

## Japanese Automobile Standards Carbon Steels and Boron Steels

Chemical Composition, %

Steel											
No.	Grade	C	Si	Mn	P	S	B	Cu	Ni	Cr	Ni + Cr
1	S 10 C	.08/.13	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
2	S 12 C	.10/.15	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
3	S 15 C	.13/.18	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
4	S 17 C	.15/.20	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
5	S 20 C	.18/.23	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
6	S 22 C	.20/.25	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
7	S 25 C	.22/.28	.15/.35	.30/.60	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
8	S 28 C	.25/.31	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
9	S 30 C	.27/.33	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
10	S 33 C	.30/.36	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
11	S 35 C	.32/.38	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
12	S 38 C	.35/.41	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
13	S 40 C	.37/.43	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
14	S 43 C	.40/.46	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
15	S 45 C	.42/.48	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
16	S 48 C	.45/.51	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
17	S 50 C	.47/.53	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
18	S 53 C	.50/.56	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
19	S 55 C	.52/.58	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
20	S 58 C	.55/.61	.15/.35	.60/.90	.030 max	.035 max	—	.30 max	.20 max	.20 max	.35 max
21	ASBo 20	.18/.23	.15/.35	.30/.60	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
22	ASBo 25	.22/.28	.15/.35	.30/.60	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
23	ASBo 28	.25/.31	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
24	ASBo 30	.27/.33	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
25	ASBo 33	.30/.36	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
26	ASBo 35	.32/.38	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
27	ASBo 38	.35/.41	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
28	ASBo 40	.37/.43	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
29	ASBo 43	.40/.46	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
30	ASBo 45	.42/.48	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
31	ASBo 48	.45/.51	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
32	ASBo 50	.47/.53	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max
33	ASBo 53	.50/.56	.15/.35	.60/.90	.030 max	.035 max	.0005 min	.30 max	.20 max	.20 max	.35 max