

SAE STAINLESS STEEL GRADE DESIGNATIONS

Designation		Composition by weight (%)								
SAE	UNS	Cr	Ni	C	Mn	Si	P	S	N	Other
Austenitic										
201	S20100	16-18	3.5-5.5	0.15	5.5-7.5	0.75	0.06	0.03	0.25	-
202	S20200	17-19	4-6	0.15	7.5-10.0	0.75	0.06	0.03	0.25	-
205	S20500	16.5-18	1-1.75	0.12-0.25	14-15.5	0.75	0.06	0.03	0.32-0.40	-
254	S31254	20	18	0.02 max.	-	-	-	-	0.20	6 Mo; 0.75 Cu; "Super austenitic"; All values nominal
301	S30100	16-18	6-8	0.15	2	0.75	0.045	0.03	-	-
302	S30200	17-19	8-10	0.15	2	0.75	0.045	0.03	0.1	-
302B	S30215	17-19	8-10	0.15	2	2.0-3.0	0.045	0.03	-	-
303	S30300	17-19	8-10	0.15	2	1	0.2	0.15 min.	-	Mo 0.60 (optional)
303Se	S30323	17-19	8-10	0.15	2	1	0.2	0.06	-	0.15 Se min.
304	S30400	18-20	8-10.50	0.08	2	0.75	0.045	0.03	0.1	-
304L	S30403	18-20	8-12	0.03	2	0.75	0.045	0.03	0.1	-
304Cu	S30430	17-19	8-10	0.08	2	0.75	0.045	0.03	-	3-4 Cu
304N	S30451	18-20	8-10.50	0.08	2	0.75	0.045	0.03	0.10-0.16	-
305	S30500	17-19	10.50-13	0.12	2	0.75	0.045	0.03	-	-
308	S30800	19-21	10-12	0.08	2	1	0.045	0.03	-	-
309	S30900	22-24	12-15	0.2	2	1	0.045	0.03	-	-
309S	S30908	22-24	12-15	0.08	2	1	0.045	0.03	-	-
<u>310</u>	S31000	24-26	19-22	0.25	2	1.5	0.045	0.03	-	-
<u>310S</u>	S31008	24-26	19-22	0.08	2	1.5	0.045	0.03	-	-
314	S31400	23-26	19-22	0.25	2	1.5-3.0	0.045	0.03	-	-
316	S31600	16-18	10-14	0.08	2	0.75	0.045	0.03	0.10	2.0-3.0 Mo

316L	S31603	16-18	10-14	0.03	2	0.75	0.045	0.03	0.10	2.0-3.0 Mo
316F	S31620	16-18	10-14	0.08	2	1	0.2	0.10 min.	-	1.75-2.50 Mo
316N	S31651	16-18	10-14	0.08	2	0.75	0.045	0.03	0.10-0.16	2.0-3.0 Mo
317	S31700	18-20	11-15	0.08	2	0.75	0.045	0.03	0.10 max.	3.0-4.0 Mo
317L	S31703	18-20	11-15	0.03	2	0.75	0.045	0.03	0.10 max.	3.0-4.0 Mo
321	S32100	17-19	9-12	0.08	2	0.75	0.045	0.03	0.10 max.	Ti 5(C+N) min., 0.70 max.
329	S32900	23-28	2.5-5	0.08	2	0.75	0.04	0.03	-	1-2 Mo
330	N08330	17-20	34-37	0.08	2	0.75-1.50	0.04	0.03	-	-
347	S34700	17-19	9-13	0.08	2	0.75	0.045	0.030	-	Nb + Ta, 10 × C min., 1 max.
348	S34800	17-19	9-13	0.08	2	0.75	0.045	0.030	-	Nb + Ta, 10 × C min., 1 max., but 0.10 Ta max.; 0.20 Ca
384	S38400	15-17	17-19	0.08	2	1	0.045	0.03	-	-

Designation		Composition by weight (%)								
SAE	UNS	Cr	Ni	C	Mn	Si	P	S	N	Other
Ferritic										
405	S40500	11.5-14.5	-	0.08	1	1	0.04	0.03	-	0.1-0.3 Al, 0.60 max.
409	S40900	10.5-11.75	0.05	0.08	1	1	0.045	0.03	-	Ti 6 × (C + N) [13]
429	S42900	14-16	0.75	0.12	1	1	0.04	0.03	-	-
430	S43000	16-18	0.75	0.12	1	1	0.04	0.03	-	-
430F	S43020	16-18	-	0.12	1.25	1	0.06	0.15 min.	-	0.60 Mo (optional)
430FSe	S43023	16-18	-	0.12	1.25	1	0.06	0.06	-	0.15 Se min.
434	S43400	16-18	-	0.12	1	1	0.04	0.03	-	0.75-1.25 Mo
436	S43600	16-18	-	0.12	1	1	0.04	0.03	-	0.75-1.25 Mo; Nb+Ta 5 × C min., 0.70 max.
442	S44200	18-23	-	0.2	1	1	0.04	0.03	-	-
446	S44600	23-27	0.25	0.2	1.5	1	0.04	0.03	-	-
Designation		Composition by weight (%)								

SAE	UNS	Cr	Ni	C	Mn	Si	P	S	N	Other
Martensitic										
403	S40300	11.5–13.0	0.60	0.15	1	0.5	0.04	0.03	-	-
410	S41000	11.5–13.5	0.75	0.15	1	1	0.04	0.03	-	-
414	S41400	11.5–13.5	1.25–2.50	0.15	1	1	0.04	0.03	-	-
416	S41600	12–14	-	0.15	1.25	1	0.06	0.15 min.	-	0.060 Mo (optional)
416Se	S41623	12–14	-	0.15	1.25	1	0.06	0.06	-	0.15 Se min.
420	S42000	12–14	-	0.15 min.	1	1	0.04	0.03	-	-
420F	S42020	12–14	-	0.15 min.	1.25	1	0.06	0.15 min.	-	0.60 Mo max. (optional)
422	S42200	11.0–12.5	0.50–1.0	0.20–0.25	0.5–1.0	0.5	0.025	0.025	-	0.90–1.25 Mo; 0.20–0.30 V; 0.90–1.25 W
431	S41623	15–17	1.25–2.50	0.2	1	1	0.04	0.03	-	-
440A	S44002	16–18	-	0.60–0.75	1	1	0.04	0.03	-	0.75 Mo
440B	S44003	16–18	-	0.75–0.95	1	1	0.04	0.03	-	0.75 Mo
440C	S44004	16–18	-	0.95–1.20	1	1	0.04	0.03	-	0.75 Mo
Designation		Composition by weight (%)								
SAE	UNS	Cr	Ni	C	Mn	Si	P	S	N	Other
Heat resisting										
501	S50100	4–6	-	0.10 min.	1	1	0.04	0.03	-	0.40–0.65 Mo
502	S50200	4–6	-	0.1	1	1	0.04	0.03	-	0.40–0.65 Mo
Martensitic precipitation hardening										
630	S17400	15–17	3–5	0.07	1	1	0.04	0.03	-	Cu 3–5, Ta 0.15–0.45 [14]