

# SLOVENSKI STANDARD

## SIST EN 508-3:2002

01-november-2002

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Roofing products from metal sheet - Specification for self-supporting products of steel, aluminium or stainless steel sheet - Part 3: Stainless steel

Dachdeckungsprodukte aus Metallblech - Festlegungen für selbsttragende Bedachungselemente aus Stahlblech, Aluminiumblech oder nichtrostendem Stahlblech - Teil 3: Nichtrostender Stahl

Produits de couverture en tôle métallique - Spécification pour les plaques de couverture en tôle d'acier, d'aluminium ou d'acier inoxydable - Partie 3: Acier inoxydable

Ta slovenski standard je istoveten z: EN 508-3:2000

### ICS:

77.140.50	Ú[ z æå\  ^} æ å^  æ	Flat steel products and semi-products
91.060.20	Strehe	Roofs

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en



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English version

Roofing products from metal sheet - Specification for self-supporting products of steel, aluminium or stainless steel sheet -  
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This European Standard was approved by CEN on 3 December 1999.

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. 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.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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



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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 128 "Roof covering products for discontinuous laying and products for wall cladding", the secretariat of which is held by IBN.

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 March 2001, and conflicting national standards shall be withdrawn at the latest by March 2001.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

The annexes A, C, D and E of this European standard are informative, annex B is normative.

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

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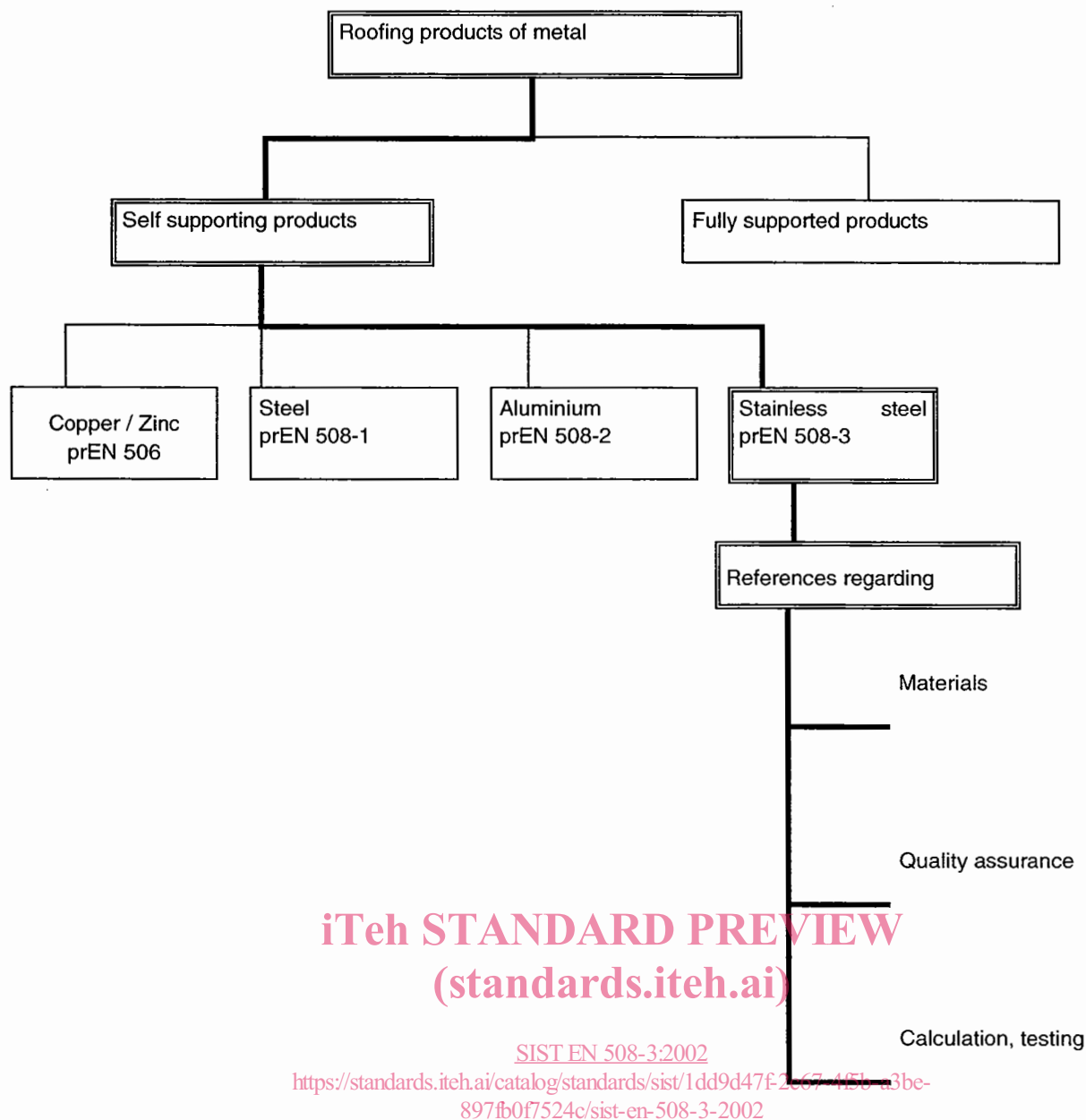
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## Introduction

