

Carbon steels for machine structural use - Alloy steel and related materials

Japan Industrial Standards		Steel types related to foreign standards					O C T
Standard number	Name	JIS	AISI	SAE	DIN	NF A35-551 NF EN 10083-1,2	4543
JIS G 4051	Carbon steel for machine structural use	C10	1010	1010	C10E C10R	XC10	—
S12C	—	C15E4 C15M2	1012	1012	C15E C15R	XC12	—
S15C	—	1015	1015	1015	C15E C15R	XC15	—
S17C	—	1017	1017	1017	C17E C17R	XC17	—
S20C	—	1020	1020	1020	C20E C20R	C22 C22E C22R	—
S22C	—	1023	1023	1023	C23E C23R	C25 C25E C25R	—
S25C	—	1025	1025	1025	C25E C25R	C29E C29R	—
S28C	—	1029	1029	1029	C29E C29R	C30 C30E C30R	30F
S30C	—	1030	1030	1030	C30E C30R	C30E C30R	30F
S33C	—	1033	1033	1033	C33E C33R	C35 C35E C35R	35F
S35C	—	1035	1035	1035	C35E C35R	C39E C39R	35F
S38C	—	1038	1038	1038	C38E C38R	C40 C40E C40R	40F
S40C	—	1040	1040	1040	C40E C40R	C40E C40R	40F
S43C	—	1043	1043	1043	C43E C43R	C45 C45E C45R	45F
S45C	—	1045	1045	1045	C45E C45R	C49E C49R	45F
S48C	—	1048	1048	1048	C48E C48R	C50 C50E C50R	50F
S50C	—	1050	1050	1050	C50E C50R	C55 C55E C55R	50F
S53C	—	1053	1053	1053	C53E C53R	C59E C59R	50F
S55C	—	1055	1055	1055	C55E C55R	C60 C60E C60R	60F
S58C	—	1058	1058	1058	C58E C58R	C60E C60R	60F
S09CK	—	—	—	—	C10E	XC10	—
S15CK	—	—	—	—	C15E	XC12	—
S20CK	—	—	—	—	C15E	XC12	—
S20CK	—	—	—	—	C15E	XC12	—

**ISO (International Standard), AISI (USA), BS (UK), DIN (Germany), NF (France), TOCT (Russia)

Japan Industrial Standards		Steel types related to foreign standards					O C T
Standard number	Name	JIS	AISI	SAE	DIN	NF A35-551 NF EN 10083-1,2	4543
JIS G 4102	Nickel-chrome steel	SNC236 SNC415 SNC631 SNC815 SNC836	— — — — —	— — — — —	— — — — —	— — — — —	40XH — 30XH3A — —
JIS G 4103	Nickel-chrome molybdenum steel	SNCM220 SNCM240 SNCM415 SNCM420 SNCM431 SNCM439 SNCM447 SNCM465 SNCM630 SNCM815	— — — — — — — — — —	— — — — — — — — — —	— — — — — — — — — —	— — — — — — — — — —	— — — — — — — — — —
JIS G 4104	Chrome steel	SCr415 SCr420 SCr430 SCr435 SCr440 SCr445 SCM415 SCM418 SCM420 SCM421 SCM430 SCM432 SCM435	— — — — — — — — — — — — — — —	— — — — — — — — — — — — — — —	— — — — — — — — — — — — — — —	— — — — — — — — — — — — — — —	— — — — — — — — — — — — — — —

