

# Plastic Ball Bearings

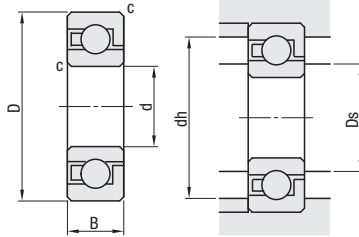
## Plastic Ball Bearings (Water Resistant, Nonmagnetic)



RoHS 10

UKB6    ZZ  
PTN6    ZZ  
PKB6    ZZ

(Installation Diagram)



Type	Material			Operating Temp.
	Main Body/Retainer	Rolling Element		
UKB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ZZ	UHMW	Soda-lime Glass		-50°C~+60°C
PTN6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ZZ	PTFE	Alumina Ceramics		-40°C~+150°C
PKB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ZZ	PEEK	Alumina Ceramics		-50°C~+180°C

As the resin part may expand due to temperature, these specifications have a large clearance.

Part Number	Type	Bearing No.	d		D		B		c	Relative Dimensions			Allowable Load (kgf/1 pc.)			Allowable Rotational Speed (rpm)			Mass (g) (Reference)			Unit Price		
			(min)	(max)	(min)	(max)	(min)	(max)		(min)	(max)	(min)	(max)	(min)	(max)	(min)	(max)	(min)	(max)	(min)	(max)	(min)	(max)	(min)
UKB Water Resistant, Nonmagnetic	624ZZ	4			13				0.3	5	6	12	0.29	-	-	1120(3140)	-	-	0.55	-	-	-	-	-
		5			16		5	6		7.4	14	0.6	0.4	1.5	900(2540)	540	1800	0.9	1.9	1.3	-	-	-	
	605ZZ	14						6		9	17	0.7	0.5	1.5	760(2140)	450	1500	1.5	3.1	2.0	-	-	-	
	626ZZ	19						7		8.4	16	0.7	-	-	830(2320)	-	-	1.2	-	-	-	-	-	
	606ZZ	17						8		7.8	14	0.5	-	-	900(2540)	-	-	0.75	-	-	-	-	-	
	696ZZ	15		+0.08	5			9		12	22	1.3	0.8	2.8	600(1670)	350	1200	3.2	6.7	4.4	-	-	-	-
	628ZZ	24	0	8				10		10.7	20	1.3	-	-	630(1780)	-	-	2.4	-	-	-	-	-	-
	608ZZ	22						12		10.6	18	0.6	-	-	700(1980)	-	-	1.3	-	-	-	-	-	-
	698ZZ	19						14		15.3	28	2.2	-	-	460(1300)	-	-	5.6	-	-	-	-	-	-
	PTN PTFE Heat Resistant, Chemical Resistant	600ZZ	10			26		8			12	13.8	24	1.3	0.8	3.0	520(1470)	310	1000	3.5	7.7	5.1	-	-
690ZZ			22			6			14	12.6	21	1.3	-	-	590(1670)	-	-	1.9	-	-	-	-		
6201ZZ		32	+0.1	10				17	16.3	30	2.5	-	-	430(1210)	-	-	7	-	-	-	-	-		
6001ZZ		28			8			19	15.5	26	1.6	1	4.0	470(1330)	280	950	4	8.5	5.6	-	-	-		
6901ZZ		24			6			22	14.8	21	1.2	-	-	530(1480)	-	-	1.9	-	-	-	-	-		
6202ZZ		35	+0.1	11				20	19.4	33	3	-	-	380(1070)	-	-	8.8	-	-	-	-	-		
PKB PEEK Heat Resistant, Chemical Resistant	6002ZZ	15			28	0	9		14	18.2	26	1.6	-	-	440(1240)	-	-	3	-	-	-	-	-	
		6902ZZ	32	+0.08	7				17	22.6	38	4	-	-	330(930)	-	-	12.8	-	-	-	-	-	
	6203ZZ	40	+0.12	12				19	21	33	3	1.8	6.5	360(1000)	220	730	7.3	14.2	9.4	-	-	-		
	6003ZZ	35	+0.1	10				22	20	28	2	-	-	400(1130)	-	-	3.3	-	-	-	-	-		
	6903ZZ	30			7			20	26.5	43	5	-	-	280(790)	-	-	20	-	-	-	-	-		
	6204ZZ	47	+0.12	14				0.5	22	25	38	3.6	2.3	8.0	300(860)	180	610	12.6	24.6	16.2	-	-	-	
6004ZZ	42	0	12				0.3	22	23.6	35	3.3	-	-	330(930)	-	-	6.8	-	-	-	-	-		
6904ZZ	37	+0.1	9																					

Note that sizes without Unit Price shown are not available.

kgf=Nx0.101972

The tolerance above is the dimension at standard temperature 24°C±1°C at the time of manufacture. The allowable values are for reference, not guaranteed.

Soda-lime glass may be broken when temperature changes rapidly. Exporting PKB6    ZZ (Material PEEK) requires export application to the Ministry of Economy, Trade and Industry.

Ordering Example: Part Number UKB6002ZZ

### Characteristic Values of Plastic Ball Bearing Material

Item	UHMW	PEEK	PTFE	Soda-lime Glass	Alumina Ceramics
Specific Gravity	0.94	1.32	2.14~2.20	2.5	3.9
Tension Strength (kgf/cm <sup>2</sup> )	460	1000	210~350	600	-
Elongation (%)	400	20	200~400	-	-
Compression Strength (kgf/cm <sup>2</sup> )	-	1210	120	9000	25000
Compression Elasticity Modulus (kgf/cm <sup>2</sup> )	9170	42000	4200	-	-
Bending Strength (kgf/cm <sup>2</sup> )	250	1730	-	-	-
Izod Impact Strength Test	Does not break	20	15.8	-	-
Hardness	R Scale 56	R Scale 120	Durometer D 50~55	Mohs Hardness 6.5	Vickers Hardness 1800(kgf/mm <sup>2</sup> )
Deflection Temperature under Load (°C) 0.45MPa	80(0.45MPa)	155(1.82MPa)	-	-	-
Thermal Linear Expansion Coefficient	1.7x10 <sup>-4</sup>	5.0x10 <sup>-5</sup>	12.4x10 <sup>-5</sup>	-	7.8x10 <sup>-6</sup>
Heat Resistance Temperature (°C)	-100~80	-50~250	-40~260	-50~60	-50~1600

Listed values are for reference, not guaranteed.

### Performance Comparison of Bearings for Special Environment

Part Number	Inner/Outer Rings	Shield	Rolling Element	Retainer	Low Dust Generation	Abrasion Resistance	Corrosion Resistance and Chemical Resistance						Heat Resistance	Vacuum/Insulation	Non-magnetic	Heavy Load	High Rotational Speed	
							Acid	Alkali	Solvent	Seawater	Water							
UKB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ZZ	UHMW	-	Soda-lime Glass	UHMW	○	○	△	△	△	×	○	○	○	○	×	○	×	×
PKB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ZZ	PEEK	-	Alumina Ceramics	PEEK	○	○	○	○	○	○	○	○	○	○	×	○	×	×
PTN6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ZZ	PTFE	-	Alumina Ceramics	PTFE	△	△	○	○	○	○	○	○	○	○	×	○	×	×

The service life may be shortened drastically when used in conditions where the product is soaked in corrosive solution.

Well Suited ○ Good △ Questionable × Not Suitable