International Standard

ISO 4156-3

Straight cylindrical involute splines — Metric module, side fit —

Part 3: Inspection

Cannelures cylindriques droites à flancs en développante — Module métrique, à centrage sur flancs —

Partie 3: Vérification

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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).

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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 Technical Committee ISO/TC 14, *Shafts for machinery and accessories*.

This second edition cancels and replaces the first edition (ISO 4156-3:2005), which has been technically revised.

The main changes compared to the previous edition includes:

— ISO/R 1938-1 has been removed from Clause 2;

— ISO 268-1 and ISO 1328 (all parts) have been moved from Clause 2 to Bibliography;

— symbols of length and arc length between two points, according to ISO 80000-3, have been adopted and used in the formulae;

— in Figure 9, ball or pin contact diameter, internal spline has been added;

— in Figure 12, measurement *W*, indication of base pitch, circular base thickness, and base diameter have been corrected;

— Table 10 has been revised;

— in Figure 16, measurement of value A has been corrected;

— Formula (A.3) has been corrected;

— calculation results B_1 and E_r in A.3 have been corrected;

— in Figure A.2, the figure and subfigure titles have been corrected.

A list of all parts in the ISO 4156 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.

This corrected version of ISO 4156-3:2021 incorporates the following corrections:

— Figure 6 has been corrected;

— Formula (9) has been corrected.

Introduction

ISO 4156 (all parts) provides the data and indications necessary for the design, manufacture and inspection of straight (non-helical) side-fitting cylindrical involute splines.

Straight cylindrical involute splines manufactured in accordance with ISO 4156 (all parts) are used for clearance, sliding and interference connections of shafts and hubs. They contain all the necessary characteristics for the assembly, transmission of torque, and economic production.

The nominal pressure angles are 30°, 37,5° and 45°. For electronic data processing purposes, the form of expression 37,5° has been adopted instead of 37°30'. ISO 4156 (all parts) establishes a specification based on the following modules:

— for pressure angles of 30° and 37,5° the module increments are:

0,5; 0,75; 1; 1,25; 1,5; 1,75; 2; 2,5; 3; 4; 5; 6; 8; 10;

— for pressure angle of 45° the module increments are:

0,25; 0,5; 0,75; 1; 1,25; 1,5; 1,75; 2; 2,5.