

MOLDED RUBBER PRODUCTS

DIMENSIONAL TOLERANCES

“A1” HIGH PRECISION

Size (Inches)	Fixed	Closure	Size (Millimeters)	Fixed	Closure
Above / Including	Tolerances	Tolerances	Above / Including	Tolerances	Tolerances
0.000" - 0.100"	± .002"	± .004"	0.000 - 2.540	±0.050	±0.100
0.101" - 0.190"	± .003"	± .005"	2.570 - 4.830	±0.080	±0.130
0.191" - 0.382"	± .004"	± .006"	4.830 - 9.700	±0.100	±0.150
0.383" - 0.695"	± .005"	± .007"	9.730 - 17.650	±0.130	±0.180
0.696" - 1.064"	± .006"	± .008"	17.680 - 27.030	±0.150	±0.200
1.065" - 1.564"	± .008"	± .010"	27.050 - 39.730	±0.200	±0.250
1.565" - 2.064"	± .009"	± .011"	39.750 - 52.430	±0.230	±0.280
2.065" - 2.564"	± .010"	± .012"	52.450 - 65.130	±0.250	±0.300
2.565" - 3.064"	± .012"	± .014"	65.150 - 77.830	±0.300	±0.360
3.065" - 4.064"	± .013"	± .015"	77.850 - 103.230	±0.330	±0.380
4.065" - 5.064"	± .015"	± .017"	103.250 - 128.630	±0.380	±0.430
5.065" - 6.064"	± .016"	± .018"	128.650 - 154.030	±0.410	±0.460

Drawing designation “A1” is the tightest tolerance classification and indicates a high precision molded rubber product. Such products require complex and expensive molds, fewer cavities per mold, costly in-process controls and inspection procedures.

It is desirable that the exact method of measurement be agreed upon between M. I. PANAGIOTARAKOS & Co. and the customer, as errors in measurement may be large in relation to the tolerance. Some materials, particularly those requiring a post curing operation after molding, do not lend themselves to drawing designation “A1” tolerances.

*Source: RMA or Rubber Manufacturers Association

"A2" PRECISION

Size (Inches)	Fixed	Closure	Size (Millimeters)	Fixed	Closure
Above / Including	Tolerances	Tolerances	Above / Including	Tolerances	Tolerances
0.000" - 0.100"	± .003"	± .005"	0.000 - 2.540	±0.080	±0.130
0.101" - 0.190"	± .004"	± .006"	2.570 - 4.830	±0.100	±0.150
0.191" - 0.255"	± .005"	± .007"	4.830 - 6.480	±0.130	±0.180
0.256" - 0.382"	± .006"	± .008"	6.500 - 9.700	±0.150	±0.200
0.383" - 0.510"	± .007"	± .009"	9.730 - 12.950	±0.180	±0.230
0.511" - 0.695"	± .008"	± .010"	12.980 - 17.650	±0.200	±0.250
0.696" - 1.064"	± .010"	± .012"	17.680 - 27.030	±0.250	±0.300
1.065" - 1.564"	± .012"	± .014"	27.050 - 39.730	±0.300	±0.360
1.565" - 2.064"	± .014"	± .016"	39.750 - 52.430	±0.360	±0.410
2.065" - 2.564"	± .016"	± .018"	52.450 - 65.130	±0.410	±0.460
2.565" - 3.064"	± .018"	± .020"	65.150 - 77.830	±0.460	±0.510
3.065" - 4.064"	± .020"	± .022"	77.850 - 103.230	±0.510	±0.560
4.065" - 5.064"	± .023"	± .025"	103.250 - 128.630	±0.580	±0.640
5.065" - 6.064"	± .025"	± .027"	128.650 - 154.030	±0.640	±0.690
6.065" - 7.064"	± .027"	± .029"	154.050 - 179.430	±0.690	±0.740
7.065" - 8.064"	± .030"	± .032"	179.450 - 204.830	±0.770	±0.820
8.065" - 9.064"	± .034"	± .036"	204.850 - 230.230	±0.870	±0.920
9.065" -10.064"	± .038"	± .040"	230.250 - 255.630	±0.970	±1.020
10.065" -11.064"	± .042"	± .044"	255.650 - 281.030	±1.070	±1.120
11.065" -12.064"	± .046"	± .048"	281.050 - 306.430	±1.170	±1.230
12.065" -13.064"	± .050"	± .052"	306.450 - 331.830	±1.280	±1.330
13.065" -14.064"	± .054"	± .056"	331.850 - 357.230	±1.380	±1.430
14.065" -15.064"	± .058"	± .060"	357.250 - 382.630	±1.480	±1.530
15.065" -16.064"	± .062"	± .064"	382.650 - 408.030	±1.580	±1.630
16.065" -17.064"	± .066"	± .068"	408.250 - 433.430	±1.680	±1.730

