

Basic material	Steel code				Core hardness [HV 10]	Surface hardness [HV 1]	Nitriding hardness depth [inches]	White layer [microns]
	DIN (Germany)	GB (China)	ASTM (USA)	JIS (Japan)				
Plain carbon steel	Ck45	45	1045	S45C	220 - 270 (700 - 850MPa)	250 - 500	0.008 - 0.024	2 - 10
Cast iron	GGG40	QT400-18	A536/60-40-18	FCD400	305 - 315 (980 - 1020MPa)	500 - 700	0.004 - 0.024	3 - 12
Carburizing steel	16MnCr5	20CrMn	5115	SCR415(H)	200 - 250 (640 - 800MPa)	450 - 850	0.008 - 0.024	2 - 10
	14NiCr10	12CrNi3A	3415	SNC415(H)				
	18CrNi8	-	-	-				
Tempering steel	42CrMo4	42CrMo	4140	SCM440(H)	250 - 375 (800 - 1200MPa)	500 - 750	0.008 - 0.024	2 - 10
	37MnSi5	35SiMn	-	-				
	34CrNiMo6	34CrNiMo6	-	SNCM 9				
Nitriding steel	31CrMo2	-	4135	SCM432	250 - 375 (800 - 1200MPa)	650 - 900	0.008 - 0.024	2 - 10
	31CrMoV9	-	-	-		800 - 1200	0.004 - 0.02	
	34CrAlMo5	38CrMoAl	355CID	SACM645				
	34CrAlNi7	-	-	-				
Hot work tool steel	X40CrMoV5-1	4Cr5MoSiV1	H13	SKD61	330 - 600 (1050 - 2000MPa)	800 - 1200	0.004 - 0.012	2 - 10
	X38CrMoW5-1	-	H12	SKD62				
	55NiCrMoV6	5CrNiMo	L6	SKT4		550 - 850	0.008 - 0.02	
	56NiCrMoV7	-	L6	SKT4				
Cold work tool steel	X155CrVMo12-1	Cr12Mo1V1	D2	SKD11	550-700	800 - 1200	0.002 - 0.012	0 - 8
	X165CrMoV12	Cr12MoV	D2	-				
	X100CrMoV5-1	-	A2	SKD12				
High-speed steel	S 6-5-2	W6Mo5Cr4V2	BM2	SKH9, SKH51	750 - 850	800 - 1200	0.002 - 0.006	0 - 2
	S 12-1-4-5	W12Cr4V5Co5	T15	SKH10				
	S 18-0-1	W18Cr4V	T1	SKH 2				
Maraging steel	X2NiCoMoTi18-12-4	-	-	-	545 - 595 (1800 - 1980MPa)	900 - 1200	0.004 - 0.008	2 - 4
	X2NiCoMo18-8-5	-	-	-				
	X3NiCoMoTi18-9-5	-	-	-				
Stainless-, acid- and heat-resistant steel	X5CrNi18-10	0Cr19Ni9	304H	SUS304	170 - 230 (550 - 740MPa)	800 - 1200	0.002 - 0.004	0 - 1
	X35CrMo17	-	-	-	230 - 300 (740 - 965MPa)			