Tolerances for rolling bearings
Chamfer dimension limits

DIN 620-6

ICS 21.100.20

Supersedes October 1993 edition.

Wälzlager – Wälzlagertoleranzen – Teil 6: Grenzmaße für Kantenabstände

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

Foreword

This standard has been prepared by the *Ausschuss Wälzlager* (Rolling Bearings Standards Committee). It conforms in substance to ISO 582:1995.

Amendments

This standard differs from the October 1993 edition in that it has been completely revised.

Previous editions

DIN 620-1: 1942-08, 1963-03, 1978-06, 1982-06; DIN 620-2: 1940-07, 1963-03, 1965-01, 1982-06, 1988-02; DIN 620-6: 1982-06, 1993-10.

All dimensions are in millimetres.

1 Scope

This standard specifies chamfer dimension limits for metric series rolling bearings with cylindrical bore for which boundary dimensions are given in other standards on rolling bearings.

In order to ensure the compatibility of rolling bearing chamfers with the dimensions of parts into which the bearings are fitted, the chamfer dimension limits, of which the minimum values are of primary interest to the bearing designer and user, need to be specified. These limits are of relevance for cross reference purposes.

This standard does not apply to chamfers for which dimensions are not specified in relevant DIN Standards or for which other dimensions are specified in ISO Standards.

Continued on pages 2 to 7.

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original should be consulted as the authoritative text.

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2 Normative references

This standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the titles of the publications are listed below. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

DIN 5418 Mounting dimensions of rolling bearings

ISO 582 : 1995 Rolling bearings – Chamfer dimensions – Maximum values

3 Dimensions and symbols

The radial direction chamfer dimension of a bearing ring is the distance between the imaginary sharp ring corner and the intersection of the chamfer surface and the ring face. The axial direction chamfer dimension of a bearing ring is the distance between the imaginary sharp ring corner and the intersection of the chamfer surface and the bore or outside cylindrical surface of the ring.

NOTE: The exact shape of the chamfer surface is not specified, but its contour in an axial plane shall not be allowed to project beyond the imaginary circular arc of radius $r_{s\,min}$, tangential to the ring face and the bore or outside cylindrical surface of the ring (see figure 1).

Chamfer dimensions shall be as given in figures 1 to 11 and tables 1 to 3.

In the figures,

d is the nominal bore diameter;

D is the nominal outside diameter;

r is the nominal chamfer dimension;

r_s is a single chamfer dimension;

r_1, r_3 and r_5 are radial direction chamfer dimensions;

r_2, r_4 and r_6 are axial direction chamfer dimensions;

$r_{4,a}$ and $r_{6,a}$ are axial direction chamfer dimensions (with reduced maximum values).

Design details left unspecified shall be selected as appropriate.

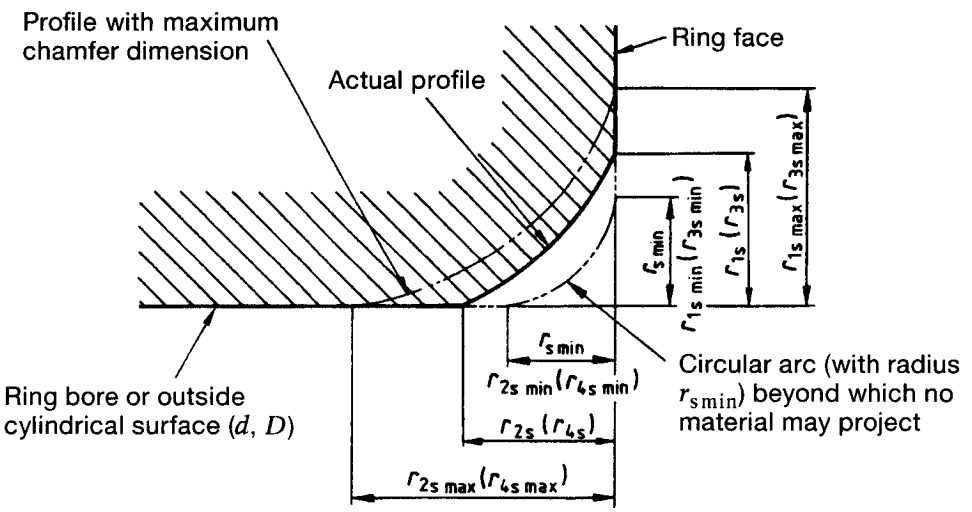

Figure 1: Chamfer profile (notation)

4 Chamfer dimension limits

4.1 General

For chamfers between two specified values, the limits of the next largest chamfer dimension shall apply.

NOTE: In older standards specifying rolling bearing dimensions, the letter r is generally used to denote the chamfer dimensions of bearings with symmetrical cross section. For the specification of upper limits, however, a distinction is to be drawn between radial and axial direction chamfer dimensions.

4.2 Radial bearings (except tapered roller bearings)

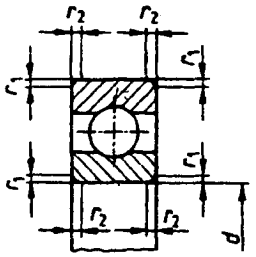

Figure 2: Bearing with symmetrical ring cross section
(equal chamfers on inner and outer rings) (notation)

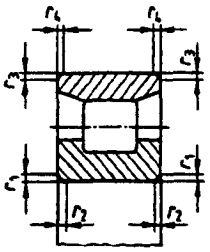

Figure 3: Bearing with symmetrical ring cross section
(different chamfers on inner and outer rings) (notation)

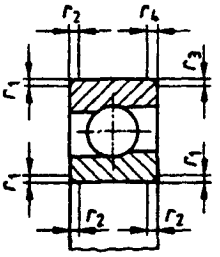

Figure 4: Bearing with asymmetrical ring cross section
(notation)

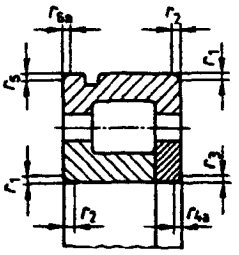

Figure 5: Bearing with snap ring groove on outer ring
(bearing with loose rib) (notation)

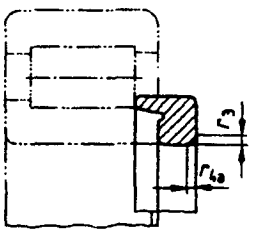

Figure 6: Bearing with separate thrust collar
(notation)