
International Standard



2795

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Plain bearings made from sintered material — Dimensions and tolerances

Paliers lisses — Coussinets frittés — Dimensions et tolérances

Third edition — 1986-05-15

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2795 was prepared by Technical Committee ISO/TC 123, *Plain bearings*.

This third edition cancels and replaces the second edition (ISO 2795:1979), sub-clauses 2.1 and 2.2 (tolerances) and sub-clause 2.3 (dimensions) of which have been technically revised.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Plain bearings made from sintered material—Dimensions and tolerances

0 Introduction

The sizes given in this International Standard are based on a range of shaft diameters which are considered to correspond to the requirements of industry. For all except the smallest sizes, a thin wall series is provided in addition to the normal series in order to introduce an element of choice and, more importantly, to provide for the possibility of the same sizes being adopted for plain bearings made from other materials. It is envisaged that as far as possible the same outside diameters will be recommended for all types of plain bearings.

This International Standard does not specify the tolerances on the outside diameter and the inside diameter of the bearings in the free state since these differ according to the characteristics of the materials used.

1 Scope and field of application

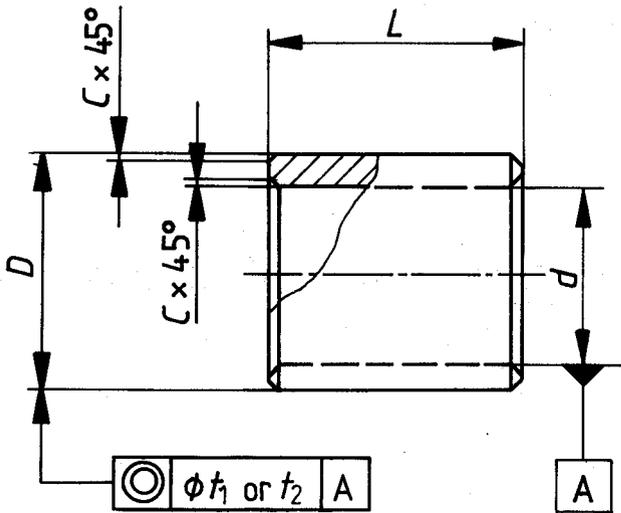
This International Standard specifies dimensions and tolerances applicable to sintered bearings for the following ranges of inside diameters:

- Cylindrical bearings: 1 to 60 mm
- Flanged bearings: 1 to 60 mm
- Spherical bearings: 1 to 20 mm

2 Dimensions and tolerances

Dimensions in millimetres

2.1 Cylindrical bearings



Dimensions in millimetres

Wall thickness $\frac{D-d}{2}$		Chamfer C max.
above	up to and incl.	
—	1	0,2
1	2	0,3
2	3	0,4
3	4	0,6
4	5	0,7
5	—	0,8

Inside diameter d	Outside diameter, D		Length ²⁾ L
	Normal series	Thin series ¹⁾	
1	3		1-2
1,5	4		1-2
2	5		2-3
2,5	6		2-3
3	6	5	3-4
4	8	7	3-4-6
5	9	8	4-5-8
6	10	9	4-6-10
7	11	10	5-8-10
8	12	11	6-8-12
9	14	12	6-10-14
10	16	14	8-10-16
12	18	16	8-12-20
14	20	18	10-14-20
15	21	19	10-15-25
16	22	20	12-16-25
18	24	22	12-18-30
20	26	25	15-20-25-30
22	28	27	15-20-25-30
25	32	30	20-25-30-35
28	36	33(34)	20-25-30-40
30	38	35(36)	20-25-30-40
32	40	38	20-25-30-40
35	45	41	25-35-40-50
38	48	44	25-35-45-55
40	50	46	30-40-50-60
42	52	48	30-40-50-60
45	55	51	35-45-55-65
48	58	55	35-50-70
50	60	58	35-50-70
55	65	63	40-55-70
60	72	68	50-60-70

1) Dimensions in parentheses shall be used as "2nd choice".

2) As from inside diameter 20 mm (included), the last value for the length is not applicable to the thin series.

Tolerances

Housing: H7

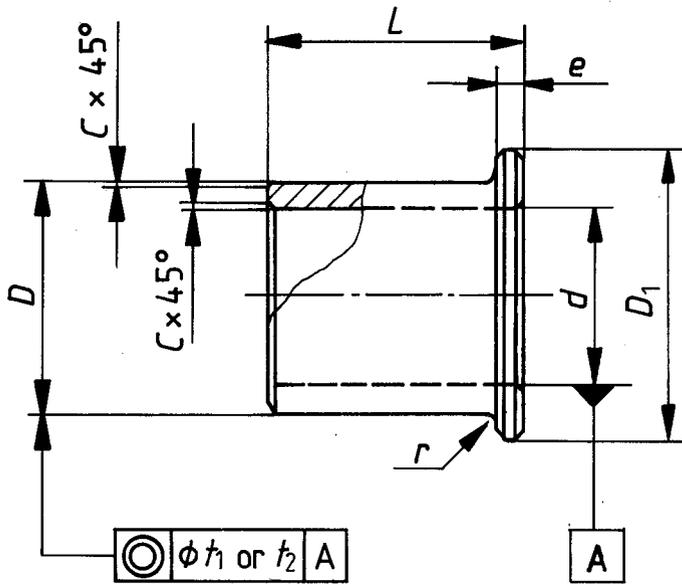
Bearing bore after fitting (assuming the housing is rigid): H7 for $D < 50$ mm
H8 for $D > 50$ mm