Figure 1 indicates the position of this standard in the CEN framework of standards concerning roofing product of metal.



**Figure 1 — Framework of standards**

In this standard the performance of the product has been defined in terms of calculation and a number of type tests.

The performance of a roof constructed with these products depends not only on the properties of the product as required by this standard, but also on the design, construction and performance of the roof as a whole in relation to the environment and conditions of use.



## 1 Scope

The present standard specifies requirements for self supporting roofing products for discontinuous laying made from stainless steel sheet with or without additional metallic and/or organic coatings.

The standard establishes general characteristics, definitions, classifications and labelling for the products, together with requirements for the materials from which the products can be manufactured. It is intended to be used either by manufacturers to ensure that their products comply with the requirements or by purchasers to verify that the products comply before they are despatched from the factory. It specifies the requirements for products which enable them to meet all normal service conditions.

The standard applies to all discontinuously laid self supporting external profiled sheets for roofing. These profiled roof sheets are designed to keep wind, rain and snow out of the building and to transfer any resultant loads and infrequent maintenance loads to the structure.

No requirements for supporting construction, design of roof system and execution of connections and flashings are included.

## 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 10088-1, *Stainless steel - Part 1 : List of stainless steels.*

EN 10088-2, *Stainless steel - Part 2 : Technical delivery conditions for sheet/plate and strip for general purposes.*

EN 10203, *Cold reduced electrolytic tinplate.*

EN 10259, *Cold-rolled stainless and heat resisting steel wide strip and plate/sheet - Tolerances on dimensions and shape.*

EN ISO 7438, *Metallic materials - Bend test*

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### 3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply:

#### 3.1 Self-supporting product

A product which by virtue of its material and shape, support all applied loadings (e.g. snow, wind, foot traffic) and transmit these loadings to discretely spaced structural supports.

#### 3.2 Materials

- a) **stainless steel**, steel sheets with at least a content of 10,5 % chromium and max 1,2 % carbon ;

NOTE For roofing products the stainless steels grades are :

- ferritic ;
- austenitic with or without molybdenum ;
- austenitic ferritic (duplex), and ;
- higher alloyed grades.

- b) **terne coated stainless steel**, stainless steel continuously hot dip coated with a lead-tin alloy ;

- c) **tin coated stainless steel**, stainless steel continuously coated with tin by electrodeposition ;

- d) **organic coated stainless steel**, stainless steel, terne coated stainless steel or tin coated stainless steel which is continuously (factory) painted by roller or spray process.

NOTE EN 10169-1 refers to this type of coated steel.

