Bearing clearance

Bearing clearance is the degree by which one bearing ring shifts into the other from a limit position in the radial direction (radial clearance) or in an axial direction (axial clearance). Bearings that do not have the normal clearance are

designated with the suffixes C1 to C5:

C1 bearing clearance smaller than C2
C2 bearing smaller than normal
CN Normal bearing clearance, CN is normally only used in combination with another letter, that indicates constricted and/or displaced bearing clearance.
C3 bearing clearance bigger than normal
C4 bearing bigger than C3
C5 bearing bigger than C4

Radial bearing clearance of grooved ball bearings with cylindrical drill-hole (C2-C5 only):

Nominal range of the bore d (inner diameter) in mm		Radial clearance in µm (1 µm = 0.001 mm)									
		C2		CN		C3		C4		C5	
above	until	min	max	min	max	min	max	min	max	min	max
2,5	6	0	7	2	13	8	23	-	-	-	-
6	10	0	7	2	13	8	23	14	29	20	37
10	18	0	9	3	18	11	25	18	33	25	45
18	24	0	10	5	20	13	28	20	36	28	48
24	30	1	11	5	20	13	28	23	41	30	53
30	40	1	11	6	20	15	33	28	46	40	64

The axial clearance of a ball bearing always results from the radial play. Depending on the interior construction, it totals 8.5 to 10 times the radial axial clearance.

The axial play is of construction-related relevance if a defined axial stroke is necessary for the crankshaft.