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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Geometrical product specifications (GPS) — Wedges —

Part 2:
Dimensioning and tolerancing

Spécification géométrique des produits (GPS) — Cales —

Partie 2: Cotation et tolérancement

(Revision of ISO 2538:1998)

ICS 17.040.01

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

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Foreword

Together with ISO 2538-1, this first edition cancels and replaces ISO 2538:1998, which has been technically revised.

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 2538-2 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

Together with ISO 2538-1, this second edition cancels and replaces the first edition (ISO 2538:1998), which has been technically revised.

ISO 2538 consists of the following parts, under the general title *Geometrical product specifications (GPS) — Wedges*:

— *Part 1: Series of angles and slopes*

— *Part 2: Dimensioning and tolerancing*

Annex A of this International Standard is for information only.

Introduction

This International Standard is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences chain links 1 and 2 of the chain of standards on angle.

The ISO/GPS Masterplan given in ISO/TR 14638 gives an overview of the ISO/GPS system of which this standard is a part. The fundamental rules of ISO/GPS given in ISO 8015 apply to this standard and the default decision rules given in ISO 14253-1 apply to specifications made in accordance with this standard, unless otherwise indicated.

For more detailed information of the relation of this International Standard to other standards and the GPS matrix model, see Annex A.

In this International Standard, the figures illustrate the text only and should not be considered as design examples. For this reason, the figures are simplified and are not to scale.

Geometrical product specifications (GPS) — Wedges —

Part 2:
Dimensioning and tolerancing

1 Scope

This International Standard specifies methods for the dimensioning and tolerancing of wedges.

NOTE 1 For simplicity, only truncated wedges have been represented in this International Standard. However, this International Standard can be applied to any type of wedges within its scope.

NOTE 2 This International Standard is not intended to prevent the use of other methods of dimensioning and tolerancing

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 1101:2004 *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*.

ISO 2538-1:—[1)], *Geometrical Product Specification (GPS) — Wedges — Part 1: Series of angles and slopes*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions of ISO 2538 Part 1 apply.

4 Graphical symbol for a slope

A slope shall be indicated using the graphical symbol for slopes illustrated in Figure 1. The dimension "*a*" corresponds to the height "*h*" of the lettering and "*d*" to the line width of the lettering.

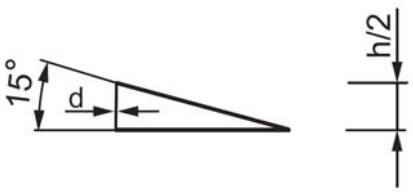

Figure 1

The symbol shall be placed on a reference line which is connected to the feature by a leader line. After the symbol the slope shall be indicated by a value of the slope ratio or in percent followed by the percentage symbol "%".

1) to be published. Revision of ISO 2538:1998

The orientation of the graphical symbol shall coincide with that of the slope on the corresponding feature (see Figure 2).

Example for the use of the graphical symbol together with a slope in % (see Figure 2).

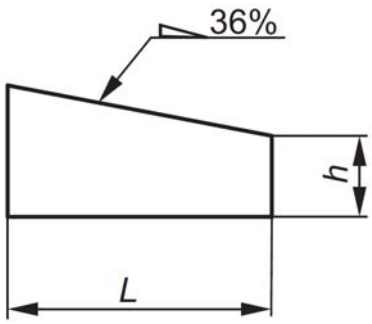

Figure 2

5 Dimensioning of wedges

5.1 Characteristics of wedges

In order to define a wedge, the characteristics and dimensions shown in Table 1 may be used in those combinations most appropriate for the function of the wedge.

Table 1 — Characteristics and dimensions of wedges

Characteristics and dimensions	Letter Symbol	Examples of indication	
		Prefered method	Optional method
Characteristics			
Rate of wedge	*C*	1:2,835 641	—
Slope angle	*β*	20°	—
Slope	*S*	1:2,747 477	36,4%
Dimensions			
height of wedge at the larger end	*H*		
height of wedge at the smaller end	*h*		
height of wedge at the selected cross-section	H_x		
thickness of wedge at the larger end	*T*		
thickness of wedge at the smaller end	*t*		
thickness of wedge at the selected cross-section	T_x		
length of wedge	*L*		
Length locating a cross-section at which H_x or T_x is specified	L_x		

5.2 Dimensioning of wedges

5.2.1 General

No more dimensions than are necessary shall be specified. However, additional dimensions may be given as "auxiliary" dimensions in brackets for information (see Figure 4).

Typical combinations of wedge characteristics and dimensions are shown in sub clauses 5.2.2 to 5.2.6.

5.2.2 Dimensioning of wedge with a sloped feature; heights of wedge specified

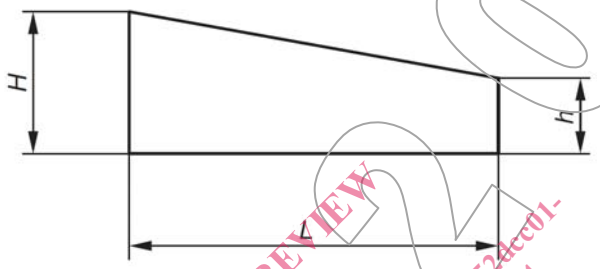

Figure 3

5.2.3 Dimensioning of wedge with a sloped feature; height of wedge and wedge angle specified

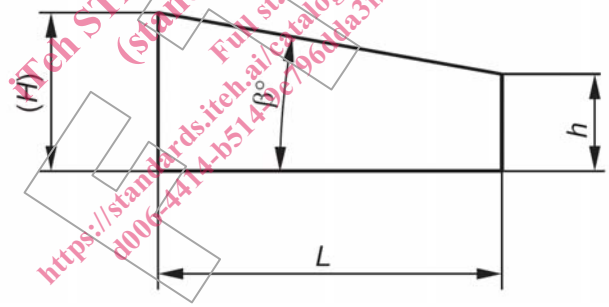

Figure 4

5.2.4 Dimensioning of wedge; thickness of wedge specified

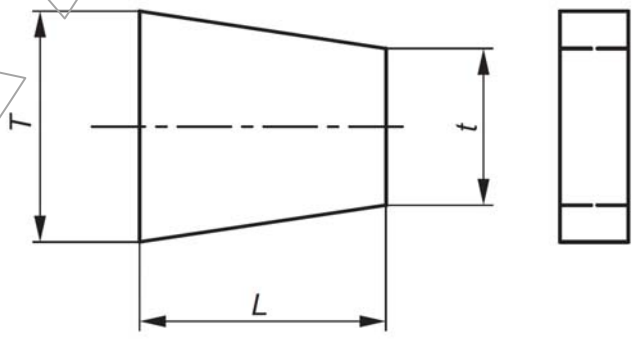

Figure 5