


Quality	SAE 1045				
According to standards	ASTM A 576-90b:2000	Hot Rolled			
Number	ASTM A 311/A311M: 2004	Cold-drawn			

Equivalent	USA AISI/SAE	Italy UNI	China G8	Germany DIN	UK
	1045	C45	45	Ck45	080M46

Chemical composition

C%	Si%	Mn%	P%	S%	Cr%
max			max	max	max
0.43-0.50		0.60-0.90	0.030	0.050	-
	Mo%	Ni%	V%	Cu%	
	max	max	max	max	
	-	-	-	-	

Temperature °C	Hot-forming	Quenching	Tempering	Stress-relieving	Soft annealing
	1100-800	820-840	600-650	50°C under the temperature of tempering	680-710 furnace cooling
		oil polymer or water	air		HB max 190

Mechanical properties

Hot Rolled ASTM A 183-03. Use only as reference					
Testing at room temperature (longitudinal)					
Size (MM)	R (N/mm2 min)	Rp 0.2 N/mm2	A% min	C reduct	HB
> ≥					
all	565	310	16	40	165
all	760	550	12	25	226
Normal draft cold-drawn and stress relieved ASTM A311/A 311M: 2004 cl. A					
Testing at room temperature (longitudinal)					
Size (MM)	R (N/mm2 min)	Rp 0.2 N/mm2	A% min	C reduct	HB
> ≥					
20	655	585	12	35	205
20 to 30	620	550	11	30	195
30 to 50	585	520	10	30	176
50 to 75	550	485	10	30	162