#### 3.3 Profiles

##### 3.3.1

##### **trapezoidal profiled sheet**

self supporting sheet which is designed to allow it to be side and end lapped, the crowns of which may be rounded and, in addition, the crowns, webs and valleys may be stiffened (see Figures 2 to 5)

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Figure 2 — Part of typical trapezoidal profile  
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Figure 3 — Part of typical trapezoidal profile with rounded crowns





Figure 4 — Part of typical trapezoidal profile with stiffened crown and web

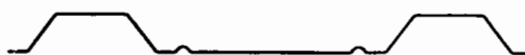


Figure 5 — Part of typical trapezoidal profile with stiffened valley

### 3.3.2

#### sinusoidal profiled sheet

self supporting sheet which is designed to allow it to be side and end lapped, comprising a series of arc shaped crowns and valleys interconnected with tangential webs (see Figure 6)



Figure 6 — Part of typical sinusoidal profiled sheet

### 3.3.3

#### standing seam and concealed fix sheet

self supporting sheet profiled in such a way that the fixings are hidden within the construction and are not exposed to the weather, as illustrated in Figures 7 and 8

The profile shape is designed to allow the formation of side laps on site.

**NOTE** As these types of roof covering products are used in proprietary roofing systems, no structural requirements are given within the present standard.

These products are normally designed by testing.



Figure 7 — Typical standing seam profile



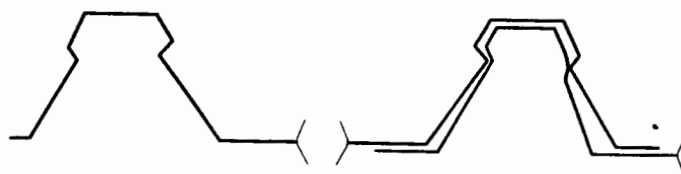


Figure 8 — Typical concealed fix profile

### 3.3.4 tile profiles

parts of typical tile profiled sheets are illustrated in Figures 9. The tile profile may include transverse steps

The tiles illustrated in Figures 9 a), 9 b), 9 c) shall allow the sheet to be side and end lapped.

**NOTE** As these types of roof covering products are used in proprietary systems no structural requirements are given within this standard.

These products are normally designed by testing.