Japan Industrial Standards		Steel types related to foreign standards					O C T
Standard number	Name	JIS	AISI	SAE	DIN	NF A35-551 NF EN 10083-1,2	4543
JIS G 4106	Structural manganese steel for machine	SMn420 SMn433 SMn438 SMn443 SMn443H SMn443H	22Mn6 — 36Mn6 42Mn6 — — —	1522 1534 1541 1541 — — —	150M19 150M36 150M36 — — —	— — — — — — —	— — — — — — —
JIS G 4202	Aluminum chrome molybdenum steel	SACM645	41CrAlMo74	—	—	—	—
JIS G 4052	Structural steel with guaranteed hardenability (H steel)	SMn420H SMn433H SMn438H SMn443H SMn443H SMn443H	22Mn6 36Mn6 42Mn6 — — —	1522H 1541H 1541H — — —	150M19 150M36 150M36 — — —	— — — — — —	— — — — — —
SCr415H	—	—	—	—	—	—	15X
SCr420H	—	20Cr4 20CrS4	5120H	—	—	—	20X
SCr430H	—	34Cr4 34CrS4	5130H 5132H	34Cr4 34CrS4	1.7033	34Cr4 34CrS4	30X
SCr435H	—	34Cr4 34CrS4	5135H	37Cr4 37CrS4	1.7034	37Cr4 37CrS4	35X
SCr440H	—	37Cr4 37CrS4	5140H	41Cr4 41CrS4	1.7035	41Cr4 41CrS4	40X
SCM415H	—	18CrMo4 18CrMoS4	—	—	1.7262	—	—
SCM418H	—	18CrMo4 18CrMoS4	—	—	1.7242	—	—
SCM420H	—	708M40 709M40	—	—	1.7264	—	—
SCM435H	—	34CrMo4 34CrMoS4	4135H 4137H	34CrMo4 34CrMoS4	1.7220	34CrMo4 34CrMoS4	—
SCM440H	—	42CrMo4 42CrMoS4	4140H 4142H	42CrMo4 42CrMoS4	1.7225	42CrMo4 42CrMoS4	—
SCM445H	—	42CrMo4 42CrMoS4	4145H 4147H	42CrMo4 42CrMoS4	1.7228	—	—
SCM822H	—	—	—	—	1.7258	—	—
SNc431H	—	—	—	—	1.5736	—	—
SNc435H	—	—	—	—	1.5752	—	—
SNc438H	—	—	—	—	1.6523	20NCD2	—
SNc440H	—	—	—	—	—	—	—

Japan Industrial Standards		Steel types related to foreign standards					O C T
Standard number	Name	JIS	AISI	SAE	DIN	NF A35-551 NF EN 10083-1,2	4543
JIS G 4107	High-temperature alloy steel for bolts	SNB5	50T	—	—	—	—
JIS G 4108	Steel bar for special-purpose alloy steel bolt	SNB16 SNB21-1~5 SNB22-1~5 SNB23-1~5 SNB24-1~5	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —

**1) BS EN 10259
2) DIN 1654 Part 4
3) DIN 17240
4) NF EN 10259
5) The translation JIS of ISO6883-1, 10, and 11 are issued as JIS G 7501, G 7502, and G 7503.

(* : Regulation of chemical components
** : Regulation of mechanical properties)

Aluminum and aluminum alloy extender

Japan Industrial Standards		Steel types related to foreign standards				
Standard number	Name	JIS	AISI	SAE	DIN	BS NF A35-551 NF EN 10083-1,2
JIS H 4000-88	Aluminum sheet and bars	A2017P A5052P A6061P A7075P	AlCuMgSi(A) AlMg2.5 — AlZn5.5MgCu	AA-93 AA-93 — —	AA-93 AA-93 — —	BS EN485-2:95** BS EN573-3:95* ENAW-2017A EN AW-5052 EN AW-6061 EN AW-7075

**ISO (International Standard), AA (USA), ASTM (USA), FS (USA), BS (UK), DIN (Germany)

Name of tool steel

- Roller steel for general structure SS-400..... Steel-Structure-400N/mm²
- Carbon steel for machine structure S45C..... Steel-0.45%C
- Chrome molybdenum steel SCM435..... Steel-Cr-Mg 435
- Nickel chrome molybdenum steel SNcM220..... Steel-Ni-Cr-Mo 220
- Carbon tool steel SK105..... Steel-Tool-105 types (Previous SK3)
- Alloy tool steel SKS3..... Steel-Tool-Special-3 types
- High-speed tool steel SKD11..... Steel-Tool-Dies-11 types
- High-speed tool steel SKU52..... Steel-Tool-High Speed-51 types
- High-carbon chrome bearing steel SUJ2..... Steel-Use-Bearing-2 types
- Stainless steel SUS304..... Steel-Use-Stainless-304 types
- Gray iron FC250..... Ferrum (Steel) -Cast-250N/mm²