



BSI Standards Publication

Steel and steel products — Location and preparation of samples and test pieces for mechanical testing

National foreword

This British Standard is the UK implementation of EN ISO 377:2017+A1:2025. It is identical to ISO 377:2017, incorporating amendment 1:2025. It supersedes BS EN ISO 377:2017, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee ISE/100, Steel, General Issues.

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

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Date	Text affected
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English Version

Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377:2017)

Acier et produits en acier - Position et préparation des échantillons et éprouvettes pour essais mécaniques (ISO 377:2017)

Stahl und Stahlerzeugnisse - Lage und Vorbereitung von Probenabschnitten und Proben für mechanische Prüfungen (ISO 377:2017)

This European Standard was approved by CEN on 23 May 2017.

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European foreword

This document (EN ISO 377:2017) has been prepared by Technical Committee ISO/TC 17 "Steel" in collaboration with Technical Committee ECISS/TC 100 "General issues" the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2018, and conflicting national standards shall be withdrawn at the latest by January 2018.

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Endorsement notice

The text of ISO 377:2017 has been approved by CEN as EN ISO 377:2017 without any modification.

European foreword to Amendment 1

This document (EN ISO 377:2017/A1:2025) has been prepared by Technical Committee ISO/TC 17 "Steel" in collaboration with Technical Committee CEN/TC 459/SC 12 "General issues" the secretariat of which is held by BSI.

This Amendment to the European Standard EN ISO 377:2017 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2026, and conflicting national standards shall be withdrawn at the latest by February 2026.

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Endorsement notice

The text of ISO 377:2017/Amd 1:2025 has been approved by CEN as EN ISO 377:2017/A1:2025 without any modification.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General requirements	2
4.1 Representative testing.....	2
4.2 Identification of sample products, samples, rough specimens and test pieces.....	2
5 Preparation of samples and selection of test pieces	3
5.1 Selection and dimensions of samples and location of test pieces.....	3
5.2 Direction of axis of test pieces.....	3
5.3 Condition and separation of samples.....	4
5.3.1 General.....	4
5.3.2 Testing in the as-delivered condition.....	4
5.3.3 Testing in the reference condition.....	4
6 Preparation of test pieces	4
6.1 Cutting and machining.....	4
6.2 Reference heat treatment.....	5
Annex A (normative) Location of samples and test pieces	6

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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The committee responsible for this document is ISO/TC 17, *Steel*, Subcommittee SC 20, *General technical delivery conditions, sampling and mechanical testing methods*.

This fourth edition cancels and replaces the third edition (ISO 377:2013), of which it constitutes a minor revision to correct [Figure A.13 b](#)).

Steel and steel products — Location and preparation of samples and test pieces for mechanical testing

1 Scope

This document specifies requirements for the identification, location and preparation of samples and test pieces intended for mechanical tests on steel sections, bars, rod, flat products and tubular products as defined in ISO 6929. If agreed in the order, this document can also apply to other metallic products. These samples and test pieces are for use in tests that are carried out in conformity with the methods specified in the product or material standard or, in the absence of this, in the standard for the test method.

Where the requirements of the order or product standard differ from those given in this document, then the requirements of the order or product standard apply.

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 3785, *Metallic materials — Designation of test specimen axes in relation to product texture*

ISO 6929, *Steel products — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6929 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

test unit

number of pieces or the tonnage of products to accept or reject together, on the basis of the verification tests carried out on sample products in accordance with the requirements of the product standard or order

Note 1 to entry: See [Figure 1](#).

3.2

sample product

item (e.g. bar, sheet, coil) selected for inspection or testing

Note 1 to entry: See [Figure 1](#).

3.3

sample

sufficient quantity of material taken from the sample product for the purpose of producing one or more test pieces

Note 1 to entry: See [Figure 1](#).

Note 2 to entry: In certain cases, the sample can be the sample product.

3.4
rough specimen

part of a sample having undergone mechanical treatment, for the purpose of producing a test piece

Note 1 to entry: See [Figure 1](#).

3.5
test piece

part of a sample or rough specimen, with specified dimensions, machined or unmachined, brought to a required condition for submission to a given verification test

Note 1 to entry: See [Figure 1](#).

Note 2 to entry: In certain cases, the test piece can be the sample or the rough specimen.

