

Hot rolled sheet piling of non alloy steels —

Part 2: Tolerances on shape and dimensions

The European Standard EN 10248-2:1995 has the status of a
British Standard

ICS 77.140.70

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee ISE/12, Structural steels, upon which the following bodies were represented:

- BEAMA Ltd.
- British Constructional Steelwork Association Ltd.
- British Iron and Steel Producers' Association
- British Railways Board
- Department of Transport
- Institution of Structural Engineers
- Lloyd's Register of Shipping
- National Association of Steel Stockholders
- Railway Industry Association
- Society of Motor Manufacturers and Traders Limited
- Steel Construction Institute
- Welding Institute

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on 15 March 1996

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The following BSI references relate to the work on this standard:
Committee reference ISE/12
Draft for comment 93/309093 DC

ISBN 0 580 24937 9

Amendments issued since publication

Amd. No.	Date	Comments

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National foreword

This British Standard has been prepared by Technical Committee ISE/12 and is the English language version of EN 10248-2:1995 *Hot rolled sheet piling of non alloy steels — Part 2: Tolerances on shape and dimensions*, published by the European Committee for Standardization (CEN).

Cross-references

Publication referred to	Corresponding British Standard
EN 10248-1	BS EN 12048-1 <i>Hot rolled sheet Piling of non alloy steels</i> Part 1:1996 <i>Technical delivery conditions</i>

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 9 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

ICS 77.140.70

Descriptors: Iron and steel products, hot rolled products, sheet pilings, steels, unalloyed steels, dimensions, dimensional tolerances, form tolerances

English version

Hot rolled sheet piling of non alloy steels — Part 2: Tolerances on shape and dimensions

Palplanches laminées à chaud en aciers non
alliés — Partie 2: Tolérances sur forme et
dimensions

Warmegewalzte Spundbohlen aus unlegierten
Stählen — Teil 2: Grenzabmaße und
Formtoleranzen

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Standard was prepared by Subcommittee SC4, Sheet piling, of Technical Committee ECISS/TC10, Structural steels — Qualities, of which the secretariat is held by NNI.

EN 10248 is composed of two Parts:

- *Part 1: Technical delivery conditions;*
- *Part 2: Tolerances on shape and dimensions.*

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 1995, and conflicting national standards shall be withdrawn at the latest by December 1995.

According to the CEN/CENELEC International Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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1 Scope

This Part of this European Standard specifies the tolerances on dimensions, squareness of ends, straightness and mass of hot rolled non alloy steel sheet piles which are defined in EN 10248-1.

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.

EN 10248-1, *Hot rolled sheet piling of non alloy steels — Part 1: Technical delivery conditions*.

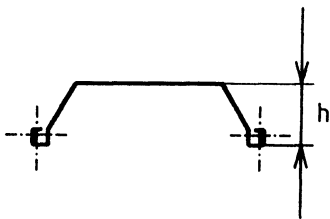
3 Height of profiles

3.1 U-sheet piles

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

Table 1 — Height of U-sheet piles

Dimensions in millimetres

Designation	Figure	Nominal dimension	Tolerance
Height h		$h \leq 200$ $h > 200$	± 4 ± 5

Tolerances on the height of sections made of a pair of crimped or welded piles may be agreed at the time of the enquiry and order.

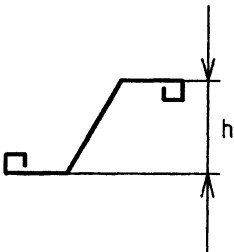
Option 1, see 11.2.

3.2 Z-sheet piles

The tolerances on the height of Z-sheet piles are given in Table 2.

Table 2 — Height of Z-sheet piles

Dimensions in millimetres

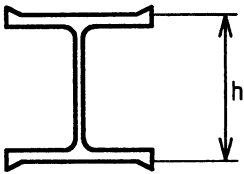
Designation	Figure	Nominal dimension	Tolerance
Height h		$h \leq 200$ $200 < h < 300$ $h \geq 300$	± 5 ± 6 ± 7

3.3 H-sheet piles

The tolerances on the height of H-sheet piles are given in Table 3.

Table 3 — Height of H-sheet piles

Dimensions in millimetres

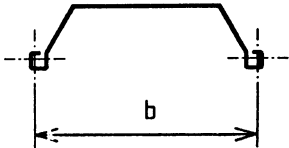
Designation	Figure	Nominal dimension	Tolerance
Height h		$h < 500$ $h \geq 500$	± 5 ± 7

4 Width of profiles¹⁾

4.1 U-sheet piles

The tolerance on the width of U-sheet piles is given in Table 4.

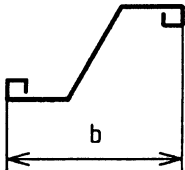
Table 4 — Width of U-sheet piles

Designation	Figure	Nominal dimension	Tolerance
Width b		All	$\pm 2 \% b$

4.2 Z-sheet piles

The tolerance on the width of Z-sheet piles is given in Table 5.

