BS EN 10051:2024

BSI Standards Publication

Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels — Tolerances on dimensions and shape

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National foreword

This British Standard is the UK implementation of EN 10051:2024. It supersedes BS EN 10051:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/103, Structural Steels Other Than Reinforcements.

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

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 10051

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English Version

Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels - Tolerances on dimensions and shape

Bandes laminées à chaud en continu et tôles issues de larges bandes en aciers alliés et non alliés - Tolérances sur les dimensions et la forme

Kontinuierlich warmgewalztes Band und Blech abgelängt aus Warmbreitband aus unlegierten und legierten Stählen - Grenzabmaße und Formtoleranzen

This European Standard was approved by CEN on 27 February 2024.

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European foreword

This document (EN 10051:2024) has been prepared by Technical Committee CEN/TC 459/SC 3 “Structural steels other than reinforcements”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by October 2024, and conflicting national standards shall be withdrawn at the latest by January 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 10051:2010.

In comparison with the previous edition EN 10051:2010, the following technical modifications have been made:

— tolerances on flatness were revised;

— options were revised, a new option for only positive thickness tolerances was introduced and the options were moved from Annex B to 4.2;

— thickness tolerances for strip and sheet/plate with minimum yield strength > 960 MPa must be agreed;

— flatness measurement revised;

— change regarding the tolerances of cropped coils;

— editorial revisions.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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1 Scope

This document specifies tolerances on dimensions and shape for continuously hot-rolled uncoated plate/sheet and strip with a maximum width of 2 200 mm and a maximum thickness of 25 mm of non-alloy and alloy steels in accordance with Table 1 (see also Annex B). This document also applies to hot-rolled strip for cold rolling.

Table 1 — Field of application

Product	Thickness mm	Steel grades according to: (but not limited to)	
• wide strip (width: 600 mm ≤ w ≤ 2 200 mm), • sheet/plate cut from wide strip, • strip (width: w < 600 mm slit from wide strip)	≤ 25 mm	EN 10025-2 to –6	Structural steels
		EN 10028-2 to –6	Steels for pressure purposes
		EN ISO 683-1 and 683-2	Steels for quenching and tempering
		EN ISO 683-3	Case hardening steels
		EN ISO 683-5	Nitriding steels
		EN 10111	Low carbon steel sheet and strip for cold forming
		EN 10120	Steel sheet and strip for welded gas cylinders
		EN 10149-2 and –3	High yield strength steels for cold forming
		EN 10207	Steels for simple pressure vessels
		EN 10225-1	Plates for fixed offshore structures
		EN 10338	Non-coated products of multiphase steels for cold forming
		EN ISO 4957	Tool steels

This document does not apply to:

— hot-rolled strip rolled in widths w < 600 mm (see EN 10048);

— hot-rolled patterned steel strip and plate/sheet cut from wide strip (see EN 10363);

— uncoated or electrolytically coated cold rolled sheet and strip (see EN 10131);

— hot-dip coated steel sheet and strip (EN 10143);

— stainless steels.

This document can also be used for steels from other standards, e.g. steels for shipbuilding.

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.

EN 10020, *Definition and classification of grades of steel*

EN 10079, *Definition of steel products*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10020, EN 10079 and the following apply.

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

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

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

3.1
non-alloy and alloy steels
steels, alloy and non-alloy, which follow the information and requirements outlined in EN 10020

3.2
wide strip and sheet/plate
steels in wide strip, sheet or plate format, which follow the information, requirements and test methods outlined in EN 10079

3.3
crown
difference in thickness between one of the edges and the centre of a rolled product

4 Information to be supplied by the purchaser

4.1 General

The following information shall be supplied by the purchaser at the time of enquiry and order:

a) the quantity to be delivered;

b) designation of the product (wide strip, sheet/plate cut from wide strip, strip slit from wide strip);

c) number of this dimensional standard (EN 10051);

d) nominal thickness and width in mm;

e) nominal length in mm (for sheet and plate);

f) upper width tolerances for sheet/plate with thickness > 15 mm (see 6.3);

g) tolerances on flatness for sheet/plate of thickness ≤ 3 mm of category D (see 6.4 and Table 9);

h) edge camber requirements for strip < 600 mm wide, which was slit from wide strip (see 7.4).

4.2 Options

A number of options are specified in this document and listed below. If the purchaser does not indicate his wish to implement any of these options, the supplier shall supply in accordance with the basic specification of this document (see 4.1 and 5.1):

1) whether trimmed edges (T) or mill edges (M) are required, otherwise the edge condition is at the discretion of the manufacturer (see 5.1);

2) whether coils may be delivered with welded seams (see 5.2);

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3) whether the minimum thickness of the product shall be the nominal thickness and the full range of the thickness tolerance from Tables 3 to 6 (disposition of tolerances) shall be valid only as a positive tolerance (see 6.1.2 and Annex A);

4) whether thickness and/or flatness tolerances of steel grades with a minimum specified yield strength > 960 MPa need to be agreed (see 6.1.2);

5) whether for sheet/plate special tolerances on flatness are required (see 6.4 and Table 9);

6) whether for sheet/plate the tolerances on out-of-squareness and edge camber shall be replaced by a requirement that a perfect rectangle formed by the ordered width and length dimensions can be superimposed into the sheets delivered (see 6.7);

7) whether for hot-rolled strip for cold rolling, maximum values for crown according to Table 10 and permissible thickness differences within one coil according to Table 11 are required (see 7.2.2);

8) whether for hot-rolled strip for cold rolling more severe tolerances on thickness and crown are required (see 7.2.3).

4.3 Designation

EXAMPLE 1 20 sheets according to EN 10051 with nominal thickness of 2,0 mm, nominal width 1 200 mm, with trimmed edges (T), nominal length 2 500 mm of steel 34Cr4 (1.7033) as specified in EN ISO 683-2:

20 sheets EN 10051 – 2,0 × 1 200T × 2 500

steel EN ISO 683-2 – 34Cr4

EXAMPLE 2 5 t of strip according to EN 10051 with nominal thickness of 4,5 mm, nominal width 1 500 mm, with mill edges (M) of steel S235JR (1.0038), as specified in EN 10025-2:

5 t strip EN 10051 – 4,5 × 1 500M

steel EN 10025-2 – S235JR

5 Form of supply

5.1 Sheet/plate and strip shall be supplied with mill edges (M) or with trimmed edges (T), as agreed at the time of enquiry and order (see option 1). In the absence of information on the form of supply, sheet/plate and strip shall be supplied with one of both edge conditions at the discretion of the manufacturer.

5.2 The possibility of delivering coils with welding seams can be agreed at the time of enquiry and order. The indication of the location of the weld can be agreed at the same time (see option 2).

5.3 Where no specific choice is made by the purchaser concerning points 4.1 f), g), and h), the choice of the values is at the discretion of the manufacturer.

6 Tolerances for sheet/plate

6.1 Thickness

6.1.1 The tolerances on thickness for continuously hot-rolled low carbon steel sheet/plate for cold forming according to EN 10111 are given in Table 2.

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