SLOVENSKI STANDARD
oSIST prEN 10025-5:2014

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Vroče valjani izdelki iz konstrukcijskih jekel - 5. del: Tehnični dobavni pogoji za konstrukcijska jekla z izboljšano odpornostjo proti atmosferski koroziji

Hot rolled products of structural steels - Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance

Warmgewalzte Erzeugnisse aus Baustählen - Teil 5: Technische Lieferbedingungen für wetterfeste Baustähle

Produits laminés à chaud en aciers de construction - Partie 5 : Conditions techniques de livraison pour les aciers de construction à résistance améliorée à la corrosion atmosphérique

Ta slovenski standard je istoveten z: **prEN 10025-5**

ICS:

77.140.10	Jekla za toplotno obdelavo	Heat-treatable steels
77.140.50	Ploščati jekleni izdelki in polizdelki	Flat steel products and semi-products

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EUROPEAN STANDARD

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English Version

Hot rolled products of structural steels - Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance

Produits laminés à chaud en aciers de construction - Partie 5 : Conditions techniques de livraison pour les aciers de construction à résistance améliorée à la corrosion atmosphérique

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If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword

This document (prEN 10025-5:2014) has been prepared by Technical Committee ECISS/TC 103 “Structural steels other then reinforcements”, the secretariat of which is held by DIN.

This document is currently submitted to the COCOR Vote.

This document will supersede EN 10025-5:2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Construction Products Regulation (EU) No 305/2011. For relationship with the EU Construction Products Regulation (EU) No. 305/2011, see informative Annex ZA of prEN 10025-1:2014.

The titles of the other parts of this document are:

Part 1: General;

Part 2: Technical delivery conditions for non-alloy structural steels;

Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels;

Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels;

Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition.

1 Scope

Part 5 of this document, in addition to part 1, specifies technical delivery conditions for flat and long products of hot rolled steels with improved atmospheric corrosion resistance in the grades and qualities given in Tables 2 and 3 (chemical composition) and Tables 4 and 5 (mechanical properties) in the usual delivery conditions as given in 6.3.

The thicknesses in which products of the steel grades and qualities specified in this document may be supplied are given in Table 1.

In addition to prEN 10025-1:2014 the steels specified in this document are especially intended for use in welded, bolted and riveted components which shall have enhanced resistance to atmospheric corrosion, for service at ambient temperatures (subject to the restrictions described in 7.4.1).

The steels specified in this Part 5 are not intended to be heat treated except products delivered in the delivery condition +N. Stress relief annealing is permitted (see 7.3.1.1, NOTE). Products delivered in +N condition can be hot formed and/or normalized after delivery (see Clause 3).

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.

2.1 General standards

EN 1011-2, *Welding – Recommendations for welding of metallic materials – Part 2: Arc welding of ferritic steels*

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

EN 10021, *General technical delivery conditions for steel products*

prEN 10025-1:2014, *Hot rolled products of structural steels - Part 1: General*

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

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

EN 10079:2007, *Definition of steel products*

EN 10163-1, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections – Part 1: General requirements*

EN 10163-2, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections – Part 2: Plates and wide flats*

EN 10163-3, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections – Part 3: Sections*

EN 10164, *Steel products with improved deformation properties perpendicular to the surface of the product - Technical delivery conditions*

EN 10168, *Steel products – Inspection documents – List of information and description*

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

EN 10221, *Surface quality classes for hot-rolled round bars and rods - Technical delivery conditions*

CEN/TR 10347, *Guidance for forming of structural steels in processing*

2.2 Standards on dimensions and tolerances (see 7.7.1)

EN 10017, *Non-alloy steel rod for drawing and/or cold rolling – Dimensions and tolerances*

EN 10024, *Hot rolled taper flange I sections - Tolerances on shape and dimensions*

EN 10029, *Hot rolled steel plates 3 mm thick or above - Tolerances on dimensions and shape*

