

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 1646

ROLLING BEARINGS

**iTeh STANDARD PREVIEW**  
**DOUBLE ROW SELF-ALIGNING BALL BEARINGS**  
**(standards.iteh.ai)**

**RADIAL INTERNAL CLEARANCE**

ISO/R 1646:1970

<https://standards.iteh.ai/catalog/standards/sist/42d9128f-58c6-4704-a310-6844ca6bf18e/iso-r-1646-1970>

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ROLLING BEARINGS

DOUBLE ROW SELF-ALIGNING BALL BEARINGS

RADIAL INTERNAL CLEARANCE

1. SCOPE

This ISO Recommendation gives the values of the radial internal clearance for double row self-aligning ball bearings. The radial clearance is defined in ISO Recommendation R 200, *Rolling bearings – Internal clearance in unloaded bearings – Definitions* : section 1. The values for bearings with cylindrical bore are given in Table 1 and those for bearings with tapered bore in Table 2.

2. RADIAL INTERNAL CLEARANCE

TABLE 1 – Radial clearance in unloaded bearings with cylindrical bore

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Clearance values in micrometres

Bore diameter <i>d</i> millimetres		Group 2		Normal Group		Group 3		Group 4	
		Low	High	Low	High	Low	High	Low	High
Over	Incl.								
2.5	6	1	5	5	10	10	15	15	21
6	10	2	6	6	12	12	19	19	27
10	14	2	6	6	13	13	21	21	30
14	18	3	8	8	15	15	23	23	32
18	24	4	10	10	17	17	25	25	34
24	30	5	11	11	19	19	29	29	40
30	40	6	13	13	23	23	34	34	46
40	50	6	14	14	25	25	37	37	50
50	65	7	16	16	30	30	45	45	65
65	80	8	18	18	35	35	54	54	76
80	100	9	22	22	42	42	64	64	89
100	120	10	25	25	50	50	75	75	105
120	140	10	30	30	60	60	90	90	130
140	160	15	35	35	70	70	110	110	150

TABLE 2 - Radial clearance in unloaded bearings with tapered bore

Clearance values in micrometres

Bore diameter <i>d</i> millimetres		Group 2		Normal Group		Group 3		Group 4	
Over	Incl.	Low.	High	Low	High	Low	High	Low	High
18	24	7	13	13	20	20	28	28	37
24	30	9	15	15	23	23	33	33	44
30	40	12	19	19	29	29	40	40	52
40	50	14	22	22	33	33	45	45	58
50	65	18	27	27	41	41	56	56	76
65	80	23	33	33	50	50	69	69	91
80	100	29	42	42	62	62	84	84	109
100	120	35	50	50	75	75	100	100	130
120	140	40	60	60	90	90	120	120	160
140	160	45	65	65	100	100	140	140	180

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## BRIEF HISTORY

The ISO Recommendation R 1646, *Rolling bearings – Double row self-aligning ball 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 led to the adoption of Draft ISO Recommendation No. 1646, which was circulated to all the ISO Member Bodies for enquiry in November 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Israel	Sweden
Canada	Italy	Switzerland
Chile	Korea, Rep. of	Turkey
Czechoslovakia	Netherlands	U.A.R.
France	Peru	United Kingdom
Germany	Poland	U.S.S.R.
Greece	Romania	

The following Member Body opposed the approval of the Draft :  
<https://standards.iteh.ai/catalog/standards/sist/42d9128f-58c6-4704-a310-6844ca6bf18e/iso-r-1646-1970>

Japan

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