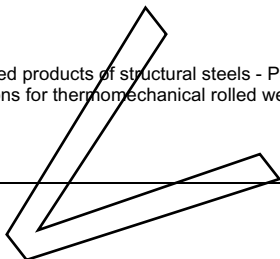


norm**NEN-EN 10025-4**

Warmgewalste producten van
constructiestaal - Deel 4: Technische
leveringsvoorwaarden voor lasbaar
thermomechanisch gewalste korrelige
constructie staalsoorten

Publicatie uitsluitend voor commentaar

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conditions for thermomechanical rolled weldable fine grain structural
steels



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English version

Hot-rolled products of structural steels - Part 4: Technical
delivery conditions for thermomechanical rolled weldable fine
grain structural steels

Produits laminés à chaud en aciers de construction - Partie
4: Conditions techniques de livraison pour les aciers de
construction soudables à grains fins obtenus par laminage
thermomécanique

Warmgewalzte Erzeugnisse aus Baustählen - Teil 4:
Technische Lieferbedingungen für thermomechanisch
gewalzte schweißgeeignete Feinkornbaustähle

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Contents

| | page |
|---|-----------|
| Foreword | 4 |
| 1 Scope | 5 |
| 2 Normative references | 5 |
| 2.1 General standards..... | 5 |
| 2.2 Standards on dimensions and tolerances (see 7.7.1)..... | 6 |
| 2.3 Standards on testing..... | 7 |
| 3 Terms and definitions | 7 |
| 4 Classification and designation | 8 |
| 4.1 Classification..... | 8 |
| 4.2 Designation..... | 8 |
| 5 Information to be supplied by the purchaser | 9 |
| 5.1 Mandatory information..... | 9 |
| 5.2 Options..... | 9 |
| 6 Manufacturing process | 9 |
| 6.1 Steel making process..... | 9 |
| 6.2 Grain structure..... | 9 |
| 6.3 Delivery conditions..... | 9 |
| 7 Requirements | 9 |
| 7.1 General..... | 9 |
| 7.2 Chemical composition..... | 10 |
| 7.3 Mechanical properties..... | 10 |
| 7.4 Technological properties..... | 11 |
| 7.5 Surface properties..... | 13 |
| 7.6 Internal defects..... | 13 |
| 7.7 Dimensions, tolerances on dimensions and shape, mass..... | 14 |
| 8 Inspection | 14 |
| 8.1 General..... | 14 |
| 8.2 Type of inspection and inspection document..... | 14 |
| 8.3 Frequency of testing..... | 14 |
| 8.4 Tests to be carried out for specific inspection..... | 15 |
| 9 Preparation of samples and test pieces | 15 |
| 9.1 Selection and preparation of samples for chemical analysis..... | 15 |
| 9.2 Location and orientation of samples and test pieces for mechanical tests..... | 15 |
| 9.3 Identification of samples and test pieces..... | 16 |
| 10 Test methods | 16 |
| 10.1 Chemical analysis..... | 16 |
| 10.2 Mechanical tests..... | 16 |
| 10.3 Ultrasonic testing..... | 16 |
| 10.4 Retests..... | 16 |

| | | |
|----------------|--|-----------|
| 11 | Marking, labeling, packaging | 16 |
| 12 | Complaints | 17 |
| 13 | Options (see 5.2) | 17 |
| Annex A | (Informative) List of corresponding former designations | 24 |
| Annex B | (Informative) List of national standards which correspond with EURONORMS referenced | 25 |

Orbital
Preview

Foreword

This European Standard has been drawn up by ECISS/TC 10 "Structural steel - Qualities" whose Secretariat is held by NNI.

This document is together with prEN 10025-1:2000 a revision of EN 10113-1:1993, *Hot rolled products in weldable fine grain structural steels - Part 1: General delivery conditions* and EN 10113-3:1993, *Hot rolled products in weldable fine grain structural steels - Part 3: Delivery conditions for thermomechanical rolled steels*.

