

Selected ASTM Specifications

Chemical Composition Ranges and Limits

ASTM No.	Grade	C	Mn	Si	Cr	Ni	Mo	V	Others	
A106*	A	.25 max	.27/.93	.10 min	.40 max	.40 max	.15 max	.08 max	—	
	B	.30 max	.29/1.06	.10 min	.40 max	.40 max	.15 max	.08 max	—	
	C	.35 max	.29/1.06	.10 min	.40 max	.40 max	.15 max	.08 max	—	
A182	F11	.10/.20	.30/.80	.50/1.00	1.00/1.50	—	.44/.65	—	—	
	F12	.10/.20	.30/.80	.10/.60	.80/1.25	—	.44/.65	—	—	
A192	A	.06/.18	.27/.63	.25 max	—	—	—	—	—	
A200	T4	.05/.15	.30/.60	.50/1.00	2.15/2.85	—	.44/.65	—	—	
	T5†	.15 max	.30/.60	.50 max	4.00/6.00	—	.44/.65	—	—	
	T7†	.15 max	.30/.60	.50/1.00	6.00/8.00	—	.44/.65	—	—	
	T9†	.15 max	.30/.60	.25/1.00	8.00/10.00	—	.90/1.10	—	—	
	T11†	.05/.15	.30/.60	.50/1.00	1.00/1.50	—	.44/.65	—	—	
	T21†	.05/.15	.30/.60	.50 max	2.65/3.65	—	.80/1.06	—	—	
	T22†	.05/.15	.30/.60	.50 max	1.90/2.60	—	.87/1.13	—	—	
	T91**	.08/.12	.30/.60	.20/.50	8.00/9.00	.40 max	.85/1.05	.18/.25	—	
	A209	T1	.10/.20	.30/.80	.10/.50	—	—	.44/.65	—	—
		T1b	.14 max	.30/.80	.10/.50	—	—	.44/.65	—	—
A210	A1	.27 max	.93 max	.10 min	—	—	—	—	—	
	C	.35 max	.29/1.06	.10 min	—	—	—	—	—	
A213	T5b	.15 max	.30/.60	1.00/2.00	4.90/6.00	—	.44/.65	—	—	
	T5c	.12 max	.30/.60	.50 max	4.00/6.00	—	.44/.65	—	Ti = 4 x C min, .70	

NOTE: See current ASTM Specifications for P & S limitations.

* The combined elements of Cr, Ni, Mo, V and Cu must not exceed 1%.

† These grades also included in ASTM Specifications A213 and A335.

** Cb = .06/.10, N = .03/.07, Al = .04 max.