ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 355

PART IV

ROLLING BEARINGS

TAPERED ROLLER BEARINGS

BOUNDARY DIMENSIONS

SUB-UNITS

INCH SERIES

1st EDITION
September 1968

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 355, Part IV, *Rolling bearings – Tapered roller bearings – Boundary dimensions – Sub-units – Inch series,* 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 1962 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In January 1965, this Draft ISO Recommendation (No. 641) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	Germany	Poland
Australia	Hungary	Romania
Brazil	India	Sweden
Canada	Israel	Switzerland
Czechoslovakia	Italy	U.A.R.
Finland	Japan	United Kingdom
France	Netherlands	U.S.A.

One Member Body opposed the approval of the Draft :

U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in September 1968, to accept it as an ISO RECOMMENDATION.

ROLLING BEARINGS

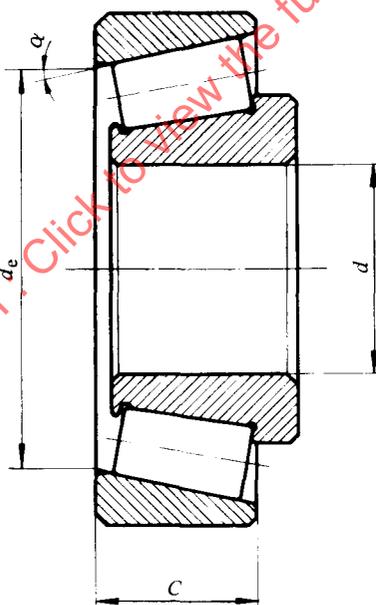TAPERED ROLLER BEARINGS

BOUNDARY DIMENSIONS

PART IV

SUB-UNITS
INCH SERIES

1. SCOPE

The sub-units of tapered roller bearings consist of outer ring (cup unit) and inner ring, roller and cage assembly (cone unit). The boundary dimensions and tolerances of the complete bearings are given in relevant ISO Recommendations. In this ISO Recommendation only the additional sub-unit boundary dimensions are given with reference to the bearing bore diameter and dimension series.

2. SYMBOLS AND ABBREVIATIONS

d =   bearing bore diameter

α =   bearing angle of contact

d_e =   small inside diameter of outer ring

C =   outer ring width

The bearing line numbers refer to ISO Recommendation R 355, Part I : *Rolling bearings – Tapered roller bearings – Boundary dimensions.*

Line 1

Dimensions in inches

Bore diameter d	α	d_e	C	Bore diameter d	α	d_e	C
0.625	18° 0′	1.080 63	0.3125	2.250	14°31′	2.916 71	0.5937
0.750	19°21′	1.145 03	0.3437	2.500	15°48′	3.139 65	0.6875
0.875	13°58′	1.487 54	0.4375	2.750	17°11′	3.594 75	0.7500
1.000	15° 0′	1.597 75	0.4062	3.000	10°17′	3.960 27	0.9375
1.125	16°20′	1.736 38	0.4062	3.500	10°10′	4.490 86	1.0000
1.250	15°22′	1.887 54	0.4650	4.000	10°10′	5.040 85	1.1250
1.375	14° 5′	2.093 51	0.5500	4.500	11° 5′	5.821 02	1.2500
1.500	15° 0′	2.230 75	0.5538	5.000	11°30′	6.286 05	1.3125
1.750	11°59′	2.425 05	0.5938	5.500	12°38′	6.883 69	1.3437
2.000	13°20′	2.697 27	0.5625	6.000	13°23′	7.286 17	1.3125

