KGM
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Johannisstraße 35 D-36041 Fulda Tel. +49 661 10940 Fax +49 661 1094274 www.kgm-kugelfabrik.de info@kgm-kugelfabrik.de

Standard materials

Material		Diameter mm		Surface hardness				Ball grade													
No.	Name	from	to					G3	G5	G10	G16	G20	G28	G40	G80	G100	G200	G300	G500	G600	G700
Material group 1: Roller bearing steels, hardened (except for stainless steel grades) - weighting factor[1)] 1																					
B1 (1.3505) ∅ ≤ 38.2 mm B3 (1.3520) ∅ ≤ 117.5 mm B6 (1.3536) ∅ ≤ 200.0 mm B8 (1.3539) ∅ ≤ 350 mm	100Cr6 100CrMnSi6-4 100CrMo7-3 100CrMnMoSi8-4-6	-	12.7	740	to	900	HV10		X	X	X		X		X		X		X	X	
		12.7	25.4							X	X		X		X		X		X	X	
	100CrMnSi6-4	25.4	38.1	60	to	66	HRC					X	X			X			X		
		38.1	50.8										X	X		X			X		
	100CrMo7-3	50.8	70	59	to	65	HRC							X		X			X		
	100CrMnMoSi8-4-6	70	100	57	to	63	HRC									X			X		
		100	120														X				
		120	150	55	to	61	HRC										X				
Material group 2: Roller bearing steels, hardened, stainless - weighting factor[1)] 0.98																					
B50 (1.3541)	X47Cr14	-	12.7	580	to	700	HV10								X				X		
		12.7	25.4	54	to	60	HRC								X				X		
		25.4	38.1													X					
		38.1	50.8													X					
		50.8	70													X					
		70	100														X				
1.3543 1.3549	X108CrMo17 X89CrMoV18-1	-	12.7	640	to	780	HV10								X						
		12.7	25.4	57	to	63	HRC								X						
		25.4	38.1													X					

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Material group 3: Stainless steels, hardened - weighting factor1) 0.98

1.4034	X46Cr13	-	12.7	580	to	700	HV10					X			X				X		
		12.7	25.4	54	to	60	HRC								X				X		
		25.4	38.1													X					
		38.1	50.8													X					
		50.8	70														X				
		70	100														X				
1.4112 1.4125 ZZZ	90CrMoV18 X105CrMo17	-	12.7	640	to	780	HV10								X						
		12.7	25.4	55	to	60	HRC								X						
		25.4	50.8													X					
B 51 (1.4037)	X65Cr13														X				X		

Material group 4: Stainless steel, not hardenable - weighting factor[1)] 1.01

1.4016	X6Cr17	-	5	280	to	380	HV10[2)]														
1.4021	X20Cr13																				
1.4104	X12CrMoS17																				
1.4301	X5CrNi18-10																				
1.4303	X5CrNi1812															X	X	X			
1.4401	X5CrNiMo17-12-2	5	25.4	280	to	380	HV10[2)]									X	X				
1.4404	X2CrNiMo1712	25.4	70	280	to	380	HV10[2)]									X					
1.4571	X6CrNiMoTi7-12-2																				
2.4610	Hastelloy C4																				
2.4603	Hastelloy X																				

Material group 5: Unalloyed steels, hardened - weighting factor[1)] 1

1.0616	C86D	-	20	700	to	860	HV10								X		X		X		
1.0413[8)]	D15-2	-	25.4																X		

Material group 6: Unalloyed steels, not hardenable - weighting factor[1)] 1

1.0010	D9	-	25.4	100	to	350	HV10[2)]												X		
1.0715	11SMn30	-	25.4																X		
1.1132	C15E2C	-	25.4	120	to	180	HV10												X		

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1.0304	C9D	-	25.4	120	to	260	HV10												X		

Special materials

Material group 7: Copper-zinc alloy (brass) - weighting factor[1)] 1.09

CW508L	CuZn37	-	25.4	120	to	280	HB											X			
		25.4	50.8															X			
		50.7	75																X		

Material group 8: Copper-tin alloy (bronze) - weighting factor[1)] 1.12

Copper	E-Cu 99.9%			110	to	180	HB											X			
CW453K	CuSn8	-	25.4	120	to	280	HB											X			
		25.4	50.8															X			
		50.8	75																X		

Material group 9: Sintered materials

Ceramic	Si3N4[3)]	-	25.4	1550	to	1900	HV10		X	X											
Hard metal	94WC6Co[4)]	-	12.7	1500	to	1700	HV10		X	X	X										

Material group 10: Light metals - weighting factor[1)] 0.3

3.0735	Pure titanium[5)]			130	to	180	HB														
EN AW-1098	EN AW-Al 99.98	-	3	30	to	50	HB										X	X			
EN AW-2017A	EN AW-AlCu4MgSi(A)	3	6	120	to	175	HB										X	X			
EN AW-6082	EN AW-AlSi1MgMn	6	15	100	to	140	HB											X			
EN AW-7075	EN AW-AlZn5.5MgCu	15	50	140	to	185	HB												X		

Material group 11: Glasses - weighting factor[1)] 0.32

Soft glass		-	9.525		approx.	45	HRC										X				
Hard glass		9.525	25															X			

Material group 12: Plastics - weighting factor[1)] 0.1

Polyamide 66, polyacetal Polyether ether ketone	PA [7)] POM[7)] PEEK[7)]	-	5														X				
		5	25															X			
		22.5	100																X		
Polypropylene, polytetrafluoroethylene	PP[7)] PTFE[6) 7)] - Teflon	-	10															X			
		10	50																X		

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Polyurethane	PUR[7]	-	10															X			
		10	50																		

[1] The approximate weighting factor is based on a specific density of 7.85kg/dm³.
[2] Not thermally hardened. Strain-hardened during processing.
[3] Approx. weighting factor 0.4
[4] Approx. weighting factor 1.9
[5] Approx. weighting factor 0.57
[6] Approx. weighting factor 0.27
[7] Shape and dimensional tolerances according to the grade. Surface finish by arrangement.
[8] Case-hardened