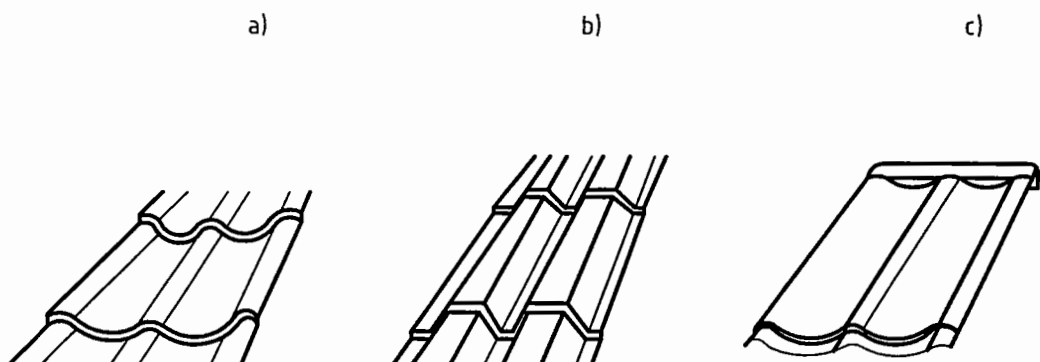


Figure 9 — Typical tile profiles

## 3.4 Product geometry

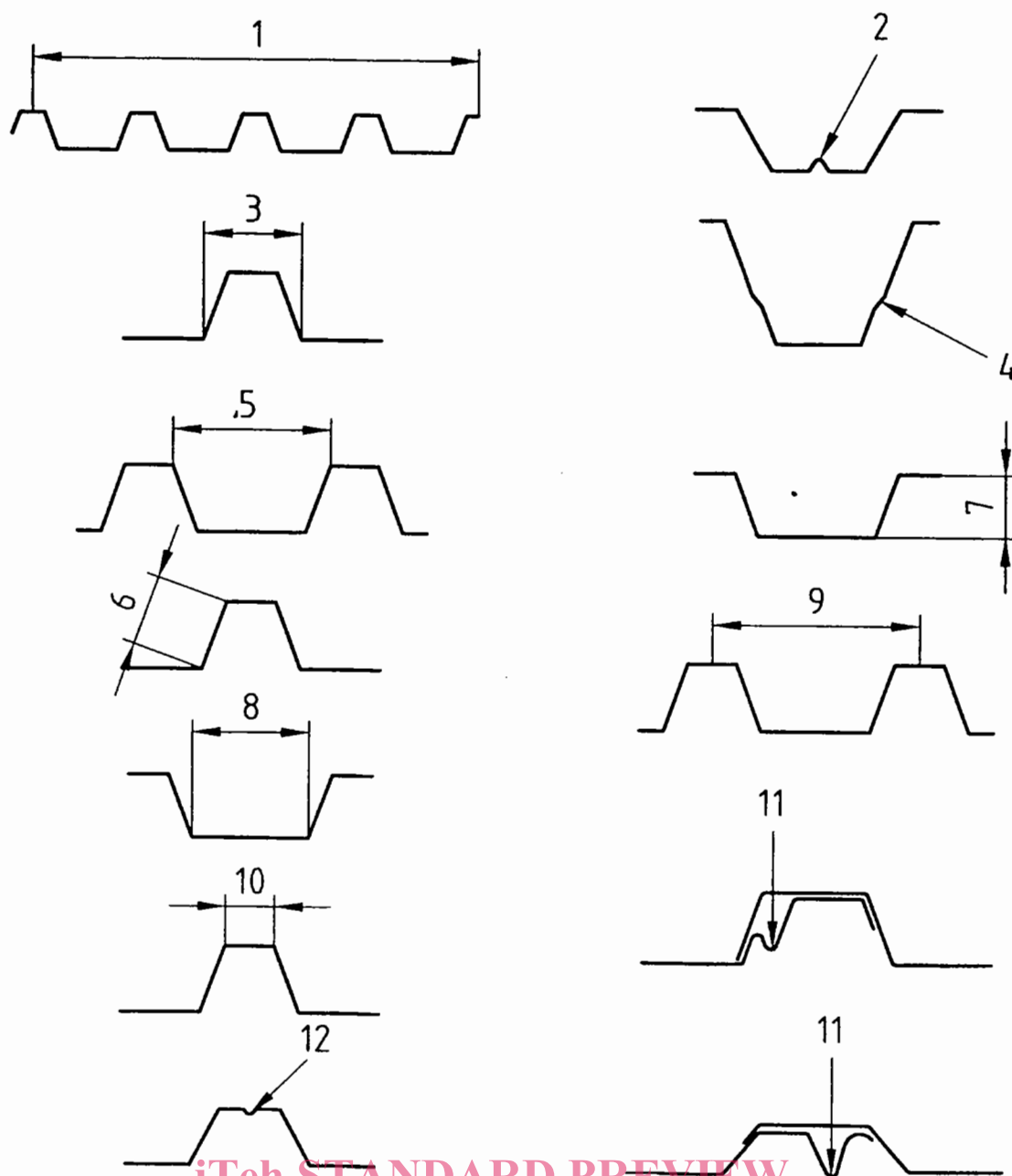
The names for various parts of typical trapezoidal profiled sheets are defined in Figures 10a) and 10b), with additional definitions for sinusoidal profiles in Figure 11 and tile profiles in Figure 12.

