

Material No.: Code:  
**1.2714 55NiCrMoV7**

DE - Brand:  
**A50**

**Chemical composition:**  
 (Typical analysis in %)

C	Cr	Mo	Ni	V			
0,55	1,10	0,50	1,70	0,10			

**Steel properties:**

Ni alloyed die steel with excellent toughness and good through hardening properties. Similar to AISI L6.

**Applications:**

Standard material for forging dies, hot shear knives, punches, backing plates, die holders, hot punching tools.

**Condition of delivery:**

- a) Soft annealed to max. 248 HB
- b) Quenched and tempered, 1100 - 1350 N/mm<sup>2</sup>

**Physical properties:**

Thermal expansion coefficient	$\left[ \frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-300°C	20-500°C	20-600°C
		12,3	13,4	14,1	14,4
Thermal conductivity	$\left[ \frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C	350°C	700°C	
		35,9	38,2	34,8	

**Heat treatment:**

Soft annealing

Temperature	Cooling	Hardness
650 - 700°C	furnace	max. 248 HB

Stress relief annealing

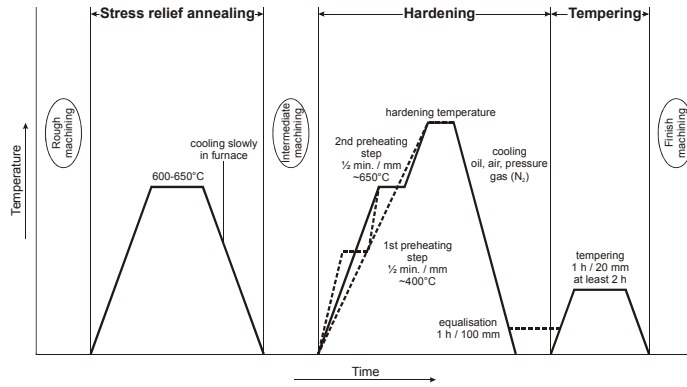
The recommendation 600 - 650°C is valid for the soft annealed condition.

Temperature	Cooling	
600 - 650°C	furnace	

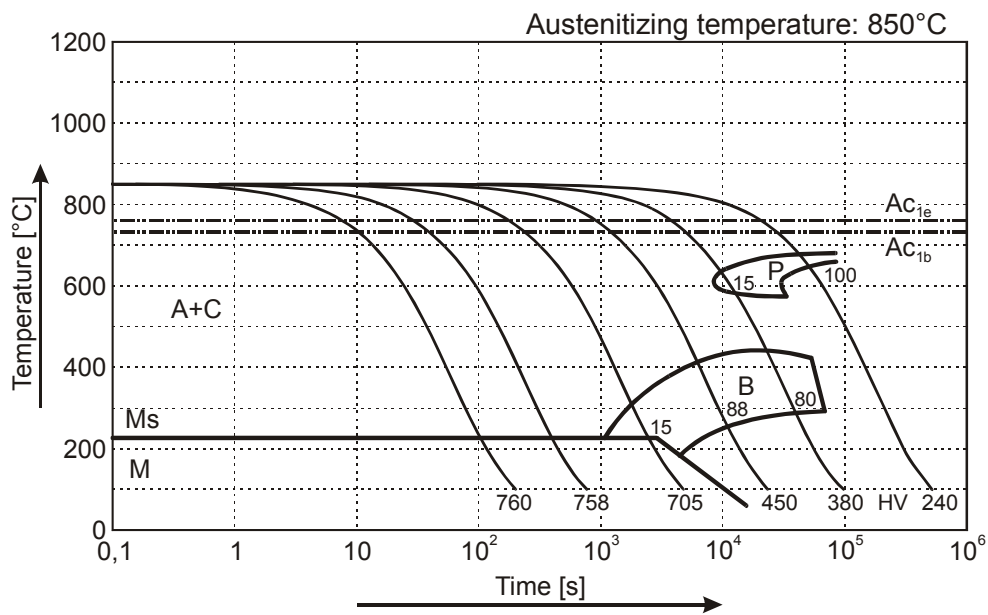
Hardening

Temperature	Cooling	Tempering
840 - 890°C	oil, pressure gas (N <sub>2</sub> ), air	see tempering diagram

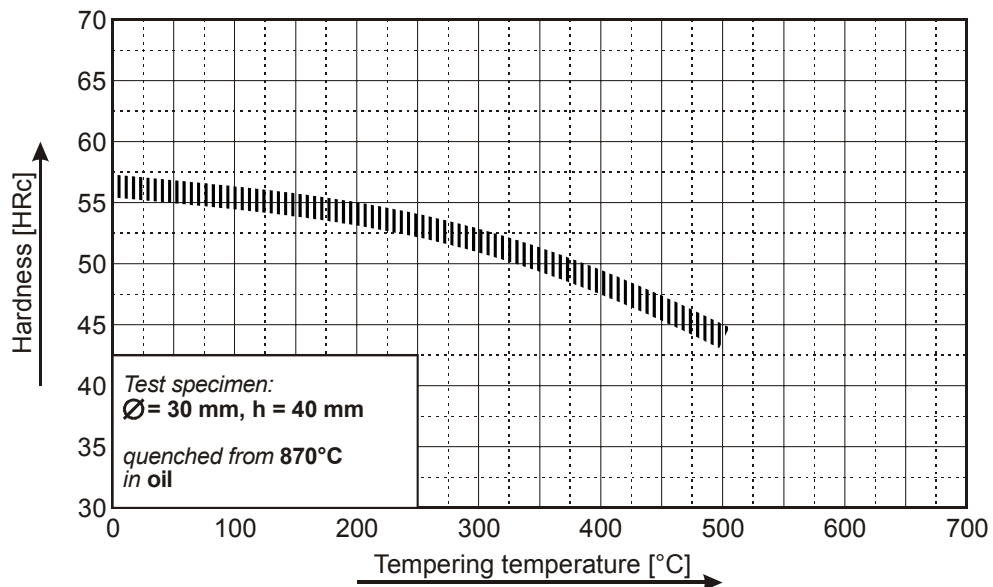
## (1.2714) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.