ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

# ILNAS-EN 10248-1:2023

## Hot-rolled steel sheet piles - Part 1: Technical delivery conditions

Palplanches en acier laminées à chaud - Partie 1: Conditions techniques de livraison

Warmgewalzte Spundbohlen aus Stahl - Teil 1: Technische Lieferbedingungen

03/2023

**National Foreword**

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# EUROPEAN STANDARD
# NORME EUROPÉENNE
# EUROPÄISCHE NORM

**EN 10248-1**

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Supersedes EN 10248-1:1995

English Version

# Hot-rolled steel sheet piles - Part 1: Technical delivery conditions

Palplanches en acier laminées à chaud - Partie 1: Conditions techniques de livraison

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This European Standard was approved by CEN on 17 January 2023.

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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.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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 10248-1:2023) 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of an identical text or by endorsement, at the latest by September 2023, and conflicting national standards shall be withdrawn at the latest by September 2023.

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 10248-1:1995.

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

a) Document was restructured;

b) Normative references were updated;

c) Grades S460 and S500 in quality GP were introduced;

d) Modification concerning the maximum values for the chemical composition;

e) Addition of 7.4.3 dedicated for hot-dip zinc-coating and 7.8 for load bearing capacity;

f) New wording for Clauses 8, 9 and 10 for inspection and testing;

g) Addition of Clause 12 on the complaints;

h) Removal of the former Annexes B and C on Euronorms and equivalent designations;

i) Addition of the Annexes B, C, D and E.

EN 10248 consists of the following parts, under the general title *Hot-rolled steel sheet piles*:

— *Part 1: Technical delivery conditions*

— *Part 2: Tolerances on shape and dimensions*

A further standard prEN 10375 with the title *Hot-rolled steel sheet piles – General (Characteristics, evaluation of conformity and marking)* is in preparation and can be used together with EN 10248 after publication.

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.

## 1 Scope

This document specifies the requirements for hot rolled steel sheet piles in respect of its chemical composition, mechanical properties and conditions of delivery.

The products specified are for general, structural and civil engineering works. The types of steel sheet piles covered by this document are: Z-shaped, U-shaped, straight web, H-shaped with their interlocking bars. The types of interlocks and the requirements in respect of tolerances on shape and dimensions are specified in Part 2 of this document.

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

EN 1990:2002,[1] *Eurocode - Basis of structural design*

EN 1993-5:2007, *Eurocode 3 - Design of steel structures - Part 5: Piling*

EN 10020:2000, *Definition and classification of grades of steel*

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

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

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

EN 10248-2, *Hot-rolled steel sheet piles - Part 2: Tolerances on shape and dimensions*

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 2566-1, *Steel - Conversion of elongation values - Part 1: Carbon and low-alloy steels (ISO 2566-1:2021, Corrected version 2022-06)*

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

EN ISO 14284, *Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284)*

[1] As impacted by EN 1990:2002/A1:2005.

EN ISO 14713-2:2020, *Zinc coatings - Guidelines and recommendations for the protection against corrosion of iron and steel in structures - Part 2: Hot dip galvanizing (ISO 14713-2:2019)*

# 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10020:2000, EN 10021:2006 and EN 10079:2007 apply.

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

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

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

# 4 Classification and designation

## 4.1 Classification

### 4.1.1 Main quality classes

The steel grades specified in this document shall be classified as non-alloy quality steels according to EN 10020.

### 4.1.2 Grades and qualities

This document specifies eight steel grades S240, S270, S320, S355, S390, S430, S460 and S500 on the basis of the minimum specified yield strength at room temperature.

The eight steel grades are supplied in quality GP.

## 4.2 Designation

**4.2.1** For the steel grades covered by this document in Table 1 the steel names shall be allocated in accordance with EN 10027-1; the steel numbers shall be allocated in accordance with EN 10027-2.

**4.2.2** The designation of the steel grade shall consist of:

— the number of this document (EN 10248-1);

— the steel name or the steel number.

EXAMPLE Steel sheet piles in accordance with EN 10248-1 made of structural steels (S) with a specified minimum yield strength at room temperature of 430 MPa, followed by GP for steel sheet piles:

EN 10248-1 – S430GP

or

EN 10248-1 – 1.0523

# 5 Information to be supplied by the purchaser

## 5.1 Mandatory information

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

a) quantity to be delivered;

b) product name (including all necessary information);