ISO 9002 manufactured ABMA (American Bearing Manufacturers Association) ball grade 200 balls are used in the production of our validation products.

Individual Balls		Lots of Balls	
Allowable Ball Diameter Variation	Allowable Deviation From Spherical Form Sphericity/roundness	Allowable Lot Diameter Variation	Basic Diameter Tolerance
200	**200**	**400**	**+/- 1000**
Tolerances in millionths of an inch			

Ball Grade - A specific combination of dimensional form and surface roughness tolerances.

Ball Diameter - The diameter value that is used for the identification of the ball size.

Ball Diameter Variation - The difference between the largest and the smallest diameter of one ball.

Ball Diameter Tolerance - The maximum allowable deviation of any ball diameter from the basic diameter.

Lot - A definite quantity of balls manufactured under conditions which are presumed uniform and which is considered and identified as an entirety

Lot Diameter Variation - The difference between the diameter of the largest and the smallest ball in the lot.

Sphericity (roundness) - The radial distance of the maximum peak from the perfect circle plus the distance of the maximum valley from the perfect circle.

Materials

Ferrous

52100 Chrome Steel
AISI E52100 is high carbon chromium steel.

Chemical Composition

Carbon	.98 to 1.10%
Chromium	1.30 to 1.60%
Manganese	.25 to .45%
Silicon	.15 to 35%
Phosphorus	.025% max.
Sulphur	.025% max.

Non-Ferrous

Brass CDA 260 (70/30 Cartridge Brass)

Chemical Composition

Copper	68.50 to 71.50%r
Lead	0.7% max.
Iron	0 .05% max.
Zinc	Remainder

Stainless Steel

Austenitic Stainless Steel Balls (Type 304-316)

Chemical Composition

	304	316
Carbon	0.08% max.	0.08% max.
Chromium	18.00 to 20.00%	16.00 to 18.00%
Manganese	2.0% max.	2.0% max.
Silicon	1.0% max.	1.0% max.
Nickel	8.00 to 10.50%	10.00 to 14.00%
Molybdenum	-	2.00 to 3.00%