

BS ISO 12297:2012



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Rolling bearings — Steel cylindrical rollers — Dimensions and tolerances

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National foreword

This British Standard is the UK implementation of ISO 12297:2012.

The UK participation in its preparation was entrusted to Technical Committee MCE/7, Rolling bearings.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Rolling bearings — Steel cylindrical rollers — Dimensions and tolerances

Roulements — Rouleaux cylindriques en acier — Dimensions et tolérances



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Foreword

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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 12297 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 5, *Needle, cylindrical and spherical roller bearings*.

Rolling bearings — Steel cylindrical rollers — Dimensions and tolerances

1 Scope

This International Standard specifies requirements for finished steel cylindrical rollers for rolling bearings. The maximum roller diameter is 40 mm.

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

ISO 5593:1997, *Rolling bearings — Vocabulary*

ISO 15241, *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 and the following apply.

3.1

roller diameter

D_w

diameter value used for the general identification of roller diameter

[ISO 5593:1997, definition 05.05.01]

3.2

single roller diameter

D_{ws}

distance between two tangents to the actual surface of a roller parallel to each other and in a radial plane

NOTE Adapted from ISO 5593:1997, definition 05.05.02.

3.3

mean roller diameter in a single plane

D_{wmp}

arithmetical mean of the largest and the smallest of the single roller diameters in a single radial plane

[ISO 5593:1997, definition 05.05.03]

3.4

variation of mean roller diameter

$V_{D_{wmp}}$

difference between the largest and the smallest of the mean roller diameters measured in two radial planes in the cylindrical part of the roller arranged symmetrically to the middle of the roller

3.5 variation of roller diameter in a single plane

V_{Dwsp}

difference between the largest and the smallest of the single roller diameters in a single radial plane

[ISO 5593:1997, definition 05.05.04]

3.6 roller length

L_w

length value used for the general identification of roller length

NOTE Adapted from ISO 5593:1997, definition 05.05.05.

3.7 chamfer dimension

r

roller chamfer dimension value used for reference purposes

3.8 single chamfer dimension

r_s

⟨radial⟩ distance, in a single axial plane, between the imaginary sharp corner of a roller and the intersection of a chamfer surface and the roller end face

NOTE Adapted from ISO 1132-1:2000, definition 5.4.2.

3.9 single chamfer dimension

r_s

⟨axial⟩ distance, in a single axial plane, between the imaginary sharp corner of a roller and the intersection of a chamfer surface and the roller outside diameter surface

NOTE Adapted from ISO 1132-1:2000, definition 5.4.2.

3.10 smallest single chamfer dimension

$r_s \min$

⟨minimum limit⟩ smallest permissible radial and axial single chamfer dimensions of a roller

NOTE Adapted from ISO 1132-1:2000, definition 5.4.3.

3.11 largest single chamfer dimension

$r_s \max$

⟨maximum limit⟩ largest permissible radial and axial single chamfer dimensions of a roller

NOTE Adapted from ISO 1132-1:2000, definition 5.4.4.

3.12 axial runout of roller end face with respect to the roller axis

S_{Dw}

difference between the largest and the smallest of the axial distances of the end surface at a certain radial distance from the roller axis

3.13 deviation from circular form of roller outside diameter surface

Δ_{Rw}

radial distance between the smallest circumscribed circle and the greatest inscribed circle, with their centres common to the least squares circle centre