



Plate and Sheets

SUMMARY OF THE MAIN ASTM STANDARDS GENERALLY USED FOR SHEETS / PLATES

ASTM	Grade	Chemical requirements percent (%)										Mechanical requirements						
		C	Mn	p	S	Si	Ni	Cr.	Mo	Cu	Others	Tensile Strength	Yield Strength	Elong	Hardness			
		max	max	max	max	max						mini-MPa	mini-MPa	mini %	Brinell	Rockwell		
A240	304	0.08	2.00	0.045	0.030	0.75	8.00-10.5	18.00-20.0				515	205	40	201	92		
	304L	0.03	2.00	0.045	0.030	0.75	8.00-12.0	18.00-20.0				485	170	40	201	92		
	310	0.08	2.00	0.045	0.030	1.50	19.0-22.0	24.0-26.0				515	205	40	217	95		
	316	0.08	2.00	0.045	0.030	0.75	10.0-14.0	16.0-18.0	2.00-3.00			515	205	40	217	95		
	316L	0.03	2.00	0.045	0.030	0.75	10.0-14.0	16.0-18.0	2.00-3.00			485	170	40	217	95		
	317L	0.03	2.00	0.045	0.030	0.75	11.0-15.0	18.0-20.0	3.00-4.00			515	205	40	217	95		
	321	0.08	2.00	0.045	0.030	0.75	9.00-12.0	17.0-19.0			Ti > 5xC < 0.70	515	205	40	217	95		
	347	0.08	2.00	0.045	0.030	0.75	9.00-13.0	17.0-19.0			Cb+ Ta > 10xC < 1.10	515	205	40	201	92		
A 387 Class1 Class2	2	0.05-0.21	0.55-0.80	0.035	0.040	0.15-0.40		0.50-0.80	0.45-0.60			Class 1	Class 2	Class 1	Class 2			
	5	0.15	0.30-0.60	0.04	0.030	0.050		4.00-6.00	0.45-0.65			380	486	230	310	22	max201HB	max92HRB
	7	0.15	0.30-0.60	0.030	0.030	1.00		6.00-8.00	0.45-0.65			415	515	205	310	18	max202HB	max92HRB
	9	0.15	0.30-0.60	0.030	0.030	1.00		8.00-10.0	0.90-1.10			415	515	205	310	18	max217HB	max95HRB
	11	0.04-0.17	0.40-0.65	0.035	0.04	0.50-0.80		1.00-1.50	0.45-0.65			415	515	240	310	22	max217HB	max95HRB
	12	0.04-0.17	0.40-0.65	0.035	0.04	0.15-0.40		0.80-1.15	0.45-0.60			380	450	230	275	22	max217HB	max95HRB
A 515	21	0.04-0.17	0.30-0.60	0.035	0.035	0.50		2.75-3.25	0.90-1.10			415	515	205	310	18	max201HB	max92HRB
	22	0.05-0.17	0.30-0.60	0.035	0.035	0.50		2.00-2.50	0.90-1.10			415	515	205	310	18	max201HB	max92HRB
	55	0.22	.0.90	0.035	0.04	0.15-0.40						380-515	205	27				

A516	60	0.27	0.90	0.035	0.04	0.15-0.40						415-550	220	25		
	65	0.31	0.90	0.035	0.04	0.15-0.40						450-585	240	23		
	70	0.33	1.20	0.035	0.04	0.15-0.40						485-620	260	21		
	55	0.20	0.60-1.20	0.035	0.04	0.15-0.40						380-515	205	27		
A 537	60	0.23	0.85-1.20	0.035	0.04	0.15-0.40						415-550	202	25		
	65	0.26	0.85-1.20	0.035	0.04	0.15-0.40						450-585	240	23		
	70 Class 1	0.28	0.85-1.20	0.035	0.04	0.15-0.40	0.25	0.80	0.35				485-620	260	21	
		0.24	0.70-1.35	0.035	0.040	0.15-0.40	max	max	max				485-620	345	22	
Class 2	0.24	0.70-1.35	0.035	0.040	0.15-0.40	0.25	0.80	0.35				550-690	415	22		

IS-2062-92 STEEL FOR GENERAL STRUCTURAL PURPOSES

Grade	Designation	% Chemical Composition						Tensile strength (Min) Kg/mm ²	Yield Strength (Min) Mpa			%El.in guage length 5.560So	Bend Test	Std.test Piece charpy V Notch Impact Energy Joule min
		C max	MN max	S max	P max	Si max	C.E. max		<20 min	<20-40 min	>40 min			
A	FE410 WA	0.23	1.5	0.050	0.050	-	0.42	41.8	250	240	230	23	3t	-
B	FE410 WB	0.22	1.5	0.045	0.045	0.40	0.41	41.8	250	250	230	23	t<25mm	2t for 27 3t for t>25mm
C	FE410 WC	0.20	1.5	0.040	0.040	0.40	0.36	41.8	250	250	230	23	2t	27

IS-2002-62 STEEL PLATES FOR BOILERS

Chemical Composition					Tensile Test		Elongation	
Designation	c max	Si max	P max	S max	Tensile strength Mpa	Yield Strength Mpa	Test Piece	%min
IS 2002-1	0.18	0.10-0.35	0.040	0.040	362-442	540	5.65oSo 4oSo	26 30
IS 2002-2A	0.20	0.10-0.35	0.050	0.050	412-491	491	5.60oSo 4oSo	25 29
IS 2002-2B	0.22	0.10-0.35	0.050	0.050	510-608	491	5.65oSo 4oSo	20 24

Formula - Weight of Stainless Steel Sheets/Plates = Length (mm) x Width (mm) x Thickness (mm) x 7.86 = Kg./Sheet.