

<b>Quality</b>	<b>11SMn37</b>	<b>Free-cutting Steel</b>	<i>Technical card</i> <b>Lucefin Group</b> rev. 2024
According to standards	<b>ISO 683-4 : 2018</b>		
Number	<b>1.0736</b>		

### Chemical composition

C%	Si% <sup>a)</sup>	Mn%	P%	S%	Pb%	
max	max		max			Product deviations are allowed
0,14	0,05	1,00-1,50	0,11	0,34-0,40	-	
± 0.02	± 0.01	± 0.06	± 0.02	± 0.04	-	

<sup>a)</sup> 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				Hot-rolled quenched and tempered			
Testing at room temperature (longitudinal)							
size mm		R	HBW	R	Rp 0.2	A%	HBW
from	to	N/mm <sup>2</sup>	max	N/mm <sup>2</sup>	N/mm <sup>2</sup> 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 ISO 683-7:24

Values valid also for +C+G				Hot-rolled Peeled +SH					
Testing at room temperature (longitudinal)				Values valid also for +SH+G					
size mm		Testing at room temperature (longitudinal)				Testing at room temperature (longitudinal)			
		R <sup>a)</sup>	Rp 0.2 <sup>a)</sup>	A%	HBW	R	Rp 0.2	A%	HBW
over	to	N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min	for inform.	N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min	max
5 <sup>b)</sup>	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

<sup>a)</sup> for flats and special sections, yield point can be – 10% and tensile strength can be ± 10%

<sup>b)</sup> 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
11SMn37	CF 9SMn36		9SMn36	S300			