


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

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

Chemical composition

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

Size (MM)	Testing at room temperature (longitudinal)				
> ≥	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

Size (MM)	Testing at room temperature (longitudinal)				
> ≥	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