

Quality 11SMn37

According to Standard EN 10087 : 2000

Number 1.0736



Comparable Standards	German DIN	France AFNOR	Spain UNE	China GB	U.K. B.S.	Russia GOST	USA AISI - SAE	Japan JIS
	9SMn36	S300	F.2113	-	-	-	1214	SUM 25

Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	N% max	Cu% max
	0.14	0.05	1.00 - 1.50	0.11	0.34 - 0.40	-	-

**Hot Work and Heat Treatment Temperatures**

Temperature °C

Hot - Forming	Supply State +U	Soft Annealing +A	Direct Hardening	Hardening on Carburized Surface	Normalising	Stress-relieving +SR
1250 - 950	natural state	680 air	890 oil or		900	(150 - 200) furnace cooling
	HB 180 max		polymer		Air	

**Mechanical Properties at Room Temperature**

Hot Rolled Natural Forming Condition EN 10087 : 2000

Testing at room temperature (Longitudinal)

Size mm		R	HB
from	to	N/mm2	for Info.
5	10	380 - 570	112 - 169
10	16	380 - 570	112 - 169
16	40	380 - 570	112 - 169
40	63	370 - 570	109 - 169
63	100	360 - 520	107 - 154

Hot - Rolled Quenched & Tempered

R	Rp 0.2	A %	HB
N/mm2	N/mm2 min	min	

Not suitable for heat treatment

Cold - Drawn +C EN 10277 - 3 : 2008 Values valid also for +C +SL

Size mm		Testing at room temperature (Longitudinal)				Hot - Rolled Peeled - Reeled +SH Values valid also for +SH +SL				
		R a)	Rp 0.2 a)	A %	HB	Testing at room temperature (Longitudinal)				
Over	to	N/mm2	N/mm2 min	min	for info.	R	Rp 0.2	A %	HB	
5 b)	10	510 - 810	440	6	154 - 243					
	10	490 - 760	410	7	149 - 226	N/mm2	N/mm2 min	min		
	16	460 - 710	375	8	139 - 218	380 - 570			112 - 169	
	40	400 - 650	305	9	119 - 200	370 - 570			112 - 169	
	63	360 - 630	245	9	104 - 192	360 - 520			107 - 154	