

# [Materials Data] Comparisons of Materials between JIS and Foreign Standards 2

# Steel Brand Comparative Table/Hardness of Materials and Corresponding Tools

## Stainless Steel, Heat-Resisting Steel

Japan Industrial Standards Standard Number, Name (Stainless Steel)	ISO TR 15510 L-No.	Foreign Standards					European Standard	
		US AISI	UK BS	Germany DIN	France NF	Russia/France GOST	Type	No.
JIS G 4303-4305 Stainless Steel	12	S20100	201	284S16	X12CrNi17-7	Z12CrNi17-07a	X12CrNi17-7.5	1.4372
JIS G 4303-4305 Stainless Steel	5	S30100	301	301S21	X12CrNi17-7	Z12CrNi17-07a	X12CrNi17-7	1.4319
JIS G 4303-4305 Stainless Steel	4	S30100	301	301S21	X12CrNi17-7	Z12CrNi17-07a	X12CrNi17-7	1.4318
JIS G 4303-4305 Stainless Steel	13	S30200	302	302S25	X10CrNi18-9	Z10CrNi18-09	X8CrNi18-9	1.4305
JIS G 4313-4315 Wire	6	S30400	304	304S31	X5CrNi18-10	Z5CrNi18-10	X4CrNi18-10	1.4301
JIS G 4313-4315 Wire	1	S30403	304L	304S31	X2CrNi19-11	Z2CrNi19-11	X2CrNi19-11	1.4307
JIS G 4313-4315 Wire	2	S30451	304N	304N1	X2CrNi19-09a	Z2CrNi19-09a	X2CrNi19-9	1.4306
JIS G 4313-4315 Wire	3	S30452	304LN	304LN1	X2CrNi18-10a	Z2CrNi18-10a	X2CrNi18-10	1.4311
JIS G 4313-4315 Wire	10	S30431	304J1	304J1	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	11	S30431	304J2	304J2	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	12	S30431	304J4	304J4	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	13	S30431	304J5	304J5	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	14	S30431	304J6	304J6	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	15	S30431	304J7	304J7	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	16	S30431	304J8	304J8	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	17	S30431	304J9	304J9	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	18	S30431	304J10	304J10	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	19	S30431	304J11	304J11	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	20	S30431	304J12	304J12	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	21	S30431	304J13	304J13	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	22	S30431	304J14	304J14	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	23	S30431	304J15	304J15	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	24	S30431	304J16	304J16	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	25	S30431	304J17	304J17	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	26	S30431	304J18	304J18	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	27	S30431	304J19	304J19	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	28	S30431	304J20	304J20	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	29	S30431	304J21	304J21	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	30	S30431	304J22	304J22	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	31	S30431	304J23	304J23	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	32	S30431	304J24	304J24	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	33	S30431	304J25	304J25	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301
JIS G 4313-4315 Wire	34	S30431	304J26	304J26	X2CrNi18-10	Z2CrNi18-10	X2CrNi18-10	1.4301

Japan Industrial Standards Standard Number, Name (Stainless Steel)	ISO TR 15510 L-No.	Foreign Standards					European Standard	
		US AISI	UK BS	Germany DIN	France NF	Russia/France GOST	Type	No.
JIS G 4050-4052 Heat-Resisting Steel	40	S40500	405	405S17	X6CrAl13	Z6CrAl13	X6CrAl13	1.4002
JIS G 4050-4052 Heat-Resisting Steel	41	S42900	429	430S17	X6Cr17	Z6Cr17	X6Cr17	1.4016
JIS G 4050-4052 Heat-Resisting Steel	42	S43020	430F	430S17	X7CrMoS18	Z7CrMoS18	X7CrMoS17	1.4510
JIS G 4050-4052 Heat-Resisting Steel	44	S43035	430F	430S17	X6CrTi17	Z6CrTi17	X6CrTi17	1.4520
JIS G 4050-4052 Heat-Resisting Steel	43	S43400	434	434S17	X6CrMo17.1	Z6CrMo17.1	X6CrMo17.1	1.4511
JIS G 4050-4052 Heat-Resisting Steel	46	S44400	444	444S17	X6CrNi17.1	Z6CrNi17.1	X6CrNi17.1	1.4513
JIS G 4050-4052 Heat-Resisting Steel	47	S44700	447	447S17	X6CrNi17.1	Z6CrNi17.1	X6CrNi17.1	1.4521
JIS G 4050-4052 Heat-Resisting Steel	48	S41000	410	410S17	X10Cr13	Z10Cr13	X10Cr13	1.4006
JIS G 4050-4052 Heat-Resisting Steel	39	S41008	410S	403S17	X6Cr13	Z6Cr13	X6Cr13	1.4000
JIS G 4050-4052 Heat-Resisting Steel	49	S41600	416	416S17	X12Cr13	Z12Cr13	X12Cr13	1.4005
JIS G 4050-4052 Heat-Resisting Steel	50	S42000	420	420S17	X20Cr13	Z20Cr13	X20Cr13	1.4021
JIS G 4050-4052 Heat-Resisting Steel	51	S42000	420	420S17	X30Cr13	Z30Cr13	X30Cr13	1.4028
JIS G 4050-4052 Heat-Resisting Steel	52	S42020	420F	420S17	X30Cr13	Z30Cr13	X30Cr13	1.4029
JIS G 4050-4052 Heat-Resisting Steel	53	S41025	410	410S17	X12Cr13	Z12Cr13	X12Cr13	1.4005
JIS G 4050-4052 Heat-Resisting Steel	54	S41600	416	416S17	X12Cr13	Z12Cr13	X12Cr13	1.4005
JIS G 4050-4052 Heat-Resisting Steel	55	S42000	420	420S17	X20Cr13	Z20Cr13	X20Cr13	1.4021
JIS G 4050-4052 Heat-Resisting Steel	56	S42020	420F	420S17	X30Cr13	Z30Cr13	X30Cr13	1.4028
JIS G 4050-4052 Heat-Resisting Steel	57	S43100	431	431S17	X20CrNi7.2	Z20CrNi7.2	X20CrNi7.2	1.4057
JIS G 4050-4052 Heat-Resisting Steel	58	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	59	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	60	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	61	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	62	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	63	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	64	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	65	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	66	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	67	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	68	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	69	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019
JIS G 4050-4052 Heat-Resisting Steel	70	S44000	440	440S17	X10CrNi17.2	Z10CrNi17.2	X10CrNi17.2	1.4019