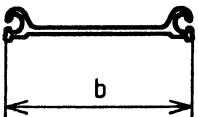
Table 5 — Width of Z-sheet piles

Designation	Figure	Nominal dimension	Tolerance
Width b		All	$\pm 2 \% b$

4.3 Flat profiles

The tolerance on the width of flat profiles is given in Table 6.

Table 6 — Width of flat profiles

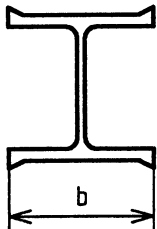
Designation	Figure	Nominal dimension	Tolerance
Width b		All	$\pm 2 \% b$

¹⁾ For sections interlocked in double or triple piles, the tolerance from the total nominal width may be $\pm 3 \%$.

4.4 H-sheet piles

The tolerance on the width of H-sheet piles is given in Table 7.

Table 7 — Width of H-sheet piles

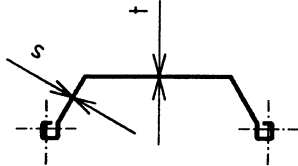
Designation	Figure	Nominal dimension	Tolerance
Width <i>b</i>		All	$\pm 2 \% b$

5 Wall thicknesses of profiles²⁾

5.1 U-sheet piles

The tolerances on wall thicknesses of U-sheet piles are given in Table 8.

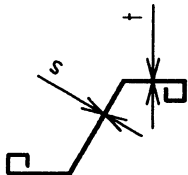
Table 8 — Wall thicknesses of U-sheet piles

Dimensions in millimetres			
Designation	Figure	Nominal dimension	Tolerance
Thicknesses <i>s</i> and <i>t</i>		$t \leq 8,5$	$\pm 0,5$
		$t > 8,5$	$\pm 6 \% t$
		$s \leq 8,5$	$- 0,5^a$
		$s > 8,5$	$- 6 \% s^a$
^a Normally the positive tolerance shall be at the discretion of the manufacturer. At the time of the enquiry and order, a limitation on the positive tolerance can be agreed. In this case, the following values should be chosen: + 0,5 mm for $s \leq 8,5$ mm and + 6 % s for $s > 8,5$ mm (option 2, see 11.3)			

5.2 Z-sheet piles

The tolerances on wall thicknesses of Z-sheet piles are given in Table 9.

Table 9 — Wall thicknesses of Z-sheet piles

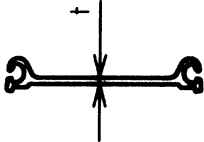
Dimensions in millimetres			
Designation	Figure	Nominal dimension	Tolerance
Thicknesses <i>s</i> and <i>t</i>		$t, s \leq 8,5$	$\pm 0,5$
		$t, s > 8,5$	$\pm 6 \% s$ and t

²⁾ Measured at centre.

5.3 Flat profiles

The tolerances on wall thickness of flat profiles are given in Table 10.

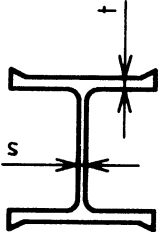
Table 10 — Wall thickness of flat profiles

Dimensions in millimetres			
Designation	Figure	Nominal dimension	Tolerance
Thickness <i>t</i>		$t \leq 8,5$ $t > 8,5$	$\pm 0,5$ $\pm 6 \% t$

5.4 H-sheet piles

The tolerances on wall thicknesses of H-sheet piles are given in Table 11.

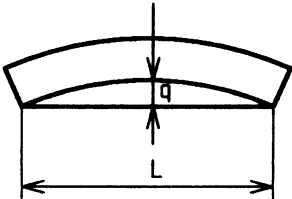
Table 11 — Wall thicknesses of H-sheet piles

Dimensions in millimetres			
Designation	Figure	Nominal dimension	Tolerance
Thicknesses <i>s</i> and <i>t</i>		$t,s \leq 12,5$ $t,s > 12,5$	$+ 2$ $- 1$ $+ 2,5$ $- 1,5$

6 Straightness of profiles (deviation from straight line)³⁾

The tolerance on straightness of profiles is given in Table 12.

Table 12 — Straightness of all profiles

Designation	Figure	Nominal dimension	Tolerance
<i>q</i>		All lengths	$\leq 0,2 \% L$

A reduced tolerance may be agreed at the time of the enquiry and order.

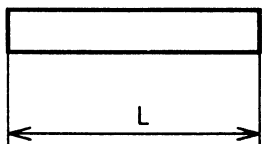
Option 3, see 11.4.

³⁾ Measuring of a pile shall be carried out on a well 1-1 aligned level surface.

7 Length of profiles

The tolerance on the length of profiles is given in Table 13.

