

# ARPM TOLERANCE TABLES

## ARPM TABLE 3-MOLDED A2 PRECISION

STANDARD DIMENSIONAL TOLERANCE TABLE—MOLDED RUBBER PRODUCTS  
DRAWING DESIGNATION “A2” PRECISION

Size (Millimeters)	Fixed	Closure	Size (Inches)	Fixed	Closure
<b>Above - Including</b>			<b>Above - Including</b>		
0 - 10	±0.16	±0.20	0 - 0.40	±0.006	±0.008
10 - 16	0.20	0.25	0.40 - 0.63	0.008	0.010
16 - 25	0.25	0.32	0.63 - 1.00	0.010	0.013
25 - 40	0.32	0.40	1.00 - 1.60	0.013	0.016
40 - 63	0.40	0.50	1.60 - 2.50	0.016	0.020
63 - 100	0.50	0.63	2.50 - 4.00	0.020	0.025
100 - 160	0.63	0.80	4.00 - 6.30	0.025	0.032
160 & over			6.30 & over		
multiply by	0.004	0.005	multiply by	0.004	0.005

# ARPM TABLE 13- DENSE CROSS-SECTION ORGANIC/SILICONE CLASS 2 PRECISION

## STANDARDS FOR CROSS-SECTIONAL TOLERANCE TABLE

Note: Tolerances on dimensions above 100 mm (3.94 in.) should be agreed upon by supplier and user. General cross-sectional dimensions below 1mm (0.04 in.) are impractical. In general, softer materials and those requiring a post-cure need greater tolerances.

ARPM Class	1	2	3
Drawing Designation	High Precision E1	Precision E2	Commercial E3

Dimensions (in Millimeters)

Above	-	Up to	1	2	3
0	1.5		±0.15	±0.25	±0.40
1.5	2.5		0.20	0.35	0.50
2.5	4.0		0.25	0.40	0.70
4.0	6.3		0.35	0.50	0.80
6.3	10		0.40	0.70	1.00
10	16		0.50	0.80	1.30
16	25		0.70	1.00	1.60
25	40		0.80	1.30	2.00
40	63		1.00	1.60	2.50
63	100		1.30	2.00	3.20

ARPM Class	1	2	3
Drawing Designation	High Precision E1	Precision E2	Commercial E3

Dimensions (in Inches)

Above	-	Up to	1	2	3
0	0.06		±0.006	±0.010	±0.015
0.06	0.10		0.008	0.014	0.020
0.10	0.16		0.010	0.016	0.027
0.16	0.25		0.014	0.020	0.031
0.25	0.39		0.016	0.027	0.039
0.39	0.63		0.020	0.031	0.051
0.63	0.98		0.027	0.039	0.063
0.98	1.57		0.031	0.051	0.079
1.57	2.48		0.039	0.063	0.098
2.48	3.94		0.051	0.079	0.126

# ARPM TABLE 16- DENSE CUT LENGTH L2 COMMERCIAL

## CUT LENGTH TOLERANCE TABLES FOR UNSPLICED EXTRUSION

Note: Special consideration of tolerances will have to be given to both extremely soft and high tensile stocks.

RMA Class	1	2	3
Drawing Designation	Precision	Commercial	Non-Critical
	L1	L2	L3

Length (in Millimeters)

Above - Up to

0	40	±0.7	±1.0	±1.6
40	63	0.8	1.3	2.0
63	100	1.0	1.6	2.5
100	160	1.3	2.0	3.2
160	250	1.6	2.5	4.0
250	400	2.0	3.2	5.0
400	630	2.5	4.0	6.3
630	1000	3.2	5.0	10.0
1000	1600	4.0	6.3	12.5
1600	2500	5.0	10.0	16.0
2500	4000	6.3	12.5	20.0
4000		0.16%	0.32%	0.50%

Length (in Inches)

Above - Up to

0	1.6	±0.03	±0.04	±0.06
1.6	2.5	0.03	0.05	0.08
2.5	4.0	0.04	0.06	0.10
4.0	6.3	0.05	0.08	0.13
6.3	10.0	0.06	0.10	0.16
10.0	16.0	0.08	0.13	0.20
16.0	25.0	0.10	0.16	0.25
25.0	40.0	0.13	0.20	0.40
40.0	63.0	0.16	0.25	0.50
63.0	100.0	0.20	0.40	0.63
100.0	160.0	0.25	0.50	0.80
160.0		0.16%	0.32%	0.50%

# ARPM TABLE 37- LENGTH AND WIDTH DIE CUT SPONGE #2, BL2

Tolerances on length and width dimensions of die-cut sheet or strip, expanded, closed-cellular rubber.

