



**SLOVENSKI STANDARD**  
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**Hladno oblikovana jeklena obešala - 2. del: Tolerance mer in oblik**

Cold formed steel sheet piles - Part 2: Tolerances on dimensions and shape

Kaltgeformte Spundbohlen aus Stahl - Teil 2: Grenzabmaße und Formtoleranzen

Palplanches en acier profilées à froid - Partie 2 : Tolérances sur dimensions et forme

**Ta slovenski standard je istoveten z: prEN 10249-2**

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**ICS:**

77.140.70      Jekleni profili                      Steel profiles

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 10249-2**

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Will supersede EN 10249-2:1995

English Version

## Cold formed steel sheet piles - Part 2: Tolerances on dimensions and shape

Palplanches en acier profilées à froid - Partie 2 :  
Tolérances sur dimensions et forme

Kaltgeformte Spundbohlen aus Stahl - Teil 2:  
Grenzabmaße und Formtoleranzen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 459/SC 3.

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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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (prEN 10249-2:2023) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 10249-2:1995.

In comparison with the previous edition EN 10249-2:1995, the following technical modifications have been made:

- a) restructure of the standard;
- b) update of the normative references and general requirements;
- c) addition of a new Table 2 with the tolerance on the width;
- d) adaptation of the terms “sweep” and “bow” in 8.2 and 8.3;
- e) new wording for Clause 11 about the mass tolerance;
- f) addition of two figures in Clause 13 about interlocks.

EN 10249 consists of the following parts under the general title *Cold formed steel sheet piles*:

— *Part 1: Technical delivery conditions*

— *Part 2: Tolerances on dimensions and shape*

**prEN 10249-2:2023 (E)****1 Scope**

This document specifies the tolerances on dimensions, squareness of ends, straightness and mass of cold formed steel sheet piles and is designed to be read in conjunction with EN 10249-1.

This document specifies the tolerances of cold formed steel sheet piles produced from hot rolled strip or sheet with a thickness equal to or greater than 3 mm.

The products specified are for general, structural and civil engineering works. The types of steel sheet piles covered by this document are: Z-shaped, Omega-shaped and trench sheets.

This document also specifies options that can be agreed between the purchaser and the manufacturer at the time of the order and enquiry.

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

EN 10079:2007, *Definition of steel products*

EN 10051, *Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels — Tolerances on dimensions and shape*

EN 10249-1, *Cold formed steel sheet piles — Part 1: Technical delivery conditions*

EN 12063, *Execution of special geotechnical work — Sheet pile walls*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 10021:2006, EN 10079:2007, EN 10249-1 and the following apply.

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

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

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

**3.1****cold formed steel sheet pile**

product made by cold forming on a rolling machine or on a brake press; the form of the product is such that when threading their interlocks, they constitute a continuous sheet pile structure

**3.2****trench steel sheet pile**

product made by cold forming on a rolling machine or on a brake press, without interlocks; the form of the product is such that when overlapping the profiles ends, they constitute a sheet pile structure

**4 General requirements**

The tolerances on dimensions and shape of this document shall apply, as far as possible, in addition to the technical delivery conditions of EN 10249-1.

The determination of sheet pile dimensions and tolerances shall comply with the following preparation before any measurement is carried out. This requirement shall apply in the workshop or on-site without any distinction.

The sheet piles to be measured shall be extracted from the storing stack and laid down on the ground separately. The reference ground shall be flat and free of any local relief over the length of the sheet piles. Transverse supports, e.g. blocks, may be used for supporting the sheet piles on the ground, but the distance between supports shall not exceed five meters. The sheet piles shall be laid down parallel to the ground as indicated in Clauses 5 to 11. Double Z-shaped sheet piles without welding of the common interlock, as well as single Z-shaped piles shall be supported by blocks or any suitable supporting device.

All the measurements are taken outside of the zone deformed by cutting at a distance from the ends of at least 250 mm.

The dimensions are measured by instruments of appropriate accuracy.

