



**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

**Second edition
2021-02**

**Corrected version
2025-12**

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Contents

	Page
Foreword	v
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviated terms	1
5 Reference conditions	3
6 Quality features	4
6.1 General.....	4
6.2 Size.....	4
6.2.1 Actual size.....	4
6.2.2 Effective size.....	4
6.3 Location.....	4
6.4 Form.....	5
7 Methods of inspection	5
7.1 Size.....	5
7.1.1 General methods.....	5
7.1.2 Choice of measuring instrument.....	5
7.1.3 Actual size.....	5
7.1.4 Effective size.....	7
7.2 Location.....	7
7.2.1 General.....	7
7.2.2 Choice of the method of inspection of location.....	8
7.2.3 Effective axis using mating part.....	8
7.2.4 Actual pitch cylinder axis.....	8
7.2.5 Calculation with Fourier analysis.....	9
7.2.6 Spline clamping system.....	9
7.3 Form.....	9
8 Measurements with balls or pins	9
8.1 General.....	9
8.2 Selection of balls or pins.....	10
8.3 Use and marking of pins.....	10
8.4 Statistical actual tolerance limit L_{STA}	10
8.4.1 General.....	10
8.4.2 Acceptance of parts according to the statistical actual tolerance limit L_{STA}	12
8.4.3 Examples.....	12
8.5 Calculation of ball or pin diameter (D_{Re} or D_{Ri}).....	12
8.5.1 External spline.....	12
8.5.2 Internal spline.....	13
8.6 Calculation of dimensions for ball or pin inspection (part and gauge inspection).....	14
8.6.1 Exact calculation.....	14
8.6.2 Approximation factor.....	17
9 Measurement over k teeth — External splines (W)	20
9.1 Calculation of W	20
9.2 Choice of k	20
10 Gauges	22
10.1 Generalities.....	22
10.1.1 Conditions of use of gauges.....	22
10.1.2 Limiting dimensions of use for gauges.....	22
10.1.3 Handles of spline gauges.....	22
10.1.4 Number of teeth for sector NO GO gauges.....	22

ISO 4156-3:2021(en)

10.2	Length of measuring part of gauges.....	22
10.2.1	Influence of the active spline length and of the length of engagement.....	22
10.2.2	GO or NO GO gauges.....	23
10.2.3	Master plug gauges.....	24
10.2.4	Spline gauges of pitch diameters $D > 180$ mm.....	24
10.3	Manufacturing tolerances for spline gauges.....	24
10.4	Values of deviation allowances of spline gauges.....	27
10.5	Inspection of gauges.....	27
10.5.1	Damage.....	27
10.5.2	Marking.....	27
10.5.3	Major diameter of plug gauges and minor diameter of ring gauges.....	27
10.5.4	Form diameter.....	28
10.5.5	Tooth thickness of plug gauges.....	28
10.5.6	Space width of ring gauges.....	28
10.5.7	Form deviations.....	29
10.5.8	Gauge wear inspection.....	29
10.5.9	Inspection certificates.....	29
10.6	Dimensions, designation and marking of gauges.....	29
10.6.1	Inspection of external splines.....	29
10.6.2	Inspection of internal splines.....	36
10.6.3	Inspection with plain gauges for internal and external splines.....	38
10.6.4	Marking of gauges.....	39
11	Measurement of spline deviations.....	39
11.1	General.....	39
11.2	Total profile deviation F_α	39
11.3	Total pitch deviation F_p	40
11.4	Total helix deviation F_β	40
Annex A (informative)	Influences of eccentricity and pitch deviation as explained in ISO 4156:1981.....	41
Bibliography		46

ISO 4156-3:2021

<https://standards.iteh.ai/catalog/standards/iso/e3fb7aad-dec1-4a0d-be59-850ea3db09ad/iso-4156-3-2021>

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 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.

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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.

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