Drawing designation "A2" tolerances indicate a precision molded rubber product. Molds must be precision machined and kept in good repair. While measurement methods may be simpler than with drawing designation "A1" high precision for molded rubber products, careful inspection will usually be required



M. I. PANAGIOTARAKOS & Co

Phone: (30) 21 0555 9927-8
 Fax: (30) 21 055 9926
 Email: info@panagiotarakos.eu

Passion For Quality

"A3" COMMERCIAL

Size (Inches)	Fixed	Closure	Size (Millimeters)	Fixed	Closure
Above / Including	Tolerances	Tolerances	Above / Including	Tolerances	Tolerances
0.000" - 0.100"	± .004"	± .006"	0.000 - 2.540	±0.100	±0.150
0.101" - 0.190"	± .005"	± .007"	2.570 - 4.830	±0.130	±0.180
0.191" - 0.255"	± .006"	± .008"	4.830 - 6.480	±0.150	±0.200
0.256" - 0.382"	± .007"	± .009"	6.500 - 9.700	±0.180	±0.230
0.383" - 0.510"	± .008"	± .010"	9.730 - 12.950	±0.200	±0.250
0.511" - 0.695"	± .010"	± .012"	12.980 - 17.650	±0.250	±0.300
0.696" - 1.064"	± .013"	± .015"	17.680 - 27.030	±0.330	±0.380
1.065" - 1.564"	± .015"	± .017"	27.050 - 39.730	±0.380	±0.430
1.565" - 2.064"	± .018"	± .020"	39.750 - 52.430	±0.460	±0.510
2.065" - 2.564"	± .020"	± .022"	52.450 - 65.130	±0.510	±0.560
2.565" - 3.064"	± .023"	± .025"	65.150 - 77.830	±0.580	±0.640
3.065" - 4.064"	± .025"	± .027"	77.850 - 103.230	±0.640	±0.690
4.065" - 5.064"	± .028"	± .030"	103.250 - 128.630	±0.710	±0.760
5.065" - 6.064"	± .030"	± .032"	128.650 - 154.030	±0.760	±0.810
6.065" - 7.064"	± .033"	± .035"	154.050 - 179.430	±0.830	±0.880
7.065" - 8.064"	± .038"	± .040"	179.450 - 204.830	±0.960	±1.010
8.065" - 9.064"	± .043"	± .045"	204.850 - 230.230	±1.090	±1.140
9.065" - 10.064"	± .048"	± .050"	230.250 - 255.630	±1.210	±1.270
10.065" - 11.064"	± .053"	± .055"	255.650 - 281.030	±1.340	±1.390
11.065" - 12.064"	± .058"	± .060"	281.050 - 306.430	±1.470	±1.520
12.065" - 13.064"	± .063"	± .065"	306.450 - 331.830	±1.600	±1.650
13.065" - 14.064"	± .068"	± .070"	331.850 - 357.230	±1.720	±1.770
14.065" - 15.064"	± .073"	± .075"	357.250 - 382.630	±1.850	±1.900
15.065" - 16.064"	± .078"	± .080"	382.650 - 408.030	±1.980	±2.030
16.065" - 17.064"	± .083"	± .085"	408.250 - 433.430	±2.100	±2.150
17.065" - 18.064"	± .088"	± .090"	433.450 - 458.830	±2.230	±2.280
18.065" - 19.064"	± .093"	± .095"	458.850 - 484.230	±2.360	±2.410
19.065" - 20.064"	± .098"	± .100"	484.250 - 509.630	±2.480	±2.540

