

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

Second edition — 1979-10-15

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Descriptors : bearings, plain bearings, sintered products, dimensions, dimensional tolerances.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 2795 was developed by Technical Committee ISO/TC 123, *Plain bearings*. The first edition (ISO 2795-1975) had been approved by the Member Bodies of the following countries :

Egypt, Arab Rep. of	Netherlands	Turkey
France	New Zealand	United Kingdom
Germany, F.R.	Romania	USA
India	South Africa, Rep. of	USSR
Ireland	Spain	
Japan	Thailand	

The member body of the following country expressed disapproval of the document on technical grounds :

Sweden

This second edition, which supersedes ISO 2795-1975, incorporates draft addendum 1, which was circulated to member bodies in August 1978. It has been approved by the member bodies of the following countries :

Australia	Korea, Rep. of	Spain
Chile	Mexico	Sweden
Czechoslovakia	Netherlands	United Kingdom
France	New Zealand	USA
India	Poland	USSR
Italy	South Africa, Rep. of	Yugoslavia

No member body expressed disapproval of the document.

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 important, 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

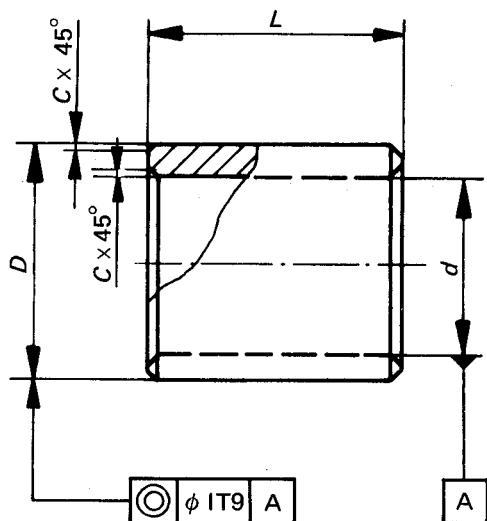
This International Standard specifies dimensions and tolerances applicable to sintered bearings for the following ranges of inside diameters :

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

2 DIMENSIONS AND TOLERANCES

2.1 Cylindrical bearings

Dimensions in millimetres



Dimensions in millimetres

Wall thickness		Chamfer C max.
	≤ 1	0,2
> 1	≤ 2	0,3
> 2	≤ 3	0,4
> 3	≤ 4	0,6
> 4	≤ 5	0,7
> 5		0,8

Inside diameter <i>d</i>	Outside diameter <i>D</i>		Length ²⁾ <i>L</i>
	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 between parentheses shall be used as "2nd choice".

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

TOLERANCES

Housing : H7

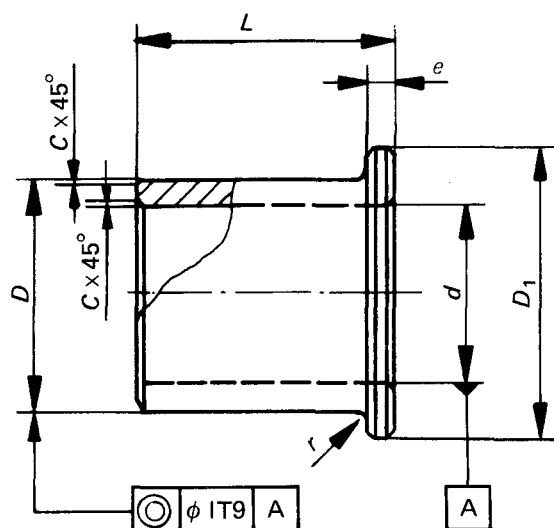
Bore after fitting : H7 (assuming the housing is rigid)

Length : j_s13

Insertion pin : m5

Concentricity of the outside diameter with respect to the inside diameter : IT9 (for the diameter range corresponding to external diameter *D*).

2.2 Flanged bearings



Dimensions in millimetres

Wall thickness	Chamfer C max.
≤ 1	0,2
$> 1 \leq 2$	0,3
$> 2 \leq 3$	0,4
$> 3 \leq 4$	0,6
$> 4 \leq 5$	0,7
> 5	0,8

Dimensions in millimetres

Outside diameter D	r max.
≤ 12	0,3
$> 12 \leq 30$	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

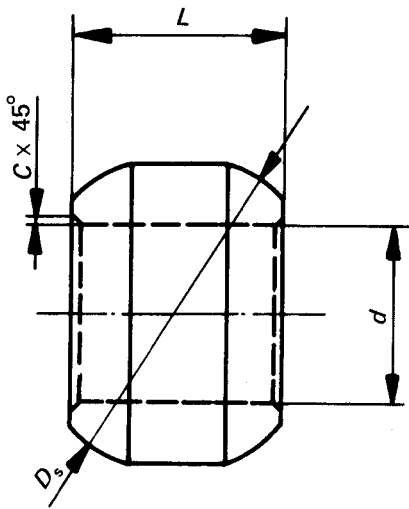
Bore after fitting : H7 (assuming the housing is rigid)

Length of bearing, flange diameter and thickness : j_s13

Insertion pin : m5

Concentricity of the outside diameter with respect to the inside diameter : IT9 (for the diameter range corresponding to external diameter D).

2.3 Spherical bearings



Dimensions in millimetres

Wall thickness		Chamfer C max.
	≤ 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

Inside diameter d	Sphere diameter D_s	Length L
1	3	2
1,5	4,5	3
2	5	3
2,5	6	4
3	8	6
4	10	8
5	12	9
6	14	10
7	16	11
8	16	11
9	18	12
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 : j_s13

Tolerance for 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.