Table 13 — Length of all profiles

Dimensions in millimetres			
Designation	Figure	Nominal dimension	Tolerance
Length L		All	± 200

A reduced tolerance may be agreed at the time of the enquiry and order.

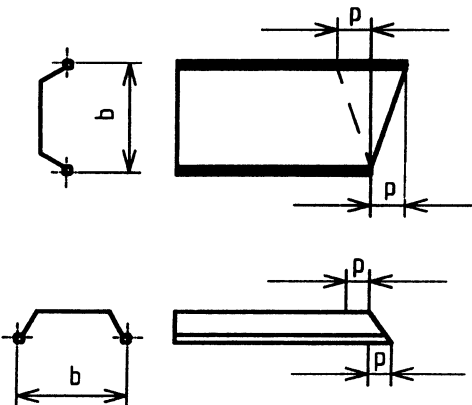
Option 4, see 11.5.

8 Squareness of ends for all profiles

The tolerance on squareness of profile ends is given in Table 14.

The total deviation between the highest and the lowest point of the cutting plane shall not exceed 2 % of b with the measurement being taken in the direction of the longitudinal axis of a single pile.

Table 14 — Squareness of ends for all profiles

Designation	Figure	Nominal dimension	Tolerance
p		All widths	$\pm 2 \% b$

9 Mass of all profiles

Compared with the calculated mass (product of ordered pile length by mass per linear metre of pile according to section tables of the producers), the actual mass shall deviate no more than $\pm 5 \%$ from the mass of the total delivery.

A reduced tolerance may be agreed at the time of the enquiry and order.

Option 5, see 11.6.

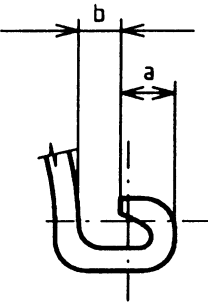
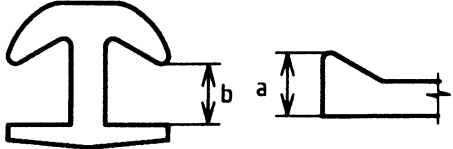
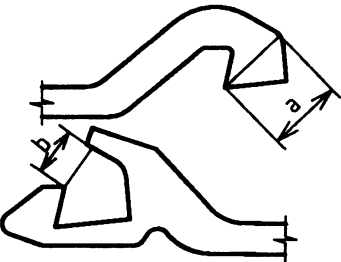
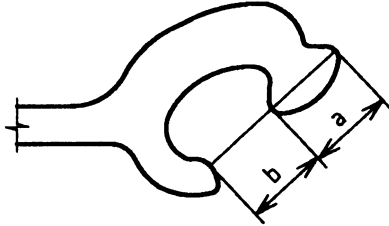
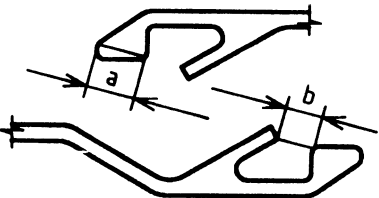
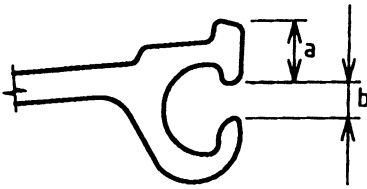
10 Interlocks of profiles

The interlocks shall have adequate free play, so that the piles can be fitted into each other and they shall engage in such a manner that the in-service forces can be transmitted. In general, the minimum interlock interference, as calculated by dimension a minus b shall comply with Table 15.

In short partial sections, the minimum values may fall short of the values by not more than 1 mm.

Table 15 — Examples of typical types of interlocks for sheet piles

Dimensions in millimetres

Type 1 a = Hook width b = Interlock opening Tolerance: $a - b \geq 4$ 	Type 4 a = Club height b = Interlock opening Tolerance: $a - b \geq 4$ 
Type 2 a = Button width b = Interlock opening Tolerance: $a - b \geq 4$ 	Type 5 a = Hook width b = Interlock opening Tolerance: $a - b \geq 2,6$ 
Type 3 a = Button width b = Interlock opening Tolerance: $a - b \geq 4$ 	Type 6 a = Hook width b = Interlock opening Tolerance: $a - b \geq 7,0$ 

11 Options

11.1 Options are available to the purchaser which shall be specified as required at the time of the enquiry and order (see 4.2 — EN 10248-1).

11.2 Option 1

If tolerances are agreed on the height of sections made of a pair of crimped or welded piles (see 3.1).

11.3 Option 2

If a plus tolerance is agreed for the thickness (s) for U-sheet piles (see 5.1).

11.4 Option 3

A reduced tolerance for the straightness of profiles (see clause 6).

11.5 Option 4

A reduced tolerance for the length of profiles (see clause 7).

11.6 Option 5

A reduced tolerance for the mass of profiles (see clause 9).

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