



# SLOVENSKI STANDARD

## SIST ISO 355:2008

01-julij-2008

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SIST ISO 355:2001

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Rolling bearings - Tapered roller bearings - Boundary dimensions and series designations

Wälzlager - Metrische Kegelrollenlager - Grenzabmaße und Serienbezeichnungen

Roulements - Roulements à rouleaux coniques - Dimensions d'encombrement et désignation des séries

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Ta slovenski standard je istoveten z: **ISO 355:2007**

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**Rolling bearings — Tapered roller  
bearings — Boundary dimensions  
and series designations**

*Roulements — Roulements à rouleaux coniques — Dimensions  
d'encombrement et désignation des séries*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 355 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 9, *Tapered roller bearings*.

This second edition cancels and replaces the first edition (ISO 355:1977), which has been technically revised. ISO 355:1977/Add. 1:1980 and ISO 355:1977/Add. 2:1980 have been incorporated.

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# Rolling bearings — Tapered roller bearings — Boundary dimensions and series designations

## 1 Scope

This International Standard specifies bearing and subunit boundary dimensions for complete single-row and double-row tapered roller bearings. It also specifies the flange dimensions of flanged outer rings for a selection of these bearings. A series designation for each bearing is also specified.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 492:2002, *Rolling bearings — Radial bearings — Tolerances*

ISO 582:1995, *Rolling bearings — Chamfer dimensions — Maximum values*

ISO 1132-1:2000, *Rolling bearings — Tolerances — Part 1: Terms and definitions*

ISO 5593:1997, *Rolling bearings — Vocabulary*

ISO 15241:2001, *Rolling bearings — Symbols for quantities*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1132-1 and ISO 5593 apply.

## 4 Symbols

For the purposes of this document, the symbols given in ISO 15241 and the following apply.

The symbols shown in Figures 1 to 4 and the values given in Tables 4 to 16 denote nominal dimensions unless specified otherwise.

$B$	inner ring width, single-row bearing
$B_1$	bearing width, double-row bearing
$C$	outer ring width, single-row bearing
$C_1$	width of double outer ring, or width over two single outer rings and spacer
$C_2$	width of outer ring flange

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- $D$  outside diameter of outer ring
- $D_1$  outside diameter of outer ring flange
- $d$  bore diameter of inner ring
- $E$  inside diameter of outer ring back face
- $h_1$  height of outer ring flange
- $r$  chamfer dimension of inner ring back face
- $r_{s\ min}$  smallest single chamfer dimension of inner ring back face
- $r_1$  chamfer dimension of outer ring back face
- $r_{1s\ min}$  smallest single chamfer dimension of outer ring back face
- $r_2$  chamfer dimension of inner ring and outer ring front face
- $T$  bearing width, single-row bearing
- $\alpha$  contact angle

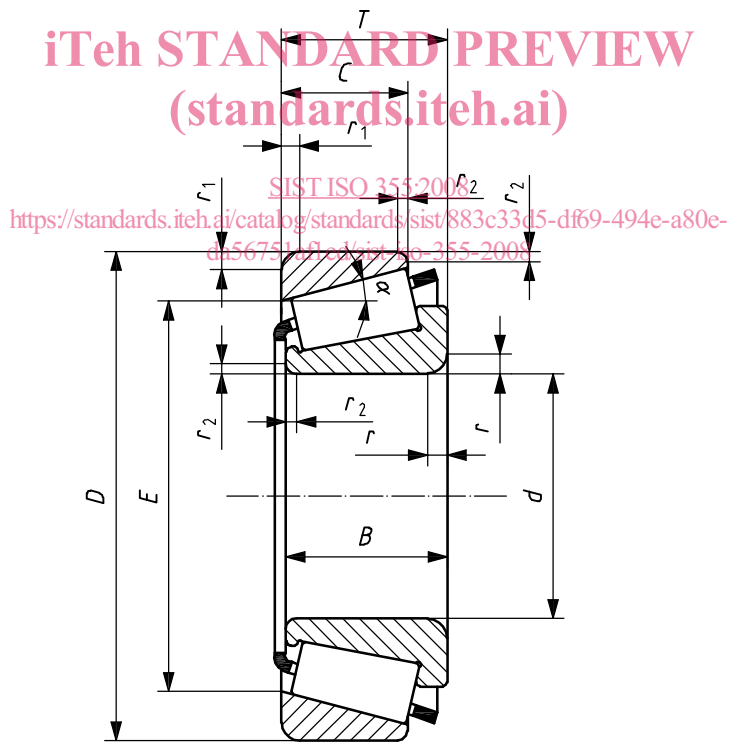
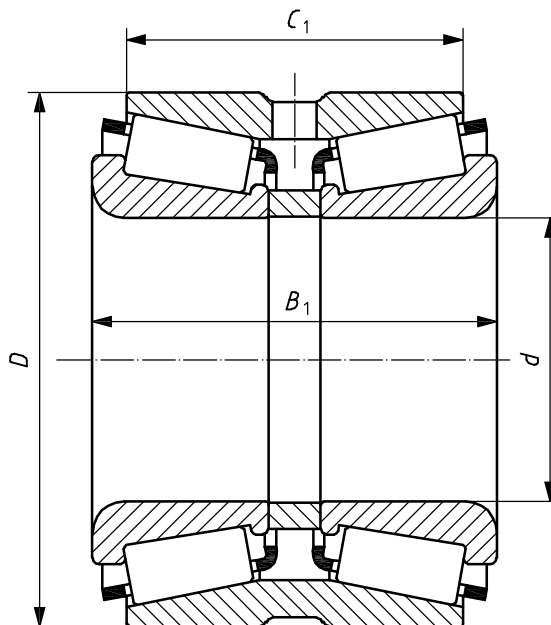


