

## Carbon Steel Chemical Composition

GB	ASTM	JIS	EN	C	Si	Mn	Cr	Ni	Cu	S	P	V	Nb
Q235-B	Grade D	S5400	S235JO(1.0114)	0.12~0.20	≤0.3	0.30~0.701	≤0.3	≤0.3	≤0.3	≤0.045	≤0.045	—	—
Q235-C	Grade D	S5400	S235J2(1.0117)	≤0.18	≤0.3	0.35~0.80	≤0.3	≤0.3	≤0.3	≤0.04	≤0.04	—	—
Q235-D	—	S5400	S235JR(1.0038)	≤0.17	≤0.3	0.35~0.80	≤0.3	≤0.3	≤0.3	≤0.035	≤0.035	—	—
Q255-B	—	SM400B	—	0.18~0.28	≤0.3	0.40~0.70	≤0.3	≤0.3	≤0.3	≤0.045	≤0.045	—	—
Q295 B	—	—	—	≤0.16	≤0.55	0.80~1.50	≤0.3	≤0.3	≤0.3	≤0.040	≤0.040	0.02~0.15	0.015~0.060
Q345 B	—	—	S355JR(1.0045)	≤0.20	≤0.55	1.00-1.60	≤0.3	≤0.3	≤0.3	≤0.040	≤0.040	0.02-0.15	0.015-0.060
Q345 C			S355JO(1.0553)	≤0.20	≤0.55	1.00-1.60	≤0.3	≤0.3	≤0.3	≤0.035	≤0.035	0.02-0.15	0.015-0.060
Q345 D			S355J2(1.0577)	≤0.18	≤0.55	1.00-1.60	≤0.3	≤0.3	≤0.3	≤0.03	≤0.03	0.02-0.15	0.015-0.060
08F	1008	SPHD, SPHE	DC01(1.0330)	0.05~0.11	≤0.03	0.25~0.50	≤0.1	≤0.3	≤0.25	Quality steel ≤0.035 High quality steel ≤0.030 Super high quality steel ≤0.02	Quality steel ≤0.035 High quality steel ≤0.030 Super high quality steel ≤0.025	—	—
10F	1010	SPHD, SPHE	DC01(1.0330)	0.07~0.13	≤0.07	0.25~0.50	≤0.15	≤0.3	≤0.25			—	—
15F	1015	S15C	—	0.12~0.18	≤0.07	0.25~0.50	≤0.25	≤0.3	≤0.25			—	—
8	1008	SPHE, S10C	DC01(1.0330), DC03(1.0347)	0.05~0.11	0.17~0.37	0.35~0.65	≤0.1	≤0.3	≤0.25			—	—
10	1010	S10C	DC01(1.0330), C10C(1.0214)	0.07~0.13	0.17~0.37	0.35~0.65	≤0.15	≤0.3	≤0.25			—	—
15	1015	S15C	C15C(1.0234)	0.12~0.18	0.17~0.37	0.35~0.65	≤0.25	≤0.3	≤0.25			—	—
20	1020	S20C	C22(1.0402), C20C(1.0411)	0.17~0.23	0.17~0.37	0.35~0.65	≤0.25	≤0.3	≤0.25			—	—
25	1025	S25C	C25(1.0406)	0.22~0.29	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
30	1030	S30C	C30(1.0528)	0.27~0.34	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
35	1035	S35C	C35(1.0501)	0.32~0.39	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
40	1040	S40C	C40(1.0511)	0.37~0.44	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
45	1045	S45C	C45(1.0503)	0.42~0.50	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
50	1050	S50C	C50(1.0540)	0.47~0.55	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
55	1055	S55C	C55(1.0535)	0.52~0.60	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
60	1060	S58C	C60(1.0601)	0.57~0.65	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
65	1065	SWRH67B	C66D(1.0612)	0.62~0.70	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
70	1070	SWRH72A	C70D(1.0615)	0.67~0.75	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
		SWRH72B										—	—
75	1075	SWRH77A	C76D(1.0614)	0.72~0.80	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25			—	—
		SWRH77B										—	—
80	1080	SWRH82A	C80D(1.0622)	0.77~0.85	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25	—	—		
		SWRH82B								—	—		
85	1084	SWRH82A	C86D(1.0616)	0.82~0.90	0.17~0.37	0.50~0.80	≤0.25	≤0.3	≤0.25	—	—		
		SWRH82B								—	—		
15Mn	1016	SWRCH16K	—	0.12~0.18	0.17~0.37	0.70~1.00	≤0.25	≤0.3	≤0.25	—	—		
20Mn	1022	SWRCH22K	C22(1.0402)	0.17~0.23	0.17~0.37	0.70~1.00	≤0.25	≤0.3	≤0.25	—	—		