

Quality	115CrV3	Supply conditions:	<i>Technical card</i>
According to standards	DIN 17350: 1980	Annealed HB max 223	Lucefin Group
Number	1.2210		rev. 2018

Chemical composition

C%	Si%	Mn%	P% max	S% max	Cr%	V%
1,10-1,25	0,15-0,30	0,20-0,40	0,030	0,030	0,50-0,80	0,07-0,12
+ 0.04	+ 0.03	+ 0.04	+ 0.005	+ 0.005	+ 0.05	+ 0.02

Temperature °C

Hot-forming	Stress-relieving after machining and before quenching	Pre-heating for ¹⁾ and ²⁾	Quenching ¹⁾ +Q	Quenching ²⁾ +Q	Tempering for ¹⁾ and ²⁾ +T		
1050-850	600-650 calm air	400-450 400-450 pause, then ▲ ¹⁾ or ²⁾	▲ 780-810 water	▲ 810-840 oil or polymer	180-250 calm air minimum 2 cycles		
Soft annealing +A		Tempering +T	Stress-relieving +SR	Pre-heating welding	Stress-relieving after welding		
710-750 furnace cooling at 20 °C/h to 600 after calm air (HB max 223)		see table 1)	650	250-300	650 furnace cooling		
				Ac1	Ac3	Ms	Mf
				-	-	-	-

The symbol ► indicates temperature between 20 °C and 100 °C, 20 °C and 200 °C ...

Mechanical and physical properties

Table 1) of tempering values at room temperature after quenching at 790 °C in water

HB	722	688	595	496	409	336						
HRC	64	62	57	51	44	36						
R N/mm ²	-	-	2240	1820	1430	1110						
Tempering at °C	50	100	150	200	250	300	350	400	450	500	550	600
Thermal expansion	10 ⁻⁶ · K ⁻¹	►	10	12.7	13.7	14.2	14.9					
Modulus of elasticity long.	GPa	210										
Modulus of elasticity tang.	GPa	80										
Specific heat capacity	J/(Kg·K)	460										
Thermal conductivity	W/(m·K)	32										
Density	Kg/dm ³	7.80										
Specific electric resist.	Ohm·mm ² /m	0.33										
Electrical conductivity	Siemens·m/mm ²	3.03										
°C		20	100	200	300	400	500					

The symbol ► indicates temperature between 20 °C and 100 °C, 20 °C and 200 °C ...

EUROPE	GERMANY	CHINA	JAPAN	INDIA	R. of KOREA	RUSSIA	USA
EN	DIN	GB	JIS	IS	KS	GOST	AISI/SAE
115CrV3	115CrV3		SKS43			11ChF	L2

Tool steel for cold-working

- high wear resistance
- extremely suitable for heat treatment; it can also be quenched in water
- easily machinable after annealing
- suitable for grinding
- applications: screw taps, milling cutters broaching tools, reamers, tgear cutters, ejector pins, small tools, guiding pins, wood chsels