

# VALETTE & GAURAND

## INDUSTRIE

### BALL TOLERANCES

Grade	Diameter variation $\mu\text{m}$	Lot variation $\mu\text{m}$	Roundness $\mu\text{m}$ / max	Roughness Ra $\mu\text{m}$ / max	Norm reference
5+	+/- 5	0.20	0.10	0.010	VGI norm
5	+/- 5.63	0.25	0.13	0.014	DIN 5401
10+	+/- 9	0.4	0.20	0.014	VGI norm
10	+/- 9.75	0.5	0.25	0.020	DIN 5401
20+	+/- 10	0.8	0.40	0.025	VGI norm
20	+/- 11.5	1	0.5	0.032	DIN 5401
40+	+/- 16	1.4	0.7	0.040	VGI norm
40	+/- 19	2	1	0.060	DIN 5401
50V (glass balls)	+/- 10	4	1.2	0.25	VGI norm
80	+/- 20	4	2	0.100	VGI norm
100	+/- 12.5	5	2.5	0.125	AFBMA 10-1989
200	+/- 25	10	5	0.200	AFBMA 10-1989
500P	+/- 20	13	5	0.100	VGI norm
500	+/- 50	25	13	-	AFBMA 10-1989
1000P	/- 25	25	10	0.200	VGI norm
1000	+/- 125	50	25	-	AFBMA 10-1989
5000+	+/- 200	100	-	-	VGI norm