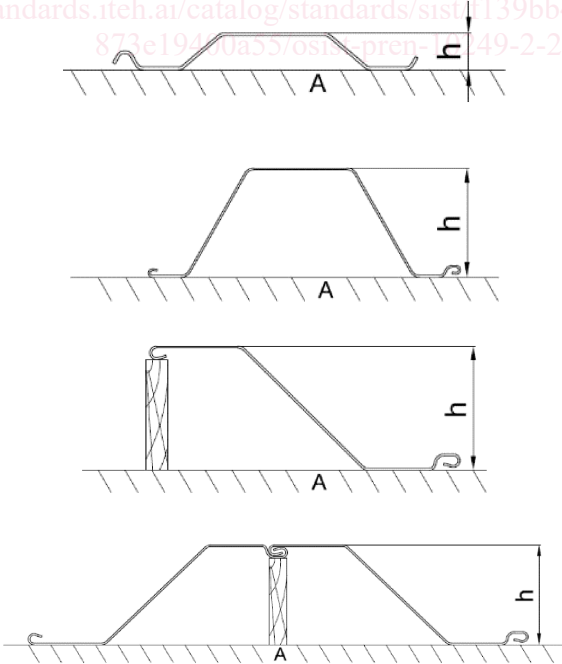
Although the tolerances on the straightness stated in this document are cumulative, each sheet pile shall slide through its own weight when being threaded over the free length of one adjacent and identical sheet pile that has been installed in compliance with the installation tolerances of EN 12063.

## 5 Height of profiles

The tolerances on the height of sheet piles are given in Table 1.

**Table 1 — Height of sheet piles**

Dimensions in millimetres

Designation	Figure	Nominal dimension	Tolerance
Height <i>h</i>		$h \leq 200$ $200 < h \leq 300$ $300 < h \leq 400$ $400 < h$	$\pm 4$ $\pm 6$ $\pm 8$ $\pm 10$
Key A ground			

## 6 Width of profiles

The tolerances on the width of sheet piles are given in Table 2.

**Table 2 — Width of sheet piles**

Designation	Figure	Nominal dimension	Tolerance
Width $w$ Single pile		all	$\pm 2 \% w$
Width $w$ Double pile		all	$\pm 3 \% w$
Key A ground			

## 7 Wall thickness of profiles

The tolerances on the wall thickness of the profiles shall comply with the requirements of EN 10051.



## 8 Straightness of profiles (deviation from straight line)

### 8.1 General

The controls of the profile straightness (measurement of the sweep and the bow) shall be carried out on a sheet pile which freely lies on a plane surface according to the following Table 3 and Table 4.

For Z-shaped sheet piles, the controls are carried out on an interlocked pair of sheet piles with or without welded interlocks.

NOTE In following clauses,  $L$  represents the nominal length of a sheet pile section.

### 8.2 Sweep

The sweep in the horizontal plane of the sheet pile is the distance between the cord and the arc formed by the sheet pile edge (see Table 3).

The dimension  $S$  shall be  $\leq 0,25 \% L$ .

**Table 3 — Sweep of sheet piles**

Dimensions in millimetres

Designation	Figure	Nominal dimension	Tolerance
Sweep $S$		all lengths $L$	$\leq 0,25 \% L$

### 8.3 Bow

The bow in the vertical (perpendicular) plane of the sheet pile is the distance between the sheet pile edge in its middle and the reference plane surface (see Table 4).

The dimension  $C$  shall be  $\leq 0,25 \% L$ .

**Table 4 — Bow of sheet piles**

Dimensions in millimetres

Designation	Figure	Nominal dimension	Tolerance
Bow <i>C</i>		all lengths <i>L</i>	$\leq 0,25 \% L$

**8.4 Twisting**

One sheet pile end being fixed, the dimension *V* which characterizes the twisting is measured at the free end of the sheet pile with regard to the reference plane (see Table 5).

The dimension *V* shall not exceed 2 % *L* with a maximum of 100 mm.

**Table 5 — Twisting of sheet piles**

Dimensions in millimetres

Designation	Figure	Nominal dimension	Tolerance
Twist <i>V</i>		all lengths <i>L</i>	$\leq 2 \% L$ and $\leq 100$
Key A-A cross-section above the support of the sheet pile			