

Quality	11SMnPb37	Free-cutting Steel	<i>Technical card</i> Lucefin Group rev. 2018
According to standard	ISO 683-4 : 2018		
Number	1.0737		

Chemical composition

C%	Si% ^{a)}	Mn%	P%	S%	Pb%	Product deviations are allowed
max	max		max			
0,14 ± 0.02	0,05 ± 0.01	1,00-1,50 ± 0.06	0,11 ± 0.02	0,34-0,40 ± 0.04	0,20-0,35 +0.03 -0.02	

^{a)} Since silicon has an adverse effect on machinability, it is not intentionally added to specified limits, but if the formation of special oxide is guaranteed, a Si-content of 0,10% to 0,40% can be agreed.

Temperature °C

Hot-forming	Natural state +U	Soft annealing +A	Carburizing	Hardening on carburized surface	Stress-relieving +SR
1250-950	(HB 180 max)	680 air (HB 160 max)			
Normalizing +N	Direct hardening	Direct hardening	Stress-relieving +C+SR	Pre-heating welding	Stress-relieving after welding
900 air	880 water	890 oil or polymer	600-650 furnace cooling	not recommended	

Mechanical properties

Hot-rolled natural forming condition ISO 683-4: 2018

Testing at room temperature (longitudinal)

size mm	R	HBW	Hot-rolled quenched and tempered			
from to	N/mm ²	max	R	R _{p 0.2}	A%	HBW
			N/mm ²	N/mm ² min	min	
5 10	380-570	169	Not suitable for heat treatment			
10 16	380-570	169				
16 40	380-570	169				
40 63	370-570	169				
63 100	360-520	154				

Cold-drawn +C EN 10277: 2018

Values valid also for +C+G

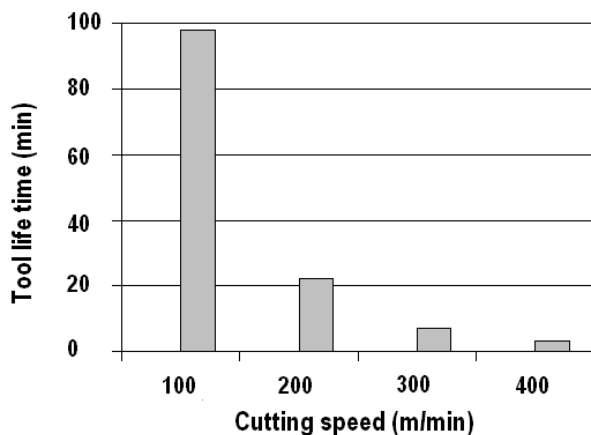
Testing at room temperature (longitudinal)

size mm	Testing at room temperature (longitudinal)				Testing at room temperature (longitudinal)			
	R ^{a)}	R _{p 0.2} ^{a)}	A%	HBW	R	R _{p 0.2}	A%	HBW
over to	N/mm ²	N/mm ² min	min	for inform.	N/mm ²	N/mm ² min	min	max
5 ^{b)} 10	510-810	440	6	154-243	-	-	-	-
10 16	490-760	410	7	149-226	-	-	-	-
16 40	460-710	375	8	139-218	380-570	-	-	169
40 63	400-650	305	9	119-200	370-570	-	-	169
63 100	360-630	245	9	104-192	360-520	-	-	154

^{a)} for flats and special sections, yield point can be - 10% and tensile strength can be ± 10%

^{b)} for thickness < 5 mm, mechanical properties should be agreed before order placement

EUROPE	ITALY	CHINA	GERMANY	FRANCE	U.K.	RUSSIA	USA
EN	UNI	GB	DIN	AFNOR	B.S.	GOST	AISI/SAE
11SMnPb37	CF 9SMnPb36		9SMnPb36	S300Pb			



11SMnPb37
approximate
tool lifetime