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# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

# ISO RECOMMENDATION

# R 465

## ROLLING BEARINGS

## DOUBLE ROW SELF-ALIGNING ROLLER BEARINGS

## RADIAL INTERNAL CLEARANCE

1st EDITION

December 1965





For each individual country the only valid standard is the national standard of that country.

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# BRIEF HISTORY

The ISO Recommendation R 465, *Rolling Bearings — Double Row Self-aligning Roller Bearings—Radial Internal Clearance*, was drawn up by Technical Committee ISO/TC 4, *Rolling Bearings*, the Secretariat of which is held by the Sveriges Standardiseringskommission (SIS).

Work on this question by the Technical Committee began in 1959 and led, in 1961, to the adoption of a Draft ISO Recommendation.

In March 1963, this Draft ISO Recommendation (No. 470) was circulated to all the ISO Member Bodies for enquiry. It was approved by the following Member Bodies :

| | | |
|---|---|---|
| Australia | Greece | Romania |
| Austria | Hungary | Spain |
| Belgium | India | Sweden |
| Canada | Israel | Switzerland |
| Chile | Italy | United Kingdom |
| Czechoslovakia | Japan | U.S.A. |
| France | Netherlands | U.S.S.R. |
| Germany | Poland | Yugoslavia |

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in December 1965, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 465 December 1965

## ROLLING BEARINGS

# DOUBLE ROW SELF-ALIGNING ROLLER BEARINGS

## RADIAL INTERNAL CLEARANCE

Values of the radial internal clearance, as defined in ISO Recommendation R 200,* are given
for cylindrical bore bearings in Table 1 and
for tapered bore bearings in Table 2.

TABLE 1. — **Radial clearance in bearings with cylindrical bore**

Values in microns

| Bearing bore diameter $d$ in millimetres | | Group 2 | | Normal group | | Group 3 | | Group 4 | |
|---|---|---|---|---|---|---|---|---|---|
| over | incl. | limits | | limits | | limits | | limits | |
| | | low | high | low | high | low | high | low | high |
| (14) | 18 | 10 | 20 | 20 | 35 | 35 | 45 | 45 | 60 |
| (18) | 24 | 10 | 20 | 20 | 35 | 35 | 45 | 45 | 60 |
| (24) | 30 | 15 | 25 | 25 | 40 | 40 | 55 | 55 | 75 |
| (30) | 40 | 15 | 30 | 30 | 45 | 45 | 60 | 60 | 80 |
| (40) | 50 | 20 | 35 | 35 | 55 | 55 | 75 | 75 | 100 |
| (50) | 65 | 20 | 40 | 40 | 65 | 65 | 90 | 90 | 120 |
| (65) | 80 | 30 | 50 | 50 | 80 | 80 | 110 | 110 | 145 |
| (80) | 100 | 35 | 60 | 60 | 100 | 100 | 135 | 135 | 180 |
| (100) | 120 | 40 | 75 | 75 | 120 | 120 | 160 | 160 | 210 |
| (120) | 140 | 50 | 95 | 95 | 145 | 145 | 190 | 190 | 240 |
| (140) | 160 | 60 | 110 | 110 | 170 | 170 | 220 | 220 | 280 |
| (160) | 180 | 65 | 120 | 120 | 180 | 180 | 240 | 240 | 310 |
| (180) | 200 | 70 | 130 | 130 | 200 | 200 | 260 | 260 | 340 |
| (200) | 225 | 80 | 140 | 140 | 220 | 220 | 290 | 290 | 380 |
| (225) | 250 | 90 | 150 | 150 | 240 | 240 | 320 | 320 | 420 |
| (250) | 280 | 100 | 170 | 170 | 260 | 260 | 350 | 350 | 460 |
| (280) | 315 | 110 | 190 | 190 | 280 | 280 | 370 | 370 | 500 |
| (315) | 355 | 120 | 200 | 200 | 310 | 310 | 410 | 410 | 550 |
| (355) | 400 | 130 | 220 | 220 | 340 | 340 | 450 | 450 | 600 |
| (400) | 450 | 140 | 240 | 240 | 370 | 370 | 500 | 500 | 660 |
| (450) | 500 | 140 | 260 | 260 | 410 | 410 | 550 | 550 | 720 |
| (500) | 560 | 150 | 280 | 280 | 440 | 440 | 600 | 600 | 780 |
| (560) | 630 | 170 | 310 | 310 | 480 | 480 | 650 | 650 | 850 |
| (630) | 710 | 190 | 350 | 350 | 530 | 530 | 700 | 700 | 920 |
| (710) | 800 | 210 | 390 | 390 | 580 | 580 | 770 | 770 | 1010 |
| (800) | 900 | 230 | 430 | 430 | 650 | 650 | 860 | 860 | 1120 |
| (900) | 1000 | 260 | 480 | 480 | 710 | 710 | 930 | 930 | 1220 |

* ISO Recommendation R 200, *Rolling Bearings — Internal Clearance in Unloaded Bearings — Definitions.*