

Need to info on a grade or tolerance?

Download this helpful PDF for Global Precision Ball & Roller's ABMA Grades & Tolerances for Steel Balls



Global Precision Ball and Rollers ABMA Grades & Tolerances - Inches

| Grade | Size Range | Roundness | Lot Diameter Variation | Allowable Ball Gage Variation | Basic Diameter Tolerance | Marking Increments | Maximum Surface Roughness 1 in Micro inches "Ra" |
|-------|------------|-----------|------------------------|-------------------------------|--------------------------|--------------------|--|
| 10 | .006 - 2" | 0.000010 | 0.000020 | ±0.00003 | + - 0.00010 | 0.00001 | 0.8 |
| 16 | .006 - 6" | 0.000016 | 0.000032 | ±0.00005 | + - 0.00010 | 0.00001 | 1 |
| 24 | .006 - 10" | 0.000024 | 0.000048 | ±0.00005 | + - 0.00010 | 0.00001 | 1.6 |
| 48 | .006 - 10" | 0.000048 | 0.000096 | ±0.00010 | + - 0.00020 | 0.00001 | 2.0 |
| 100 | .006 - 10" | 0.000100 | 0.000200 | - | + - 0.00050 | 0.00005 | 3.0 |
| 200 | .006 - 10" | 0.000200 | 0.000400 | - | + - 0.00100 | - | 8.0 |
| 500 | .006 - 10" | 0.000500 | 0.001000 | - | + - 0.00200 | - | - |
| 1000 | .006 - 10" | 0.001000 | 0.002000 | - | + - 0.00500 | - | - |