



BSI Standards Publication

Steel and steel products — General technical delivery requirements

National foreword

This British Standard is the UK implementation of ISO 404:2013+A1:2022. It supersedes BS ISO 404:2013, which is withdrawn.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.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 19972 7

ICS 77.080.20; 77.140.01

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2013.

Amendments/corrigenda issued since publication

Date	Text affected
30 November 2022	Implementation of ISO amendment 1:2022

INTERNATIONAL STANDARD

ISO 404

Third edition
2013-07-01

Steel and steel products — General technical delivery requirements

*Aciers et produits sidérurgiques — Conditions générales techniques
de livraison*



Reference number
ISO 404:2013(E)
Documents
Document Sharing Hub
© ISO 2013



COPYRIGHT PROTECTED DOCUMENT

© ISO 2013

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Information to be supplied by the purchaser	3
5 Manufacturing process	4
6 Supply by an intermediary	5
7 Requirements	5
7.1 General.....	5
7.2 Chemical composition.....	5
7.3 Mechanical properties.....	5
7.4 Surface and internal quality.....	5
8 Inspection and testing	6
8.1 Types of inspection documents and inspection and testing.....	6
8.2 Non-specific inspection and testing.....	6
8.3 Specific inspection and testing.....	6
8.4 Invalidation of test results.....	9
8.5 Rounding of results of mechanical and chemical tests.....	10
9 Sorting and reprocessing	10
10 Marking	10
11 Disputes	10
Bibliography	14

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. 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. 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.

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

This third edition cancels and replaces the second edition (ISO 404:1992), which has been technically revised.

Steel and steel products — General technical delivery requirements

1 Scope

This International Standard specifies the general technical delivery requirements for all steel products covered by ISO 6929, with the exception of steel castings and powder metallurgical products.

ISO 10474 describes the inspection documents to be used.

Where the delivery requirements agreed upon for the order or specified in the appropriate product or material standard differ from the general technical delivery requirements defined in this International Standard, then it is the requirements agreed for ordering or specified in the appropriate product or material standard that apply.

2 Normative references

The following referenced documents are indispensable for the application 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 377, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*

ISO 4948-1, *Steels — Classification — Part 1: Classification of steels into unalloyed and alloy steels based on chemical composition*

ISO 4948-2, *Steels — Classification — Part 2: Classification of unalloyed and alloy steels according to main quality classes and main property or application characteristics*

ISO 6929, *Steel products — Vocabulary*

ISO 10474, *Steel and steel products — Inspection documents*

ISO 14284, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition*

ISO 80000-1:2009, *Quantities and units — Part 1: General*

3 Definitions

For the purposes of this document, the definitions in ISO 4948-1, ISO 4948-2 and ISO 6929, and the following apply.

3.1 inspection

activities such as measuring, examining, testing, gauging one or more characteristics of a product or service and comparing these with specified requirements to verify conformity

3.2 testing

any operation or action to determine one or more properties or characteristics of a material or product

3.3

non-specific inspection

inspection carried out by the manufacturer in accordance with his own procedures, to verify that products made by the same manufacturing process meet the requirements of the order

Note 1 to entry: The products inspected and tested can be different from the products actually supplied.

3.4

specific inspection

inspection carried out, before delivery, in accordance with the product specification, on the products being supplied or on test units of which the products are part, to verify that these products meet the requirements of the order

3.5

inspection representative

one or more individuals who is/are either the manufacturer's authorized inspection representative(s), independent from the manufacturing department; the purchaser's authorized representative; or the inspector(s) designated by a third party

3.6

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](#).

Note 2 to entry: This term is sometimes referred to in other International Standards as "inspection lot" or "batch".

3.7

sample product

item (a sheet, for example) selected from a test unit for inspection and/or testing

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

3.8

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 may be the sample product itself.

3.9

rough specimen

part of the sample having undergone mechanical treatment, followed by heat treatment where appropriate, for the purpose of producing test pieces

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

3.10

test piece

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

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

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

3.11

cast (heat) analysis

chemical analysis representative of the cast (heat) determined by the steelmaker