Drawing designation "A3 tolerances indicate a commercial molded rubber product and will normally be used for most products.



M. I. PANAGIOTARAKOS & Co

Phone: (30) 21 0555 9927-8
 Fax: (30) 21 055 9926
 Email: info@panagiotarakos.eu

Passion For Quality

"A4" NON-CRITICAL

Size (Inches)	Fixed	Closure	Size (Millimeters)	Fixed	Closure
Above / Including	Tolerances	Tolerances	Above / Including	Tolerances	Tolerances
0.000" - 0.100"	± .005"	± .005"	0.000 - 2.540	±0.130	±0.180
0.101" - 0.190"	± .007"	± .009"	2.570 - 4.830	±0.180	±0.230
0.191" - 0.255"	± .009"	± .011"	4.830 - 6.480	±0.230	±0.280
0.256" - 0.382"	± .012"	± .014"	6.500 - 9.700	±0.300	±0.360
0.383" - 0.510"	± .015"	± .017"	9.730 - 12.950	±0.380	±0.430
0.511" - 0.695"	± .018"	± .020"	12.980 - 17.650	±0.460	±0.510
0.696" - 1.064"	± .020"	± .022"	17.680 - 27.030	±0.510	±0.560
1.065" - 1.564"	± .024"	± .026"	27.050 - 39.730	±0.610	±0.660
1.565" - 2.064"	± .028"	± .030"	39.750 - 52.430	±0.710	±0.760
2.065" - 2.564"	± .032"	± .034"	52.450 - 65.130	±0.810	±0.860
2.565" - 3.064"	± .036"	± .038"	65.150 - 77.830	±0.910	±0.970
3.065" - 4.064"	± .040"	± .042"	77.850 - 103.230	±1.020	±1.070
4.065" - 5.064"	± .045"	± .047"	103.250 - 128.630	±1.140	±1.190
5.065" - 6.064"	± .049"	± .051"	128.650 - 154.030	±1.240	±1.300
6.065" - 7.064"	± .053"	± .055"	154.050 - 179.430	±1.330	±1.380
7.065" - 8.064"	± .061"	± .063"	179.450 - 204.830	±1.540	±1.590
8.065" - 9.064"	± .069"	± .071"	204.850 - 230.230	±1.740	±1.790
9.065" - 10.064"	± .077"	± .079"	230.250 - 255.630	±1.940	±1.990
10.065" - 11.064"	± .085"	± .087"	255.650 - 281.030	±2.150	±2.200
11.065" - 12.064"	± .093"	± .095"	281.050 - 306.430	±2.350	±2.400
12.065" - 13.064"	± .101"	± .103"	306.450 - 331.830	±2.550	±2.600
13.065" - 14.064"	± .109"	± .111"	331.850 - 357.230	±2.760	±2.810
14.065" - 15.064"	± .117"	± .119"	357.250 - 382.630	±2.960	±3.010
15.065" - 16.064"	± .125"	± .127"	382.650 - 408.030	±3.160	±3.210
16.065" - 17.064"	± .133"	± .135"	408.250 - 433.430	±3.370	±3.420
17.065" - 18.064"	± .141"	± .143"	433.450 - 458.830	±3.570	±3.620
18.065" - 19.064"	± .149"	± .151"	458.850 - 484.230	±3.770	±3.820

Drawing designation "A4" tolerances apply to products where dimensional control is non-critical and secondary to cost.