

BEARING CLEARANCE AND WORKING CLEARANCE

Excellent working of revolving bearing depends on a correct working clearance. It is established by radial clearance and by its modifications in consequence of the assembling interference and of the temperature during the work.

RADIAL BEARING CLEARANCE

Radial bearing clearance is determined by the radial movement of the inside ring in relation to the external ring. Radial bearing clearance is distinct in 4 categories (see table 1. 1)

TECOM cylindrical roller bearings built with CN clearance guarantees a correct working clearance in conditions of normal work and recommended assembling tolerances.

C3 and C4 radial clearances take into consideration bearings of larger dimensions, subjected to very high loads and also when there is great assembling interference and considerable sudden changes of temperature between internal and external rings.

Bearings with C2 radial clearance are employed only in exceptional cases; when there are very high alternate loads. In these last cases it is necessary to check the bearings during operation since they are subjected to higher heating.

The values of CN, C2, C3, C4, radial clearances can be found in table 1.2.

The requested bearing clearance, with the exception of CO, must be specified with the order.

Table 1.1 Groups of the radial clearance of the bearings

| Field | Details |
|-------|---|
| C2 | Radial clearance of the bearings lower than CN |
| CN | Normal Radial clearance of the bearings |
| C3 | Radial Clearance of the bearings higher than CN |
| C4 | Radial Clearance of the bearings higher than C3 |

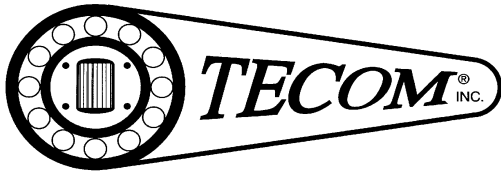


Table 1.2 Radial clearance of the roller thrust bearings

| Nominal diameter of the holes (mm) | Radial clearance of the bearings (um) | | | | | | | | | |
|---------------------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | C2 | | CN | | C3 | | C4 | | |
| d | | C2 | | CN | | C3 | | C4 | | |
| - | 24 | 0 | 25 | 20 | 45 | 35 | 60 | 50 | 75 | |
| 24 | 30 | 0 | 25 | 20 | 45 | 35 | 60 | 50 | 75 | |
| 30 | 40 | 5 | 30 | 25 | 50 | 45 | 70 | 60 | 85 | |
| 40 | 50 | 5 | 35 | 30 | 60 | 50 | 80 | 70 | 100 | |
| 50 | 65 | 10 | 40 | 40 | 70 | 60 | 90 | 80 | 110 | |
| 65 | 80 | 10 | 45 | 40 | 75 | 65 | 100 | 90 | 125 | |
| 80 | 100 | 15 | 50 | 50 | 85 | 75 | 110 | 105 | 140 | |
| 100 | 120 | 15 | 55 | 50 | 90 | 85 | 125 | 125 | 165 | |
| 120 | 140 | 15 | 60 | 60 | 105 | 100 | 145 | 145 | 190 | |
| 140 | 160 | 20 | 70 | 70 | 120 | 115 | 165 | 165 | 215 | |
| 160 | 180 | 25 | 75 | 75 | 125 | 120 | 170 | 170 | 220 | |
| 180 | 200 | 35 | 90 | 90 | 145 | 140 | 195 | 195 | 250 | |
| 200 | 225 | 45 | 105 | 105 | 165 | 160 | 220 | 220 | 280 | |
| 225 | 250 | 45 | 110 | 110 | 175 | 170 | 235 | 235 | 300 | |
| 250 | 280 | 55 | 125 | 125 | 195 | 190 | 260 | 260 | 330 | |
| 280 | 315 | 55 | 130 | 130 | 205 | 200 | 275 | 275 | 350 | |
| 315 | 355 | 65 | 145 | 145 | 225 | 225 | 305 | 305 | 385 | |
| 355 | 400 | 100 | 190 | 190 | 280 | 280 | 370 | 370 | 460 | |
| 400 | 450 | 110 | 210 | 210 | 310 | 310 | 410 | 410 | 510 | |
| 450 | 500 | 110 | 220 | 220 | 330 | 330 | 440 | 440 | 550 | |

WORKING CLEARANCE

Working clearance is the amount of radial movement of the shaft in comparison with external ring at the assembled bearing.

Working clearance results from decreasing of radial clearance in relation to assembling interferences and to the influence of the temperature.

Decreasing of radial clearance of the assembled bearing, due to assembling is the result of the internal ring expansion and of the external ring contraction.

The difference of temperature between the internal and the external rings, can cause a decreasing or increasing working clearance.

TECOM Inc.

205 St. George Street, Unit 5, Lindsay, Ontario, Canada

T: 705 878 3650 – F: 705 878 5019

www.crbearing.com