PD ISO/TR 10064-1:2019

BSI Standards Publication

Code of inspection practice

Part 1: Measurement of cylindrical gear tooth flanks

bsi.

National foreword

This Published Document is the UK implementation of ISO/TR 10064-1:2019. It supersedes PD ISO/TR 10064-1:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MCE/5/-/2, Gear accuracy.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Part 1: Measurement of cylindrical gear tooth flanks

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Partie 1: Mesure des flancs de dentaires cylindriques

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 60, *Gears*.

This third edition cancels and replaces the second edition (ISO/TR 10064-1:2017), of which it constitutes a minor revision.

In addition to minor editorial corrections and clarifications, the changes compared to the previous edition are as follows:

— consistently referring to the “reference diameter” and eliminating references to the outdated term “standard pitch diameter”;

— clarifying what “adjacent pitch deviations” are in 6.2.3.3;

— in 9.1.1, clarifying that what is specified is the design profile;

— in 9.2.1, clarifying that what is specified is the design helix;

— adding chamfers to the list of things in 9.2.2 that can be detected on a helix deviation chart;

— in Figures 54 and 55 adding that the grinding fillet is produced by the finishing tool while the root is created by the pre-finishing tool;

— a factor of 10^{-3} was added to Formula (43) to account for the specified units.

A list of all parts in the ISO/TR 10064 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Code of inspection practice —

Part 1:
Measurement of cylindrical gear tooth flanks

1 Scope

This document supplements ISO 1328-1:2013. It provides a code of practice dealing with measurements on flanks of individual cylindrical involute gears, i.e. with the measurement of pitch, profile, helix and tangential composite characteristics. It describes measuring equipment, provides advice for gear measuring methods and for the analysis of measurement results, and discusses the interpretation of results.

Measurements using a double flank tester are not included (see ISO/TR 10064-2). This document only applies to involute gears.

2 Normative references

There are no normative references in this document.

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

No terms and definitions are listed in this document.

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

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

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

3.2 Symbols and abbreviated terms

For the purposes of this document, the following symbols and abbreviated terms apply.

NOTE The symbols and terms used throughout this document are in basic agreement with the symbols and terms given in ISO 701 and in ISO 1122-1. In all cases, the first time that each symbol is introduced, it is defined and discussed in detail. See Table 1. Abbreviated terms are given in Table 2.

Table 1 — Symbols and definitions

Symbols[a]	Definition	Units	First use
a	tip point	—	Figure 31
b	face width	mm	Figure 37

[a] Symbols used for deviations of individual element measurements from specified values are composed of lower case letters "*f*" with subscripts (exceptions include f_e, f_1 and f_2) whereas symbols used for "cumulative" or "total" deviations, which represent combinations of several individual element deviations, are composed of capital letters "*F*" also with subscripts. It is necessary to qualify some deviations with an algebraic sign. A deviation is positive when, for example, a dimension is larger than optimum and negative when smaller than optimum.

[b] These deviations can be + (plus) or − (minus).