The titles of the other Parts of this European Standard are:

Part 1: General delivery conditions

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 5: Technical delivery conditions of structural steels with improved atmospheric corrosion resistance

Part 6: Technical delivery conditions for plates and wide flats of high yield strength structural steels in the quenched and tempered condition

This European Standard has been prepared under Mandate M120 given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of the EU Construction Products Directive (89/106/EEC). For relationship with the EU Construction Products Directive, see informative Annex ZA of prEN 10025-1:2000.

According to the Common CEN/CENELEC Rules, following countries are bound to implement this European Standard:

1 Scope

Part 4 of this European Standard, in addition to part 1, specifies requirements for flat and long products of hot rolled weldable fine grain structural steels in the thermomechanical rolled condition in the grades and qualities given in tables 2 to 4 (chemical composition) and tables 5 to 7 (mechanical properties) in thickness ≤ 120 mm for flat products and in thickness ≤ 150 mm for long products.

In addition to prEN 10025-1:2000 the steels specified in this European Standard are especially intended for use in heavily loaded parts of welded structures such as, bridges, flood gates, storage tanks, water supply tanks, etc., for service at ambient and low temperatures.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

2.1 General standards

prEN 1011-2¹⁾, *Welding - Recommendations for welding of metallic materials - Part 2: Arc welding of ferritic steels*

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

prEN 10162¹⁾, *Cold rolled steel sections - Technical delivery conditions - Dimensional and cross-sectional tolerances*

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

¹⁾ Draft is under discussion.

ECSC IC 2 (1983)²⁾, *Weldable fine-grained structural steels - Recommendations for processing, in particular for welding*

2.2 Standards on dimensions and tolerances (see 7.7.1)

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, shape and mass*

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*

prEN 10058¹⁾, *Hot rolled flat steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

prEN 10059¹⁾, *Hot rolled square steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

prEN 10060¹⁾, *Hot rolled round steel bars - Dimensions and tolerances on shape and dimensions*

prEN 10061¹⁾, *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 and dimensions*

EURONORM 17 (1970)²⁾, *Non-alloy base steel wire rod for cold drawing - Dimensions and tolerances*

EURONORM 19 (1957)²⁾, *IPE beams: parallel-flanged beams*

¹⁾ Draft is under discussion.

²⁾ Until these EURONORMS are transformed into European Standards, they can either be implemented or reference made to the corresponding national standards, the list of which is given in Annex B to this European Standard.

EURONORM 53 (1962)²⁾, *Wide-flanged beams with parallel flanges*

EURONORM 54 (1980)²⁾, *Small hot-rolled steel channels*

2.3 Standards on testing

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

prEN 10306¹⁾ ³⁾, *Iron and steel - Ultrasonic testing of broad flanged beams with parallel flanges and IPE beams*

prEN 10308¹⁾, *Non-destructive testing - Ultrasonic testing of steel bars*

EURONORM 103 (1971)²⁾, *Microscopic determination of the ferritic and austenitic grain size of steel*

3 Terms and definitions

For the purposes of this European Standard the terms and definitions given in prEN 10025-1:2000 apply.

In addition to these definitions the following definitions apply.

3.1

thermomechanical rolling

a 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 Subsequent heating above 580 °C may lower the strength values. If temperatures above 580 °C are needed reference shall be made to the supplier.

NOTE 2 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 3 In some publications the word TMCP (Thermomechanical Control Process) is also used.

3.2

fine grained steels

steels with fine grain structure with an equivalent index of ferritic grain size ≥ 6 determined in accordance with EURONORM 103:1971.

¹⁾ Draft is under discussion.

³⁾ PrEN 10306 will replace EU 186-87.

²⁾ Until these EURONORMS are transformed into European Standards, they can either be implemented or reference made to the corresponding national standards, the list of which is given in Annex B to this European Standard.

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