



Avoirdupois Weight Tolerances

The table below is a listing of the tolerances of various classes of masses. The weight value can deviate above or below the nominal value by the tolerance defined. To determine the tolerance of a mass, look at the denomination or nominal value of the weight and the appropriate class you need.

Denomination Pound	ANSI/ASTM E617 **								National Bureau of Standards Circular 547 Section 1 ***						NIST Handbooks		
	0	1	2	3	4	5	6	7	S		S-1	P	Q	T	105-1 *	44	
	mg	mg	mg	mg	g & mg	g & mg	g & mg	g & mg	Ind mg	Grp mg	mg	g & mg	g & mg	g & mg	F	Accept mg	Maint. mg
10 000 lb					60 g	150 g	300 g	450 g							450 g		
5 000 lb					40	100	200	300							230		
3 000 lb					20	50	100	150							140		
2 500 lb					20	50	100	150				23 g	56 g	170 g	110		
2 000 lb					10	25	50	75				18	45	140	91		
1 000 lb					6.0	15	30	45				9.1	23	68	45		
500 lb					4.0	10	20	30				4.5	11	34	23		
100 lb	38	75	150	300	600 mg	1.5	3	4.5			450	910 mg	2.3	7.0	4.5		
50 lb	25	50	100	200	400	1.0	2	3.8	57		230	450	1.1	4.1	2.3	1600	3200
40 lb																1450	2900
30 lb	13	25	50	100	200	500 mg	1	2.2	34						1.4	1300	2600
25 lb	13	25	50	100	200	500	1	2.2	28		110	230	570 mg	2.4	1.1	1150	2300
20 lb	6	12	25	50	100	250	500 mg	1.4	23		91	180	450	2.0	910 mg	950	1900
15 lb												140	340	1.7		900	1800
10 lb	3.8	7.5	15	30	60	150	300	1.0	11		45	91	230	1.3	450	800	1600
9 lb																750	1500
8 lb												36	73	180	1.1	700	1400
7 lb																600	1200
6 lb																595	1190
5 lb	2.5	5.0	10	20	40	100	200	750 mg	5.7		23	45	110	810 mg	230	485	970
4 lb											18	36	91	700		355	710
3 lb	1.3	2.5	5.0	10	20	50	100	470	3.4		14	27	68	580	140	290	580
2 lb	0.60	1.2	2.5	5.0	10	30	50	300	2.3		9.1	18	46	440	91	225	450
1 lb	0.38	0.75	1.5	3.0	6.0	20	30	210	1.1		4.5	9.1	27	270	70	160	320
0.5 lb	0.25	0.50	1.0	2.0	4.0	15	20	160	0.57		2.3	4.5	16	170	45		
0.3 lb	0.13	0.25	0.50	1.0	2.0	9	10	100	0.34						27		
0.2 lb	0.060	0.12	0.25	0.60	1.2	5.6	7	62	0.23		0.91	1.8	8.3	94	18		
0.1 lb	0.037	0.074	0.15	0.45	0.90	4.0	5	44	0.11		0.58	1.1	5.3	59	9.1		
0.05 lb	0.037	0.074	0.10	0.35	0.70	3.0	3	33	0.074		0.38	0.75	3.4	37	4.5		
0.03 lb	0.025	0.050	0.074	0.25	0.50	2.0	2	21	0.074						2.7		
0.02 lb	0.017	0.034	0.054	0.18	0.36	1.3	2	13	0.054		0.24	0.48	1.9	20	1.8		
0.01 lb	0.017	0.034	0.054	0.15	0.30	0.95	2.0	9.4	0.054		0.17	0.34	1.2	12	1.5		
0.005 lb	0.017	0.034	0.054	0.13	0.26	0.75	2.0	7.0	0.054		0.13	0.27	0.81	7.7	1.2		
0.003 lb	0.017	0.034	0.054	0.10	0.20	0.50	2.0	4.5	0.054						0.99		
0.002 lb	0.005	0.010	0.025	0.080	0.16	0.38	1.0	3.0	0.025		0.096	0.19	0.49	4.2	0.87		
0.001 lb	0.005	0.010	0.025	0.070	0.14	0.30	1.0	2.2	0.025		0.076	0.15	0.36	2.9	0.70		
0.0005 lb	0.005	0.010	0.025	0.060	0.12	0.26	1.0	1.8	0.025		0.062	0.13	0.27	2.0			
0.0003 lb	0.005	0.010	0.025	0.050	0.10	0.20	1.0	1.2	0.025								
0.0002 lb	0.005	0.010	0.014	0.042	0.085	0.16	0.50	0.88	0.014		0.049	0.097	0.18	1.2			
0.0001 lb	0.005	0.010	0.014	0.038	0.075	0.14	0.50	0.68	0.014		0.041	0.083	0.16	0.83			
0.00005 lb	0.005	0.010	0.014	0.035	0.070	0.12	0.50	0.56	0.014		0.036	0.072	0.13	0.60			
0.00003 lb	0.005	0.010	0.014	0.030	0.060	0.10	0.50	0.4	0.014								
0.00002 lb	0.005	0.010	0.014	0.028	0.055	0.080	0.20		0.014		0.030	0.060	0.097				
0.00001 lb	0.005	0.010	0.014	0.026	0.052	0.070	0.20		0.014		0.028	0.055	0.079				

* NIST 105-1 Class F tolerances are rounded to two significant figures

** ANSI/ASTM E617 NIST Handbook 44 tolerances have been converted from Avoirdupois to metric and rounded to two significant figures

*** NBS 547 - Class S tolerances have been created by using metric system equivalents

Denomination Pound
10 000 lb
5 000 lb
3 000 lb
2 500 lb
2 000 lb
1 000 lb
500 lb
100 lb
50 lb
40 lb
30 lb
25 lb
20 lb
15 lb
10 lb
9 lb
8 lb
7 lb
6 lb
5 lb
4 lb
3 lb
2 lb
1 lb
0.5 lb
0.3 lb
0.2 lb
0.1 lb
0.05 lb
0.03 lb
0.02 lb
0.01 lb
0.005 lb
0.003 lb
0.002 lb
0.001 lb
0.0005 lb
0.0003 lb
0.0002 lb
0.0001 lb
0.00005 lb
0.00003 lb
0.00002 lb
0.00001 lb