

## GRADE TOLERANCES AND TERMINOLOGY

A.F.B.M.A. Grade	Diameter Tolerance per Ball Sphericity	Diameter Tolerance per Unit Container	Basic Diameter Tolerance	RA
	UM	UM	UM	UM
3	0.075	+/-0.10	+/-0.5	0.007
5	0.125	+/-0.15	+/-1	0.008
10	0.250	+/-0.25	+/-2.5	0.010
15	0.375	+/-0.40	+/-2.5	0.010
25	0.625	+/-0.70	+/-2.5	0.010
50	1.250	+/-1.25	+/-5	0.020
100	2.500	+/-2.50	+/-10	0.040

	inch	inch	inch	inch
3	.000003	+/-0.000004	+/-0.00002	0.0000003
5	.000005	+/-0.000006	+/-0.00004	0.0000003
10	.000010	+/-0.000010	+/-0.0001	0.0000004
15	.000015	+/-0.000015	+/-0.0001	0.0000004
25	.000025	+/-0.000025	+/-0.0001	0.0000004
50	.000050	+/-0.000050	+/-0.0002	0.0000008
100	.000100	+/-0.000100	+/-0.0004	0.0000015

**Basic diameter:** The size ordered which is the basis to which the basic diameter tolerances apply. The basic diameter is specified by a fraction plus a decimal or a decimal only to the sixth place. (example: 1/4" + .0002" or .2502" - 15/64" + .0003" or .234675").

**Basic diameter tolerance:** The maximum allowable deviation of any ball diameter from the basic diameter, in any shipments to fill orders for that basic diameter.

**Diameter tolerance per ball:** The permissible difference between the largest diameter and the smallest diameter measurable on one ball.

**Diameter tolerance per unit container:** The permissible range of the average diameters of the individuals balls within any one unit container.

**Grade:** The numerical value of the diameter tolerance per ball expressed in a millionth of an inch.

### SWISS JEWEL COMPANY



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