INTERNATIONAL STANDARD

ISO 13778

Second edition
2017-03

Plain bearings — Quality assurance of thin-walled half bearings — Selective assembly of bearings to achieve a narrow clearance range

Paliers lisses — Assurances qualité des demi-coussinets minces — Assemblage sélectif des paliers pour obtenir un jeu faible

Reference number
ISO 13778:2017(E)

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Foreword

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This document was prepared by Technical Committee ISO/TC 123, *Plain bearings*, Subcommittee SC 5, *Quality analysis and assurance*.

This second edition cancels and replaces the first edition (ISO 13778:1999), which has been technically revised.

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Plain bearings — Quality assurance of thin-walled half bearings — Selective assembly of bearings to achieve a narrow clearance range

1 Scope

This document specifies the selective assembly of bearings (in accordance with ISO 3548-1).

The bearing diametral clearance is determined by the housing diameter, journal diameter and the wall thickness of the two half bearings. Typically, these components will have a total tolerance "stack up" of 50 µm to 60 µm. Current engine development and in particular, the desire for improved engine refinement, has provided a need to decrease the clearance range due to the tolerance "stack up". This document suggests various schemes of selective assembly to achieve such ranges.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3548-1, *Plain bearings — Thin-walled half bearings with or without flange — Part 1: Tolerances, design features and methods of test*

ISO 4378-1, *Plain bearings — Terms, definitions, classification and symbols — Part 1: Design, bearing materials and their properties*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4378-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
theoretical bearing diametral clearance
C
difference between the housing diameter, D_H, less twice the half *bearing wall thickness* (3.3), s_3, and the *journal diameter* (3.4), D_J

$$C = D_H - (2s_3 + D_J)$$

3.2
housing diameter
D_H
diameter of the housing with no bearing fitted measured perpendicular to the split line

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