

<b>Quality</b>	<b>36SMnPb14</b>	<b>Free-cutting Steel</b>	<i>Technical card</i>
According to standard	<b>ISO 683-4: 2018</b>		<b>Lucefin Group</b>
Number	<b>1.0765</b>		rev. 2018

### Chemical composition

C%	Si% max	Mn%	P% max	S%	Pb%	Product deviations are allowed
0,32-0,39 ± 0.03	0,40 ± 0.03	1,30-1,70 ± 0.06	0,06 ± 0.008	0,10-0,18 ± 0.03	0,15-0,35 +0.03 -0.02	

### Temperature °C

Hot-forming	Natural state +U (HB 228 max)	Soft annealing +A 680 air	Carburizing 850-900	Hardening on carburized surface 770-810 water / oil / salt bath	Stress-relieving +SR 180-200		
				Pre-heating welding	Stress-relieving after welding		
<b>Normalizing +N</b>	<b>Direct hardening</b>	<b>Direct hardening</b>	<b>Stress-relieving +SR</b>	not recommended			
900 air	880 water	890 oil or polymer	150-200 furnace cooling	<b>Ac1</b> 710	<b>Ac3</b> 770	<b>Ms</b> 345	<b>Mf</b> 130

### Mechanical properties

Hot-rolled natural forming condition ISO 683-4: 2018						Hot-rolled quenched and tempered			
Testing at room temperature (longitudinal)						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	for inform.
5	10	580-770	225			700-850	480	14	213-253
10	16	580-770	225			700-850	460	14	213-253
16	40	560-750	219			670-820	420	15	203-246
40	63	560-740	216			640-790	400	16	198-237
63	100	550-740	216			570-720	360	17	169-223

Cold-drawn +C EN 10277: 2018						Hot-rolled Peeled +SH			
Values valid also for +C+G						Values valid also for +SH+G			
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
from	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	660-960	500	6	202-290	-	-	-	-
10	16	620-920	440	6	190-275	-	-	-	-
16	40	600-900	390	7	178-271	560-750	-	-	219
40	63	580-840	360	8	172-250	560-740	-	-	216
63	100	560-820	340	9	162-246	550-740	-	-	216

<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

Cold-drawn + quenching and tempering +C+QT EN 10277: 2018						Quenched and tempered + Cold-drawn +QT+C			
Testing at room temperature (longitudinal)						Testing at room temperature (longitudinal)			
size mm		R <sup>c)</sup>	Rp 0.2 <sup>c)</sup>	A% <sup>c)</sup>	HBW	R	Rp 0.2	A%	HBW
from	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	for inform.
5 <sup>b)</sup>	10	-	-	-	-	750-1000	525	6	225-298
10	16	-	-	-	-	740-990	520	6	224-297
16	40	670-820	420	15	203-246	720-970	505	8	223-293
40	63	640-790	400	16	198-237	680-930	475	9	208-278
63	100	570-720	360	17	169-223	580-840	405	9	172-250

<sup>c)</sup> values valid also +C+QT+G and +QT+SH

<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
36SMnPb14	35SMnPb10		36SMnPb14	35MF6Pb		AS35G2	11L37