Length of bearing: js13

Insertion pin: m5

Coaxiality of the outside surface diameter with respect to the inside surface diameter (tolerance based on the external diameter, D): $t_1 = IT 9$ for $D < 50$ mm
 $t_2 = IT 10$ for $D > 50$ mm

2.2 Flanged bearings



Dimensions in millimetres

Wall thickness $\frac{D-d}{2}$		Chamfer C max.
above	up to and incl.	
—	1	0,2
1	2	0,3
2	3	0,4
3	4	0,6
4	5	0,7
5	—	0,8

Dimensions in millimetres

Outside diameter D		r max.
above	up to and incl.	
—	12	0,3
12	30	0,6
30	—	0,8

Normal series

Dimensions in millimetres

Inside diameter d	Outside diameter D	Flange diameter D ₁	Flange thickness e	Length L
1	3	5	1	2
1,5	4	6	1	2
2	5	8	1,5	3
2,5	6	9	1,5	3
3	6	9	1,5	4
4	8	12	2	3-4-6
5	9	13	2	4-5-8
6	10	14	2	4-6-10
7	11	15	2	5-8-10
8	12	16	2	6-8-12
9	14	19	2,5	6-10-14
10	16	22	3	8-10-16
12	18	24	3	8-12-20
14	20	26	3	10-14-20
15	21	27	3	10-15-25
16	22	28	3	12-16-25
18	24	30	3	12-18-30
20	26	32	3	15-20-25-30
22	28	34	3	15-20-25-30
25	32	39	3,5	20-25-30
28	36	44	4	20-25-30
30	38	46	4	20-25-30
32	40	48	4	20-25-30
35	45	55	5	25-35-40
38	48	58	5	25-35-45
40	50	60	5	30-40-50
42	52	62	5	30-40-50
45	55	65	5	35-45-55
48	58	68	5	35-50
50	60	70	5	35-50
55	65	75	5	40-55
60	72	84	6	50-60

Thin series

Dimensions in millimetres

Inside diameter d	Outside diameter D	Flange diameter D ₁	Flange thickness e	Length L
10	14	18	2	8-10-16
12	16	20	2	8-12-20
14	18	22	2	10-14-20
15	19	23	2	10-15-25
16	20	24	2	12-16-25
18	22	26	2	12-18-30
20	25	30	2,5	15-20-25
22	27	32	2,5	15-20-25
25	30	35	2,5	20-25-30

Tolerances

Housing: H7

Bearing bore after fitting (assuming the housing is rigid): H7 for $D < 50$ mm
H8 for $D > 50$ mm

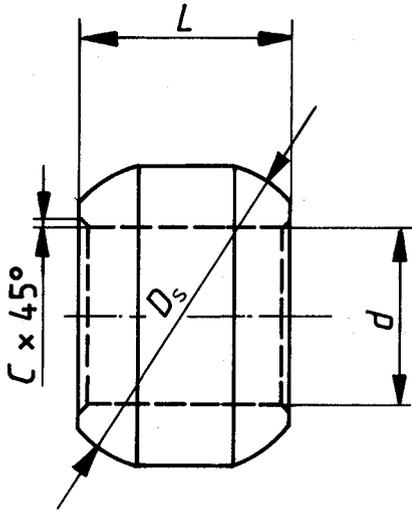
Length of bearing, flange diameter and thickness: js13

Insertion pin: m5

Coaxiality of the outside surface diameter with respect to the inside surface diameter (tolerance based on the external diameter, D): $t_1 = IT 9$ for $D < 50$ mm
 $t_2 = IT 10$ for $D > 50$ mm

2.3 Spherical bearings

Dimensions in millimetres



Inside diameter d	Spherical diameter D_s	Length L	Chamfer C max.
1	3	2	0,3
1,5	4,5	3	
2	5	3	
2,5	6	4	
3	8	6	
4	10	8	
5	12	9	0,5
6	14	10	
7	16	11	
8	16	11	
9	18	12	
10	20	13	
10	22	14	
12	22	15	
14	24	17	
15	27	20	
16	28	20	
18	30	20	
20	36	25	

Tolerances

Inside diameter: H7

Spherical diameter: h11

Length of bearing: js13

Tolerance for the housing diameter should normally be H10 but this depends on the method of assembly. Where an easier fit is preferred for lighter self-alignment, G10 is suggested.

NOTE — A cylindrical surface is permissible on the sphere at the centre of the bearing length, the diameter of which should be agreed between the user and the manufacturer.