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BSI Standards Publication

Bright steel products - Technical delivery conditions

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National foreword

This British Standard is the UK implementation of EN 10277:2018. It supersedes BS EN 10277-1:2008, BS EN 10277-2:2008, BS EN 10277-3:2008, BS EN 10277-4:2008 and BS EN 10277-5:2008, which are withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/105, Steels for Heat Treatment, Alloy Steels, Free-Cutting Steels and Stainless Steels.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2018
Published by BSI Standards Limited 2018

ISBN 978 0 580 96847 1

ICS 77.140.60; 77.140.10

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 2018.

Amendments/corrigenda issued since publication

Date	Text affected
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EUROPÄISCHE NORM

June 2018

ICS 77.140.10; 77.140.60

Supersedes EN 10277-1:2008, EN 10277-2:2008,
EN 10277-3:2008, EN 10277-4:2008,
EN 10277-5:2008

English Version

Bright steel products - Technical delivery conditionsProduits en aciers transformés à froid - Conditions
techniques de livraison

Blankstahlerzeugnisse - Technische Lieferbedingungen

This European Standard was approved by CEN on 20 February 2018.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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European foreword

This document (EN 10277:2018) has been prepared by Technical Committee ECISS/TC 105 "Steels for heat treatment, alloy steels, free-cutting steels and stainless steels", 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 December 2018 and conflicting national standards shall be withdrawn at the latest by December 2018.

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 10277-1:2008 to EN 10277-5:2008.

The following changes have been made in comparison to the previous edition EN 10277-1:2008 to EN 10277-5:2008:

- a) the five parts of EN 10277-1 to EN 10277-5 were merged into one part;
- b) the dimensional requirements for bright steel products were added to this standard;
- c) for the steels for general engineering use, the steel grades E295GC, E355GC, C10, C15, C16 and C55 were deleted and the grades C25, C30 and C50 were added;
- d) for the free cutting steels, the grades 9S20, 17SMn20, 35SMn20 and 35SMnPb20 were added;
- e) for the case hardening steels, the grades 16MnCrB 5, 15NiCrS4, 15NiCr13 and 17NiCrMoS6-4 were deleted, the grades C10E, C15E, C16E, 16MnCr5, 20Cr4, 20CrS4, 20MnCr5, 24CrMo4, 24CrMoS4, 16NiCr4, 16NiCrS4, 20NiCrMo2-2, 17NiCrMo6-4, 17NiCrMoS6-4 and 18CrNiMo7-6 were added;
- f) for the steels for quenching and hardening, the grade 39NiCrMo3 was deleted, the grades C25E, C25R, C30E, C30R, 28Mn6, 36Mn6, 42Mn6, 34Cr4, 37Cr4, 37CrS4, 41Cr4, 25CrMo4, 34CrMo4, 34CrMoS4, 42CrMo4, 50CrMo4 36CrNiMo4 and 30CrNiMo8 were added;
- g) the standard was editorially revised.

This standard is the result of the work on ISO 683-18. Since the bright stainless steel products are to be found in EN 10088-3 for European standardization, they are excluded here. In addition, this standard was adapted to include the European references and some further amendments were made.

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

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1 Scope

This document specifies the technical delivery requirements for bright steel bars in the drawn, peeled/turned or ground condition and they are intended for mechanical purposes, for example for machine parts. The bright bars are subdivided into the following steel types:

- a) non-alloy general engineering steels;
- b) non-alloy free-cutting steels;
- c) non-alloy and alloy case-hardening steels;
- d) non-alloy and alloy steels for quenching and tempering.

This document lists the mechanical characteristics for products up to 100 mm in thickness. For larger dimensions, the manufacturer and purchaser agree on mechanical properties at the time of enquiry and order.

It does not cover cold rolled products and cut lengths produced from strip or sheet by cutting. Bright steel products of stainless steels are to be found in EN 10088-3.

In addition to this document, the general technical delivery requirements of EN 10021 are applicable.

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 10021:2006, *General technical delivery conditions for steel products*

EN 10025-2, *Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10027-1, *Designation systems for steels - Part 1: Steel names*

EN 10027-2, *Designation systems for steels - Part 2: Numerical system*

EN 10079, *Definition of steel products*

EN 10204, *Metallic products - Types of inspection documents*

EN 10247, *Micrographic examination of the non-metallic inclusion content of steels using standard pictures*

CEN/TR 10261, *Iron and steel - European standards for the determination of chemical composition*

EN ISO 148-1, *Metallic materials - Charpy pendulum impact test - Part 1: Test method (ISO 148-1)*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377)*

EN ISO 643, *Steels - Micrographic determination of the apparent grain size (ISO 643)*

EN ISO 683-1, *Heat-treatable steels, alloy steels and free-cutting steels - Part 1: Non-alloy steels for quenching and tempering (ISO 683-1)*