

Quality	100CrMnSi6-4	Bearing Steel	<i>Technical card Lucefin Group rev. 2018</i>
According to standard	EN ISO 683-17: 2014		
Number	1.3520		

Chemical composition

C%	Si%	Mn%	P% max	S% max	Cr%	Mo% max	Cu% max	Al% max	Product deviations are allowed
0,93-1,05 ± 0.03	0,45-0,75 ± 0.05	1,00-1,20 ± 0.06	0,025 + 0.005	0,015 + 0.005	1,40-1,65 ± 0.05	0,10 ± 0.03	0.30 +0.03	0.050 +0.010	
The oxygen content max 0,0015 at the discretion of the manufacturer									

Temperature °C

Hot-forming	Pre-heating	Quenching +Q	Tempering +T	Stress relief +SR) ^x Stress relief annealing must be carried out after machining and before final heat treatment			
1050-880	500	830-870 polymer	150-200 calm air	560-650 ^x air				
Spheroidized annealing +AC	Spheroidized annealing and cold deformed +AC+C	Subcritical annealing	Pre-heating welding	Stress-relieving after welding	not recommended			
800 furnace cooling to 720 pause after air (HB max 217)	- (HB max 251)	- (HB max 220)	-	-	Ac1	Ac3	Ms	Mf
					730	-	210	-

Mechanical properties

Table of tempering. Indicative values obtained at room temperature after quenching at 840 °C in oil

HB	-	739	722	688	654	634	543	455	344
HRC	66	65	64	62	60	59	54	48	37
HV	865	832	800	746	697	674	577	484	363
Tempering at °C	50	100	150	200	250	300	400	500	600
Thermal Expansion	10 ⁻⁶ • K ⁻¹		►	12.6					
Modulus of Elasticity long.	GPa		210						
Modulus of Elasticity tang.	GPa		80						
Poisson Number	ν		~ 0.3						
Specific Heat Capacity	J/(Kg•K)		475						
Thermal Conductivity	W/(m•K)		35						
Density	Kg/dm ³		7.85						
Specific Electric Resist.	Ω • mm ² /m		0.22						
Electrical Conductivity	Siemens•m/mm ²		4.5						
°C			20	100	200	300	400	500	600

The symbol ► indicates temperature between 20 °C and 100 °C

EUROPE	USA	China	Russia	Japan	India	R. of Korea
EN	ASTM	GB	GOST	JIS	IS	KS
100CrMnSi6-4	A 485 (2)	GCr15SiMn	ShCh15SG		98Cr6Mn4	