Reference 1. ISO:ISO TR 15510:1997. EN Symbols, (F) ISO 4954, (F) ISO 683, 15.  
 2. US:UNS registration numbers and the AISI Steel Manual  
 3. European Standard:EN 10008-1:1995  
 4. European countries:BS, DIN, NF, etc. These national standards are to be abolished in favor of EN.  
 5. GOST:GOST 5632

## Steel Brand Comparative Table

Type	Steel Types Related to the Foreign Standards				
	JIS	AISI	DIN	ISO	
Carbon Tool Steel	SK105(Old SK3)	W1-10		TC105	
Alloy Tool Steel	SKS93				
	SKS3				
	SKD1	D3		X210Cr12	
	SKD11	D2	X210Cr12	X210Cr12W12	
	SKD11(Modification)				
	Matrix Group C/SKD				
	SKD12	A2		X100CrMoV5	
	Pre-Hardened 40HRC				
	Pre-Hardened 50HRC or more				
	Flame-Hardened Steel				
Low Temperature Air Cooled Steel					
Shock Resistance Steel					
High-Speed Tool Steel	SKH51	M2	H6.5.2	HS6-5-2	
	SKH55 Group		S6.2.5	HS6-5-2-5	
	SKH57 Group		S10-4-3-10	HS10-4-3-10	
	Matrix Group				
	SKH40			HS6-5-3-8	
	Matrix Group				
	Others				
	P/M High Speed Tool Steel	SKH40			HS6-5-3-8
		Matrix Group			
		Others			
Others					
Others					
Others					
Others					
Others					
Others					
Others					

Reference: "Special Steel", Nov. 2001

Hitachi Metals, Ltd.	Aichi Steel Works, Ltd.	Kobe Steel Co., Ltd.	Sanyo Special Steel Co., Ltd.	Daido Steel Co., Ltd.	Nippon Koshu Steel Co., Ltd.	Nachi-Fujikoshi	Riken Steel	Uddeholm (Sweden)	Bohler (Germany)
YCS3	SK301		OKSM	YK30	K3M	SK3M		ARNE	K460
SGT	SKS3		OKS3	GOA	K3S	SKS3	RS3	SVERKER3	K100 K107
CRD	SKD1		QC1	DC1	KD1			SVERKER21	K105 K110
SLD	SKD11		QC11	DC11	KD11	CDS11	RD11	SLEIPNER	K340
SLD8 SLD10	AUD15		OCM8 OCM10	DC53	KD11S KD21	MDS9			
ARK1	SKACE		OCM7	DCX					
SCD	SKD12			DC12	KD12				
HPM2T				G040F	KAP65			RIGOR IMPAX	K305
PRE2				CK1	RC55				
HMD5 HMD1	SK105V SK4		QF3	G05	FH5			FERNO	
ACD37	AKS3			G04	KSM				
YSM	AKS4		QF1	GS5	KTV5	SRS6		PREGA COMPAX	K630
ACD8	AUD11 SK5 SK44							ICS22 MCR1	K190
YXM1			QH51	MH51	H51	SKH9	RHM1		S600
YXM4				MH55	HM35	HM55M HSS3M HSS3R	RHM5		S705
XVC5				MH8	MV10	HS98M FM38V	RHM7		S700
YXR33 YXR7			QH2	MH85 MH88	KXM KMX2 KMX3	MDS1 MDS3 MDS7 MATRIX2 ATM3			
HAP40	KHA30		DEX40			FAX38		ASP30	S590
HAP5R	KHA3VN		DEX-M1 DEX-M3						
HAP10									S690
HAP50	KHA32	SPM23	DEX21			FAX31		ASP23	S790 S390
HAP72	KHA60 KHA77	SPM60	DEX60 DEX80			FAX55 FAXG1 FAX18 FAXG2		ASP60	
	KHA30N KHA33N KHA3NH KHA5NH								

Matrix Group: This is a type of tool steels that has enhanced machinability and toughness by decreasing the large-size carbide responsible for expedited tool abrasion during a cutting process and flexibility reduction.

## Tool Steel

Japan Industrial Standards Standard Number, Name (Carbon Tool Steel)	Steel Type Related to Foreign Standards						
	ISO	AISI ASTM	BS	DIN VDEh	NF	G OCT	Type
SK140(Old SK1)	TC140				C140E3U	Y13	
SK120(Old SK2)	TC120	W1					