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# Key

- 1 Cover width
- 2 Valley stiffener
- 3 Rib
- 4 Web stiffener
- 5 Trough

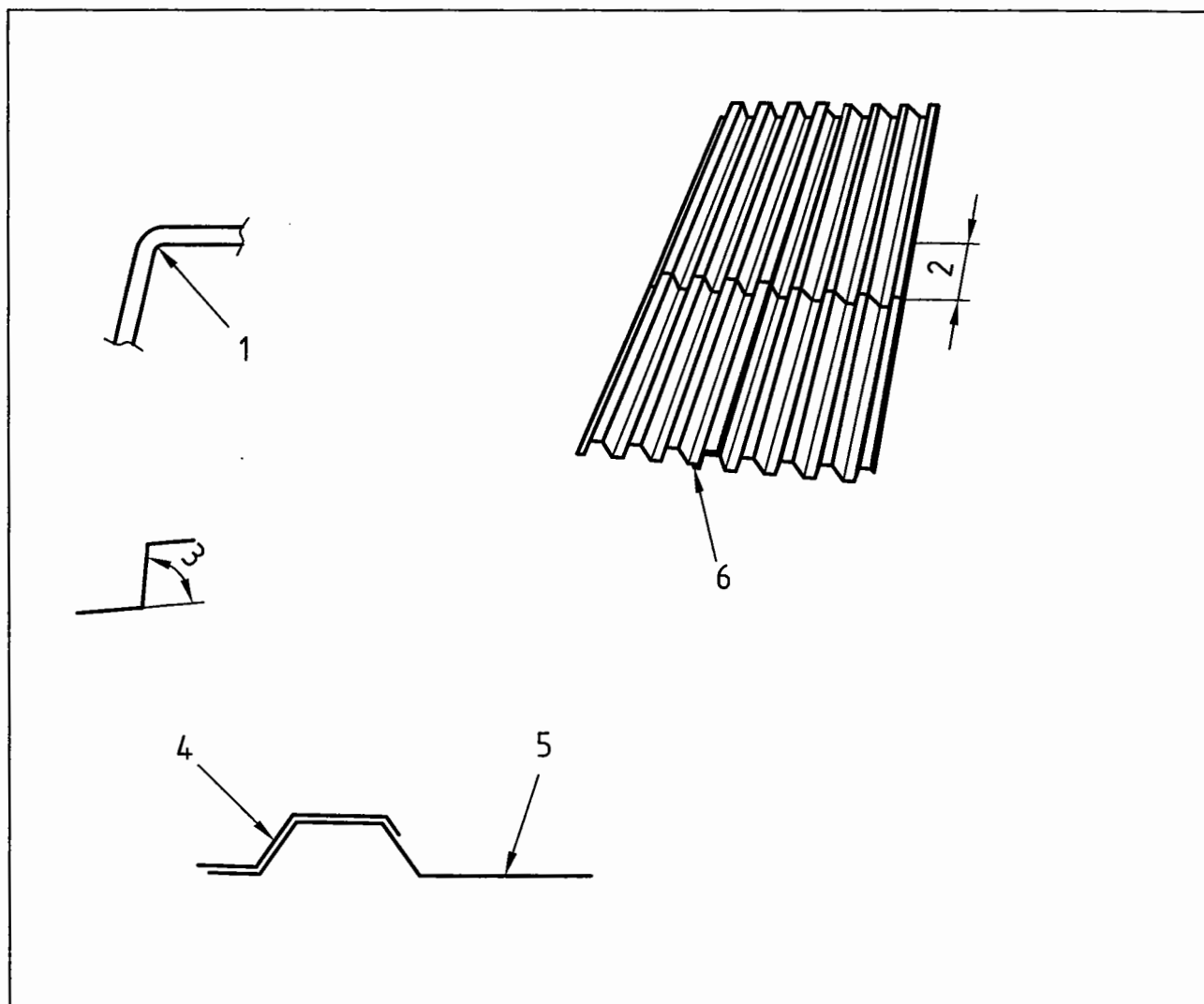
- 6 Web
- 7 Depth
- 8 Valley
- 9 Pitch
- 10 Crown

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- 11 Drainage groove
- 12 Crown stiffener

Figure 10 a) — Definitions of the parts of typical trapezoidal profiled sheets





#### Key

- |   |             |   |   |
|---|-------------|---|---|
| 1 | Bend radius | 4 | Overlap                                 |
| 2 | End lap     | 5 | Underlap                                |
| 3 | Web angle   | 6 | Side lap in principle the same on tiles |

Figure 10 b) — Definitions of the parts of typical trapezoidal profiled sheets  
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#### Key

- |   |       |
|---|-------|
| 1 | Depth |
| 2 | Pitch |

Figure 11 — Definitions of the parts of typical sinusoidal profiled sheets