Figure 1 — Single-row tapered roller bearing

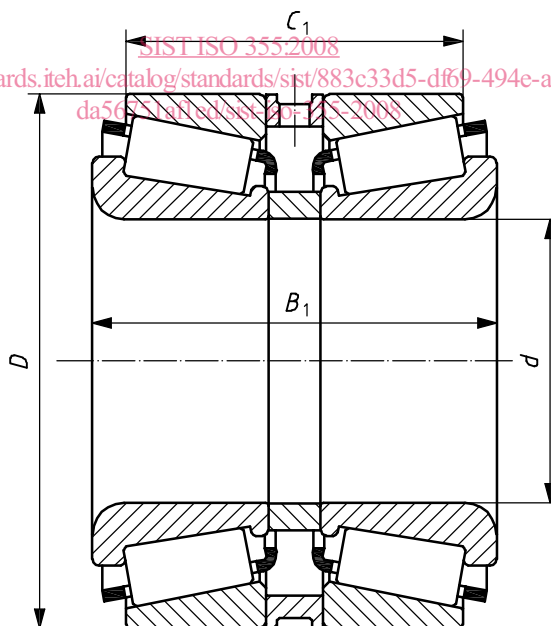




NOTE The double-row bearing outer ring may, or may not, have a lubrication groove and holes.

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**Figure 2 — Double-row tapered roller bearing with double outer ring**



NOTE The double-row bearing outer spacer may, or may not, have a lubrication groove and holes.

**Figure 3 — Double-row tapered roller bearing with two single outer rings and spacer**

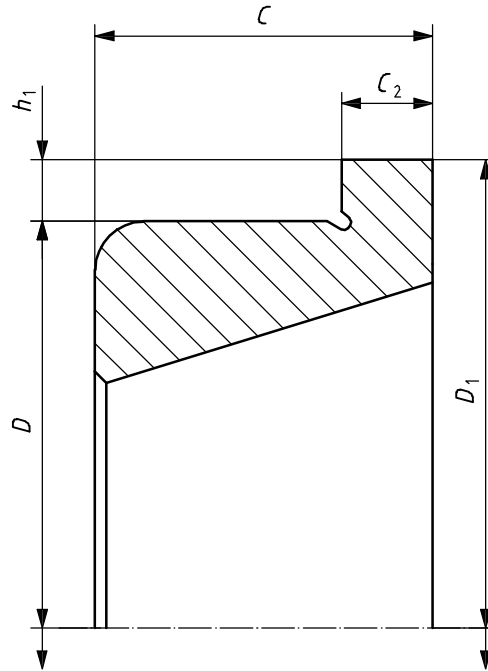


Figure 4 — Single-row tapered roller bearing with flanged outer ring

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**5 Series designations**

Each bearing whose dimensions are given in this International Standard is referred to a dimension series. The dimension series is designated by a combination of three symbols, for example 2AC.

The first symbol is a numeric character, which represents a range of contact angles: contact angle series.

The second symbol is an alphabetic character, which represents a range of numeric values for the outside diameter to bore relationship: diameter series.

The third symbol is an alphabetic character, which represents a range of numeric values for the width to height relationship of a single-row bearing: width series.

The designations for the standardized bearings conform generally with the angle ranges and the numeric values for the relationships given in Tables 1 to 3. In some cases, an exception has been made to avoid the condition that the same designation be used for two different bearings with the same bore diameter.