3.6
reference condition

condition of a sample, rough specimen or test piece having undergone a heat treatment to represent the intended final condition of the product

Note 1 to entry: In such cases, the sample, rough specimen or test piece is called the reference sample, reference rough specimen or reference test piece.

4 General requirements

4.1 Representative testing

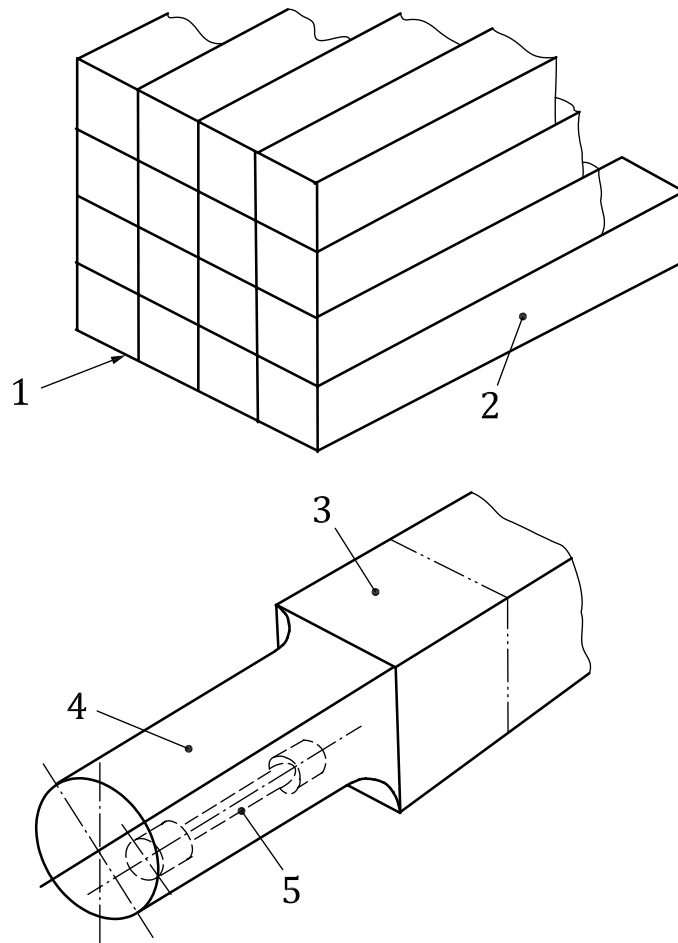
Sample, rough specimens and test pieces selected in accordance with [Annex A](#) shall be considered to be representative of the product.

NOTE As a result of their production sequence, e.g. melting, casting hot or cold forming or both, heat treatment, etc., steel products are not homogeneous. The mechanical properties of samples taken from other locations can be different.

4.2 Identification of sample products, samples, rough specimens and test pieces

Sample products, samples, rough specimens and test pieces shall be marked to ensure traceability to the original product and their location and orientation in that product. For this purpose, if, during the preparation of any one or more of the samples, rough specimens or test pieces, removal of the marks cannot be avoided, transfer of these marks shall be carried out before the existing marks are removed or, in the case of automatic preparation, equipment before the test piece is removed from the equipment. In the case of specific inspection and where requested by the purchaser, the transfer of the marks shall be carried out in the presence of the purchaser's representative.

In the case of fully automatic in line preparation and testing systems, marking of samples, rough specimens and test pieces is not necessary if an adequate control system exists, which defines the procedures to follow in the event of system failure.



Key

- 1 test unit (3.1)
- 2 sample product (3.2)
- 3 samples (3.3)
- 4 rough specimen (3.4)
- 5 test piece (3.5)

Figure 1 — Examples of terms defined in [Clause 3](#)

5 Preparation of samples and selection of test pieces

5.1 Selection and dimensions of samples and location of test pieces

The sample shall be selected so that the test piece can be located as indicated in [Annex A](#). The sample shall have sufficient dimensions to allow sufficient test pieces required for carrying out specified tests, and for any retests that are necessary.

5.2 Direction of axis of test pieces

The direction of the test piece axis relative to the principle direction of working shall be as specified in the appropriate product standard or order. The designation of the test piece axis shall be in accordance with ISO 3785.