

Quality	10SPb20
According to standard	EN 10087: 2000
Number	1.0722

Chemical composition

C%	Si%	Mn%	P%	S%	Pb%	Deviations allowed for analysis product
0,07-0,13	max 0,40	0,70-1,10	max 0,06	0,15-0,25	0,20-0,35	
± 0.02	+ 0.03	± 0.04	+ 0.008	± 0.03	+0.03 -0.02	

Temperature °C

Hot-forming	Natural state	Soft annealing	Carburizing	Hardening on carburized surface	Stress-relieving		
1250-950	(HB 160 max)	690 air	880-980	770-810 water / oil / polymer	180-200		
Normalizing	Direct hardening	Direct hardening	Stress-relieving	Pre-heating welding	Stress-relieving after welding		
900 air	880 water	890 oil or polymer	150-200 furnace cooling	not recommended			
				Ac1 720	Ac3 815	Ms 485	Mf 270

Mechanical properties

Hot-rolled natural forming condition EN 10087: 2000				Hot-rolled quenched and tempered			
Testing at room temperature (longitudinal)							
size mm		R	HB	R	Rp 0.2	A%	HB
over	to	N/mm ²	for information	N/mm ²	N/mm ² min	min	
5	10	360-530	107-156	No from reference standards			
10	16	360-530	107-156				
16	40	360-530	107-156				
40	63	360-530	107-156				
63	100	350-490	105-146				

Cold-drawn +C EN 10277-3: 2008

Cold-drawn +C EN 10277-3: 2008				Hot-rolled Peeled-Reeled +SH			
Values valid also for +C+SL							
Testing at room temperature (longitudinal)							
size mm		R ^{a)}	Rp 0.2 ^{a)}	A%	HB	R	HB
from	to	N/mm ²	N/mm ² min	min	for inform.	N/mm ²	
5 ^{b)}	10	520-780	410	7	155-232		
10	16	490-740	390	8	149-224		
16	40	460-720	360	9	139-223	360-530	107-156
40	63	410-660	295	10	122-202	360-530	107-156
63	100	380-630	235	11	110-192	350-490	105-146

^{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

Modulus of elasticity	Thermal conductivity	Specific heat capacity	Density	Melting temperature
GPa	W/(m.K)	J/(Kg.K)	Kg/dm ³	°C
200	47	440	7.85	1500-1540

EUROPE EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. B.S.	RUSSIA GOST	USA AISI/SAE
10SPb20	CF10SPb20	Y12Pb	10SPb20	10PbF2			11L08