

ASTM MATERIALS LIST

ASTM MATERIAL	CHEMICAL ANALYSIS %								MECHANICAL PROPERTIES				
	C MAX.	Mn	P MAX.	S MAX.	Si MAX.	Cr	Mo	Ni	R Kg/mm ²	S Kg/mm ² _{min}	A % _{min}	Zn % _{min}	
A 216-WCB	0.3	max.1	0.04	0.045	0.6	0.5	0.2	0.5	49.2-66.7	25.4	22	35	CAST STEEL FOR GENERAL USE
A 216-WCC	0.25	max.1.2	0.04	0.045	0.6	0.5	0.2	0.5	49.2-66.7	28	22	35	
A 352-LCA	0.25	max.0.7	0.04	0.045	0.6	0.5	0.2	0.5	49.2-59.7	21	24	35	CARBON AND ALLOY STEELS FOR LOW TEMPERATURE SERVICES
A 352-LCB	0.3	max.1	0.04	0.045	0.6	0.5	0.2	0.5	45.7-63.2	24.6	24	35	
A 352-LCC	0.25	max.1.2	0.04	0.045	0.6	0.5	0.2	0.5	49.2-66.8	21	22	35	
A 352-LC1	0.25	0.5-0.8	0.04	0.045	0.6		0.45-0.65		45.7-63.2	24.6	24	35	
A 352-LC2	0.25	0.5-0.8	0.04	0.045	0.6			2-3	49.2-66.8	28	24	35	
A 352-LC4	0.15	0.5-0.8	0.04	0.045	0.6			4-5	49.2-66.8	28	24	35	
A 352-LC9	0.13	0.9	0.04	0.045	0.6			4-5	59.8	52.7	20	30	
A 217-WC1	0.25	0.5-0.8	0.04	0.045	0.6	0.5-0.8	0.45-0.65		45.7-63.2	24.6	24	35	ALLOY STEELS FOR HIGH TEMPERATURE SERVICES
A 217-WC4	0.05-0.2	0.5-0.8	0.04	0.045	0.6	0.5-0.9	0.45-0.65	0.7-1.1	49.2-66.8	28	20	35	
A 217-WC5	0.05-0.2	0.4-0.7	0.04	0.045	0.6	1.0-1.5	0.9-1.2	0.6-1	49.2-66.8	28	20	35	
A 217-WC6	0.05-0.2	0.5-0.8	0.04	0.045	0.6	2.0-2.75	0.45-0.65		49.2-66.8	28	20	35	
A 217-WC9	0.05-0.18	0.4-0.7	0.04	0.045	0.6	1-1.5	0.9-1.2		49.2-66.8	28	20	35	
A 217-WC11	0.15-0.21	0.5-0.8	0.02	0.015	0.3-0.8	1-1.5	0.45-0.65		56.2-73.8	35	18	45	
A 217-C5	0.20	0.4-0.7	0.04	0.045	0.75	4-6.5	0.45-0.65		83.3-80.8	42.2	18	35	
A 217-C12	0.20	0.35-0.65	0.04	0.045	1	8-10	0.9-1.2		63.3-80.8	42.2	18	35	
A 217-CA15	0.15	1.00	0.04	0.04	1.5	11.5-14	0.5	1	63.3-80.8	45.7	18	30	
A 182-F6a	0.15	1.00	0.04	0.03	1	11.5-13.5		0.5	59.7	38.6	18	35	
A351-CF3	0.03	1.50	0.04	0.04	2.00	17-21	0.5	8-12	49.2	21	35		STAINLESS STEELS FOR CORROSIVE, LOW AND HIGH TEMPERATURE SERVICES
A351-CF8	0.08	1.50	0.04	0.04	2.00	18-21	0.5	8-11	49.2	21	35		
A351-CF3M	0.03	1.50	0.04	0.04	1.50	17-21	2-3	9-13	49.2	21	30		
A351-CF8M	0.08	1.50	0.04	0.04	1.50	18-21	2-3	9-12	49.2	21	30		
A351-CF8C	0.08	1.50	0.04	0.04	2	18-21	0.5	9-12	49.2	21	30		
A182-F304	0.08	2	0.045	0.03	1	18-20		8-11	52.7	21	30	50	
A182-F304L	0.035	2	0.045	0.03	1	18-20		8-13	49.2	17.5	30	50	
A182-F316	0.08	2	0.045	0.03	1	16-18	2-3	10-14	52.7	21	30	50	
A182-F316L	0.035	2	0.045	0.03	1	16-18	2-3	10-15	49.2	17.5	30	50	
A182-F321	0.08	2	0.045	0.03	1	17 min		9-12	52.7	21	30	50	
A182-F347	0.08	2	0.045	0.03	1	17-20		9-13	52.7	21	30	50	
A351-CN7M (Alloy 20)	0.07	1.5	0.04	0.04	1.5	2-3	27.5-30.5	27.5-30.5	43.5	17.6	35		HIGHLY ALLOYED CORROSIVE RESISTANCE
A351-CD 4MCu (Duplex)	0.04	1	0.04	0.04	1	1.75-2.25	4.75-6	4.75-6	70.3	49.2	16		
A494-N-12MV (Hastelloy-B)	0.12	1	0.04	0.03	1	26-30			53.4	28	6		
A494-CW-12MV (Hastelloy-C)	0.12	1	0.04	0.03	1	16-18			50.6	28	4		
A 494-M-35-1 (Monel)	0.35	1.5	0.03	0.03	1.25				45.7	17.6	25		
AWS A5.13-EDCoCr-A	0.7-1.4	2	5	3-6	2	25-32	1	3	remainder	105-162	45-53.4	5-8	STELLITE
ASTM A 439-D-2C	2.9	1.8-2.4	0.08		1-3	0.5 max		21-24	40.7	19.7	20		NI-RESIST