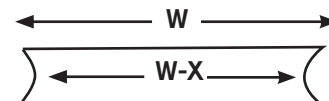
RMA Class	1	2	3
RMA Drawing Designation	BL1	BL2	BL3
Millimeters	Tolerance		
For thickness up to 6.3 mm*			
under 25	±0.63	±0.80	±1.0
25 to 160	0.80	1.0	1.25
over 160 multiply by	0.0063	0.01	0.016
For thickness over 6.3 to 12.5 mm*			
under 25	±0.81	±1.0	±1.25
25 to 160	1.0	1.25	1.6
over 160 multiply by	0.0063	0.01	0.016
For thickness over 12.5 mm*			
under 25	±1.0	±1.25	±1.6
25 to 160	1.25	1.6	2.0
over 160 multiply by	0.0063	0.01	0.016

Inches	Tolerance		
For thickness up to .25 in.*			
under 1.0	±0.025	±0.032	±0.040
1.0 to 6.3	0.032	0.040	0.050
over 6.3 multiply by	0.0063	0.010	0.016
For thickness over .25 to .50 in.*			
under 1.0	±0.032	±0.040	±0.050
1.0 to 6.3	0.040	0.050	0.063
over 6.3 multiply by	0.0063	0.010	0.016
For thickness over .50 in.*			
under 1.0	±0.040	±0.050	±0.063
1.0 to 6.3	0.050	0.063	0.080
over 6.3 multiply by	0.0063	0.010	0.016

\*Separate schedules of length and width tolerances are listed for the different thicknesses of these materials because of the “dish” effect in die-cutting. This is more noticeable as the thickness increases. As shown in the drawing below, the “dish” effect is a concavity of die-cut edges (due to the squeezing of the material by the pressure of the cutting die).

Figure 32

The width “W” (or length) at the top and bottom surface are slightly greater than the width “W-X” at the center.



Note: Class 1 tolerances should not be applied to the softer grades of material, below 63 kPa (9 psi).

# ARPM TABLE 38 - SPONGE CROSS SECTION ORGANIC/SILICONE #1, BEC1

Tolerances on cross-sectional dimensions of irregular and cored shapes of extruded, expanded, closed-cellular rubber. Class 1 tolerances in the table below are recommended only for high volume, tight products for automotive applications.

ARPM Class	1*	2	3
ARPM Drawing Designation	BEC1	BEC2	BEC3
Millimeters	Tolerance		
Above — Including			
0 — 6.3	±0.4	±0.5	±0.63
6.3 — 12.5	0.63	1.0	1.25
12.5 — 25.0	1.25	2.0	2.5
25.0 — 40.0	2.0	3.2	4.0
40.0 & over multiply by	0.06	0.08	0.1

ARPM Class	1*	2	3
ARPM Drawing Designation	BEC1	BEC2	BEC3
Inches	Tolerance		
Above — Including			
0 — 0.25	±0.016	±0.020	±0.025
0.25 — 0.50	0.025	0.040	0.050
0.50 — 1.0	0.050	0.080	0.100
1.0 — 1.6	0.080	0.125	0.160
1.6 & over multiply by	0.060	0.080	0.100

\*Class 1 tolerances should not be applied to the softer grades of material—below 63 kPa (9 psi) compression deflection.

# ARPM TABLE 40 - SPONGE CUT LENGTH #1, BEL 1

Tolerances on cut lengths of all extruded, expanded, closed-cellular rubber products.

RMA Class			1*	2	3
RMA Drawing Designation			BEL1	BEL2	BEL3
Millimeters			Tolerance		
Above	—	Including			
0		80	±1.6	±1.6	±3.2
80		160	3.2	3.2	6.3
160		315	6.3	6.3	12.5
315		630**	multiply by .02	12.5	25.0
630		1250**	multiply by .02	25.0	50.0
1250 & over multiply by			0.02	0.03	0.04

RMA Class			1	2	3
RMA Drawing Designation			BEL1	BEL2	BEL3
Inches			Tolerance		
Above	—	Including			
0		3.15	±0.063	±0.063	±0.125
3.15		6.3	0.125	0.125	0.250
6.3		12.5	0.250	0.250	0.500
12.5		25**	multiply by .02	.500	1.000
24.0		50**	multiply by .02	1.000	2.000
50.0 & over multiply by			0.02	0.030	0.040

\*Class 1 tolerances should not be applied to the softer grades of material—below 63 kPa (9 psi) compression deflection.

\*\*Accurate measurement of long lengths is difficult because these materials stretch or compress easily. Where close tolerances are required on long lengths, a specific technique of measurement should be agreed upon between purchaser and manufacturer.