STANDARDS FOR CROSS SECTIONAL TOLERANCE TABLE

The closer tolerance classes outlined below should not be specified unless required by the final application and they should be restricted to critical dimensions. The closer tolerances demanded, the tighter the control which must be exercised during manufacture and hence higher costs.

When particular physical properties are required in the product, it is not always possible to provide them in a combination which is capable of fabrication to close tolerances. It is necessary, in these circumstances, that consultation take place between the customer and supplier. In general, softer materials need greater tolerances than harder ones. Where close tolerances are required, a specific technique of measurement should be agreed upon between purchaser and manufacturer.

Table 13

Tolerances for outside (O.D.) diameters, inside (I.D.) diameters, wall thickness, width, height, and general cross sectional dimensions or extrusions...see Figures 15 and 16, Page 22.

RMA Class		1 High Precision	2 Precision	3 Commercial
Drawing Designation		E1	E2	E3
Dimensions (in Millimeters)			
Above	Up to			
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	0.40	0.70	1.00
10.0	16.0	0.50	0.80	1.30
16.0	25.0	0.70	1.00	1.60
25.0	40.0	0.80	1.30	2.00
40.0	63.0	1.00	1.60	2.50
63.0	100.0	1.30	2.00	3.20
RMA Class		1	2	3
I RMA Class			—	-
RMA Class		High Precision	Precision	Commercial
RMA Class Drawing Des	ignation		—	-
	<u> </u>	High Precision	Precision	Commercial
Drawing Des	<u> </u>	High Precision	Precision	Commercial
Drawing Des Dimensions (Above 0.00	in Inches) Up to 0.06	High Precision E1 ±0.006	Precision E2 ±0.010	Commercial E3 ±0.015
Drawing Des Dimensions (Above 0.00 0.06	in Inches) Up to 0.06 0.10	High Precision E1 ±0.006 0.008	Precision E2 ±0.010 0.014	Commercial E3 ±0.015 0.020
Drawing Des Dimensions (Above 0.00 0.06 0.10	in Inches) Up to 0.06 0.10 0.16	High Precision E1 ±0.006 0.008 0.010	Precision E2 ±0.010 0.014 0.016	Commercial E3 ±0.015 0.020 0.027
Drawing Des Dimensions (Above 0.00 0.06 0.10 0.16	Up to 0.06 0.10 0.16 0.25	High Precision E1 ±0.006 0.008 0.010 0.014	Precision E2 ±0.010 0.014 0.016 0.020	Commercial E3 ±0.015 0.020 0.027 0.031
Drawing Des Dimensions (Above 0.00 0.06 0.10 0.16 0.25	Up to 0.06 0.10 0.16 0.25 0.39	High Precision E1 ±0.006 0.008 0.010 0.014 0.016	Precision E2 ±0.010 0.014 0.016 0.020 0.027	Commercial E3 ±0.015 0.020 0.027 0.031 0.039
Drawing Des Dimensions (Above 0.00 0.06 0.10 0.16 0.25 0.39	in Inches) Up to 0.06 0.10 0.16 0.25 0.39 0.63	High Precision E1 ±0.006 0.008 0.010 0.014 0.016 0.020	Precision E2 ±0.010 0.014 0.016 0.020 0.027 0.031	Commercial E3 ±0.015 0.020 0.027 0.031 0.039 0.051
Drawing Des Dimensions (Above 0.00 0.06 0.10 0.16 0.25 0.39 0.63	in Inches) Up to 0.06 0.10 0.16 0.25 0.39 0.63 0.98	High Precision E1 ±0.006 0.008 0.010 0.014 0.016 0.020 0.027	Precision E2 ±0.010 0.014 0.016 0.020 0.027 0.031 0.039	Commercial E3 ±0.015 0.020 0.027 0.031 0.039 0.051 0.063
Drawing Des Dimensions (Above 0.00 0.06 0.10 0.16 0.25 0.39 0.63 0.98	in Inches) Up to 0.06 0.10 0.16 0.25 0.39 0.63 0.98 1.57	High Precision E1 ±0.006 0.008 0.010 0.014 0.016 0.020 0.027 0.031	Precision E2 ±0.010 0.014 0.016 0.020 0.027 0.031 0.039 0.051	Commercial E3 ±0.015 0.020 0.027 0.031 0.039 0.051 0.063 0.079
Drawing Des Dimensions (Above 0.00 0.06 0.10 0.16 0.25 0.39 0.63	in Inches) Up to 0.06 0.10 0.16 0.25 0.39 0.63 0.98	High Precision E1 ±0.006 0.008 0.010 0.014 0.016 0.020 0.027	Precision E2 ±0.010 0.014 0.016 0.020 0.027 0.031 0.039	Commercial E3 ±0.015 0.020 0.027 0.031 0.039 0.051 0.063

Note: Tolerances on dimensions above 100mm (3.94 in.) should be agreed on 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.