The series designations shown in this clause shall not be applied to bearings other than those specified in Clause 6.

**Table 1 — Designation of contact angle series**

Designation of contact angle series	$\alpha$	
	>	$\leq$
1	Reserved for future use	
2	10°	13° 52'
3	13° 52'	15° 59'
4	15° 59'	18° 55'
5	18° 55'	23°
6	23°	27°
7	27°	30°

Table 2 — Designation of diameter series

Designation of diameter series	$\frac{D}{d^{0,77}}$	
	>	≤
A	Reserved for future use	
B	3,4	3,8
C	3,8	4,4
D	4,4	4,7
E	4,7	5
F	5	5,6
G	5,6	7

Table 3 — Designation of width series

Designation of width series	$\frac{T}{(D-d)^{0,95}}$	
	>	≤
A	Reserved for future use	
B	0,5	0,68
C	0,68	0,8
D	0,8	0,88
E	0,88	1

6 Boundary dimensions

6.1 General

The bearing and subunit boundary dimensions given in Tables 4 to 16 are grouped by contact angle series and then listed in ascending order of bore, outside diameter and bearing width. Tolerances for the dimensions are given in ISO 492. Maximum chamfer dimensions are given in ISO 582.

No values are given in this International Standard for the inner ring and outer ring front face chamfer dimension,  $r_2$ , however, the front face corners shall not be sharp.

6.2 Single-row tapered roller bearings

Boundary dimensions for contact angle series 2, 3, 4, 5 and 7 are given in Tables 4, 5, 6, 7 and 8 respectively.

Table 4 — Contact angle series 2

Dimensions in millimetres

$d$	$D$	$T$	$B$	$r_{s \min}^a$	$C$	$r_{1s \min}^a$	$\alpha$	$E$	Dimension series
15	42	14,25	13	1	11	1	10° 45' 29"	33,272	2FB
17	40	13,25	12	1	11	1	12° 57' 10"	31,408	2DB
17	40	17,25	16	1	14	1	11° 45'	31,17	2DD
17	47	15,25	14	1	12	1	10° 45' 29"	37,42	2FB
17	47	20,25	19	1	16	1	10° 45' 29"	36,09	2FD
20	37	12	12	0,3	9	0,3	12°	29,621	2BD
20	45	17	17,5	1	13,5	1	12°	35,815	2DC
20	47	15,25	14	1	12	1	12° 57' 10"	37,304	2DB
20	47	19,25	18	1	15	1	12° 28' 4e-a8De	35,81	2DD
20	50	22	22	2	18,5	1,5	12° 30'	38,063	2ED
20	52	16,25	15	1,5	13	1,5	11° 18' 36"	41,318	2FB
20	52	22,25	21	1,5	18	1,5	11° 18' 36"	39,518	2FD
22	40	12	12	0,3	9	0,3	12°	32,665	2BC
22	47	17	17,5	1	13,5	1	12° 35'	37,542	2CC
22	52	22	22	2	18,5	1,5	12° 14'	40,548	2ED
25	42	12	12	0,3	9	0,3	12°	34,608	2BD
25	47	17	17	0,6	14	0,6	10° 55'	38,278	2CE
25	50	17	17,5	1,5	13,5	1	13° 30'	40,205	2CC
25	52	19,25	18	1	16	1	13° 30'	41,331	2CD
25	52	22	22	1	18	1	13° 10'	40,441	2DE <sup>b</sup>
25	58	26	26	2	21	1,5	12° 30'	44,805	2EE
25	62	18,25	17	1,5	15	1,5	11° 18' 36"	50,637	2FB
25	62	25,25	24	1,5	20	1,5	11° 18' 36"	48,637	2FD
28	45	12	12	0,3	9	0,3	12°	37,639	2BD
28	55	19	19,5	1,5	15,5	1,5	12° 10'	44,888	2CD
28	58	24	24	1	19	1	12° 45'	45,846	2DE
28	65	27	27	2	22	2	12° 45'	50,33	2ED
30	47	12	12	0,3	9	0,3	12°	39,617	2BD
30	55	20	20	1	16	1	11°	45,283	2CE
30	58	19	19,5	1,5	15,5	1,5	12° 50'	47,309	2CD
30	62	25	25	1	19,5	1	12° 50'	49,524	2DE
30	68	29	29	2	24	2	12° 28'	52,696	2EE
30	72	20,75	19	1,5	16	1,5	11° 51' 35"	58,287	2FB
30	72	28,75	27	1,5	23	1,5	11° 51' 35"	55,767	2FD