Line 2

Dimensions in inches

Bore diameter d	α	d_e	C	Bore diameter d	α	d_e	C
0.625	11°42′30″	1.254 53	0.4375	2.250	12°36′	3.400 53	0.9687
0.750	11°20′	1.399 25	0.4750	2.500	15° 0′	3.596 59	0.9375
0.875	11° 1′	1.636 86	0.5625	2.750	13°38′	4.101 56	1.1250
1.000	11°35′	1.713 21	0.6250	3.000	15° 4′	4.526 71	1.1250
1.125	13° 9′	1.960 30	0.6250	3.500	16°25′	4.851 11	1.1875
1.250	12°44′	2.113 61	0.6875	4.000	17°25′	5.407 97	1.1875
1.375	10°57′	2.313 77	0.7500	4.500	18°59′	5.881 53	1.1875
1.500	11°26′	2.390 68	0.7500	5.000	12°55′	6.745 27	1.5000
1.750	12°35′	2.654 53	0.7500	5.500	18° 0′	7.169 15	1.3750
2.000	12°43′	3.001 73	0.9375	6.000	19°20′	7.684 40	1.3750

Line 3

Dimensions in inches

Bore diameter d	α	d_e	C	Bore diameter d	α	d_e	C
0.625	12°27′	1.268 52	0.5313	2.250	11°50′	3.692 55	1.2500
0.750	10°30′	1.569 71	0.5500	2.500	13°34′	4.228 90	1.2500
0.875	12°24′30″	1.829 90	0.5937	2.750	15°15′	4.747 06	1.2500
1.000	13° 9′	1.960 30	0.6250	3.000	12°14′	4.928 15	1.4375
1.125	20° 0′	2.003 90	0.6875	3.500	13°45′	5.497 02	1.5000
1.250	20° 0′	2.023 49	0.9063	4.000	12°35′	6.001 18	1.7500
1.375	20° 0′	2.141 13	0.9063	4.500	12°15′	6.693 31	1.9375
1.500	20° 0′	2.387 71	0.9063	5.000	13°50′	7.566 93	1.9375
1.750	20° 0′	2.845 92	0.9063	5.500	15°11′	8.288 57	1.8750
2.000	18° 0′	3.168 45	1.1250	6.000	12°41′	9.001 78	2.0000

Line 4

Dimensions in inches

Bore diameter d	α	d_e	C	Bore diameter d	α	d_e	C
0.625	12° 9′	1.494 80	0.6250	2.250	12°12′30″	4.160 16	1.7500
0.750	13° 0′	1.715 42	0.6875	2.500	18° 0′	4.057 07	1.6875
0.875	9°37′	2.028 33	0.7500	2.750	13°34′	4.592 60	1.7500
1.000	12°30′	2.215 89	0.8750	3.000	11°17′	5.435 44	1.6250
1.125	13°41′30″	2.409 91	0.9375	3.500	12°35′	6.218 98	1.8125
1.250	15° 0′	2.629 47	0.9375	4.000	13°25′	6.603 72	1.8750
1.375	15° 0′	2.822 11	1.0313	4.500	12°50′	7.306 20	2.1250
1.500	10°46′	3.268 75	1.0625	5.000	12° 5′30″	8.135 91	2.4375
1.750	16° 0′	3.320 98	1.3750	5.500	12° 0′	9.411 09	2.2500
2.000	18° 0′	3.729 09	1.3750	6.000	12°16′	10.079 06	2.6250

Line 5

Dimensions in inches

Bore diameter d	α	d_e	C	Bore diameter d	α	d_e	C
0.625	25° 5′	1.144 32	0.3750	2.250	23°55′	3.722 58	0.9375
0.750	21°30′	1.465 74	0.6250	2.500	30° 0′	3.974 79	0.9260
0.875	23°50′	1.586 87	0.6250	2.750	25°18′	4.828 33	1.2500
1.000	26° 0′	1.760 52	0.6250	3.000	25° 0′	5.020 28	1.4375
1.125	21°52′	2.081 85	0.6875	3.500	22°25′	6.100 05	1.6250
1.250	24° 0′	2.252 11	0.6875	4.000	25° 0′	6.982 22	2.0000
1.375	25°30′	2.387 72	0.6563	4.500	22°51′	8.165 99	2.1250
1.500	27°30′	2.565 77	0.6875	5.000	24°15′	8.579 93	2.3125
1.750	26°15′	2.714 35	0.7812	5.500	25°54′	9.141 01	2.2500
2.000	30°30′	3.087 08	0.8125	6.000	28°20′	9.954 46	2.1250