EN 10034, *Structural steel I and H sections - Tolerances on shape and dimensions*

EN 10048, *Hot rolled narrow steel strip - Tolerances on dimensions and shape*

EN 10051, *Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels - Tolerances on dimensions and shape*

EN 10055, *Hot-rolled steel equal flange tees with radiused root and toes - Dimensions and tolerances on shape and dimensions*

EN 10056-1, *Structural steel equal and unequal leg angles - Part 1: Dimensions*

EN 10056-2, *Structural steel equal and unequal leg angles - Part 2: Tolerances on shape and dimensions*

EN 10058, *Hot rolled flat steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

EN 10059, *Hot rolled square steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

EN 10060, *Hot rolled round steel bars - Dimensions and tolerances on shape and dimensions*

EN 10061, *Hot rolled hexagon steel bars - Dimensions and tolerances on shape and dimensions*

EN 10067, *Hot rolled bulb flats - Dimensions and tolerances on shape, dimensions and mass*

EN 10279, *Hot rolled steel channels - Tolerances on shape, dimensions and mass*

2.3 Standards on testing

EN 10160, *Ultrasonic testing of steel flat product of thickness equal to or greater than 6 mm (reflection method)*

EN 10306, *Iron and steel - Ultrasonic testing of H beams with parallel flanges and IPE beams*

EN 10308, *Non-destructive testing - Ultrasonic testing of steel bars*

EN ISO 148-1, *Metallic materials – Chapry pendulum impact test – Part 1: Test method (ISO 148-1:2009)*

EN ISO 643, *Steels – Micrographic determination of the apparent grain size (ISO 643:2003)*

EN ISO 6892-1, *Metallic materials – Tensile testing – Part 1: Method of test at room temperature (ISO 6892-1:2009)*

EN ISO 14284, *Steel and iron – Sampling and preparation of samples for the determination of chemical composition (ISO 14283:1996)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 10025-1:2012 and the following apply.

3.1
normalized rolled
rolling process in which the final deformation is carried out in a certain temperature range leading to a material condition equivalent to that obtained after normalizing so that the specified values of the mechanical properties are retained even after normalizing

Note 1 to entry The abbreviated form of this delivery condition is +N.

Note 2 to entry In international publications for both the normalizing rolling, as well as the thermomechanical rolling, the expression "controlled rolling" may be found. However in view of the different applicability of the products a distinction of the terms is necessary

3.2
as-rolled
conventional hot rolling without any normalized rolling or thermomechanical rolling and/or heat treatment condition like normalizing or quenching.

Note 1 to entry The abbreviated form of this delivery condition is +AR.

3.3
thermomechanical rolling
rolling process in which the final deformation is carried out in a certain temperature range leading to a material condition with certain properties which cannot be achieved or repeated by heat treatment alone

Note 1 to entry The abbreviated form of this delivery condition is +M.

Note 2 to entry Hot forming or post weld heat treatment at a temperature above 580 ^{o}C may lower the strength values and should not be performed. Flame straightening can be applied in accordance with CEN/TR 10347.

Note 3 to entry Thermomechanical rolling leading to the delivery condition +M can include processes with an increasing cooling rate with or without tempering including self-tempering but excluding direct quenching and quenching and tempering.

Note 4 to entry In some publications the word TMCP (Thermomechanical Control Process) is also used.

3.4
normalizing
heat treatment consisting of austenitizing followed by air cooling

Note 1 to entry The abbreviated form of this delivery condition is +N.

3.5
steel with improved atmospheric corrosion resistance
steel in which a certain number of alloying elements, such as P, Cu, Cr, Ni, Mo, has been added in order to increase its resistance to atmospheric corrosion, by forming an auto-protective oxide layer on the base metal under the influence of weather conditions

Note 1 to entry Steel with improved atmospheric corrosion resistance is often called weathering steel.

Note 2 to entry Additional information for the use of steel with improved atmospheric corrosion resistance is given in Annex B.