30	min. 30	min. 35	min. 35

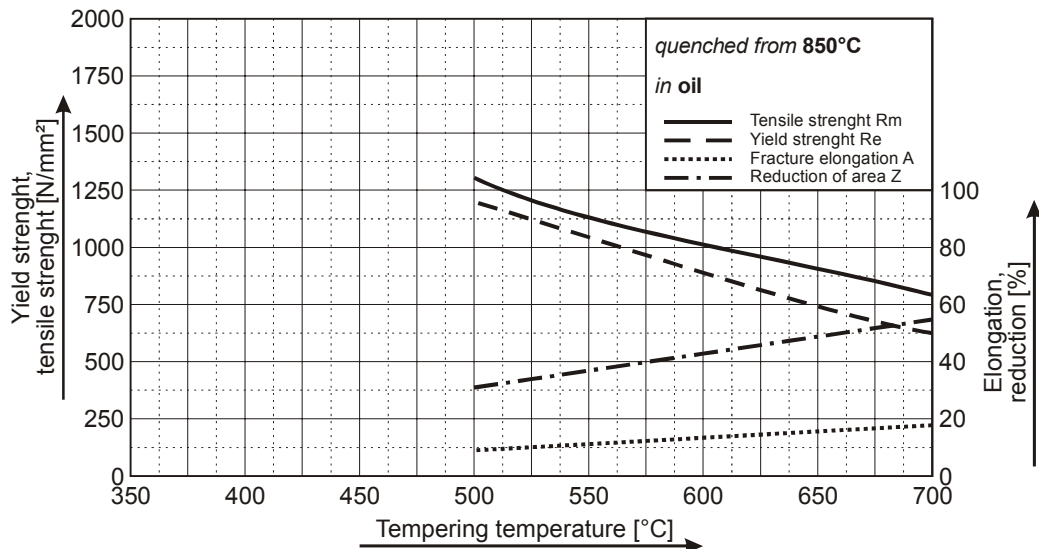
(1.8550) Continuous Cooling Transformation Diagram (CCT)



Time Temperature Transformation Diagram (TTT)



Tempering Diagram



Remarks: All technical information is for reference only.