



SLOVENSKI STANDARD

SIST EN 1083-1:1997

01-december-1997

Krtače na električni pogon - 1. del: Definicije in nomenklatura

Power-driven brushes - Part 1: Definitions and nomenclature

Kraftbetriebene Bürstwerkzeuge - Teil 1: Definition und Nomenklatur

Brosses entraînées par un moteur - Partie 1: Définitions et nomenclature

Ta slovenski standard je istoveten z: **EN 1083-1:1997**

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ICS:

01.040.25	Izdelavna tehnika (Slovarji)	Manufacturing engineering (Vocabularies)
25.100.70	Brusiva	Abrasives

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EUROPEAN STANDARD

EN 1083-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1997

ICS 01.040.25; 25.120.01

Descriptors: brushing machines, brushes, vocabulary, nomenclature

English version

Power-driven brushes - Part 1: Definitions and nomenclature

Brosses entraînées par un moteur - Partie 1:
Définitions et nomenclatureKraftbetriebenen Bürstwerkzeuge - Teil 1:
Definitionen und Nomenklatur

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

CEN

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

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

Contents

Foreword

- 1 Scope
- 2 Definitions
- 3 Nomenclature of power-driven brushes

Foreword

This European Standard has been prepared by Technical Committee 173 "Brushware" the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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 and the United Kingdom.

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1 Scope

This part of this European Standard defines terms used to describe power-driven brushes and gives the nomenclature of power-driven brush products.

This standard also provides the necessary definitions for the purpose of other European Standards for power-driven brushes.

It is not applicable to brushes for vehicle washing plants, vacuum cleaners, floor cleaning machines, gutter and street cleaning brushes, dental brushes, brushes with tapered bores nor brushes designed for special applications.

2 Definitions

For the purpose of the European Standards for power-driven brushes the following definitions apply.

2.1 brush

Assembly consisting of the brush body and the fill material.

2.2 brush body

Component of a brush whose function is to keep the fill material together.

2.3 fill material

Material, fixed into the brush body by means of an anchor or other fastening, to form the brush area and hence the working part of the brush.

NOTE: The following materials may be used as fill material:

- steel wire, unalloyed
- wire from alloyed stainless steel or non-ferrous metal
- man-made fibres
- vegetable fibres
- animal hair and bristle
- mixtures of the above materials

In order to describe fully the fill material, relevant data on its chemical, physical or mechanical properties may be required.

2.4 working surface

Surface formed by the tips of the fill material and which contacts the workpiece.

2.5 working width

Width occupied by the fill material on the brush surface.

2.6 bundle

Number of single units of fill material:

2.7 twisted bundle (tuft) or knot

Bundle of fill material of uniform length, passed through a hole or retaining rod to make a U-shape and then twisted together to form a knot.

2.8 bonded brush

Brush where the fill material is bonded together by a rubber or plastics elastomer material. (standards.iteh.ai)

2.9 fill material density

Number of fill material tips related to a given area of the working surface.

2.10 fill material length

Free length of the fill material measured from the brush body, or from the face plate diameter, to the tips of the fill material.

2.11 straight fill material

Fill material of wire or plastics that has not been crimped before being incorporated into the brush or bundle.

2.12 crimped fill material

Fill material of wire or plastic that, before being incorporated into the brush or bundle, has been passed through a gear unit or other crimping device in order to give it a shape similar to a sine-wave or other regular shape.

2.13 speed of rotation

Peripheral speed in revolutions per minute.

NOTE: Rotary brushes are categorized according to their speed of rotation.

2.14 safe speed

Maximum permissible number of revolutions per minute of a brush, n_s

NOTE: n_s is the maximum permissible number of revolutions per minute of a rotary brush at maximum working speed. The maximum working speed V_s of a rotary brush is determined by the equation:

$$V_s = \frac{d_1 \times n_s \times 3,14}{60 \times 1000} \text{ m/s}$$

where:

d_1 is the total diameter of the brush, in millimetres;
 n_s is the maximum permissible number of revolutions per minute.

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2.15 maximum working speed

Maximum permissible peripheral speed of a rotary brush, V_s .

NOTE: The maximum permissible number of revolutions n_s of a rotary brush is determined by the equation:

$$n_s = \frac{V_s \times 60 \times 1000}{d_1 \times 3,14} \text{ min}^{-1}$$

where:

d_1 is the total diameter of the brush, in millimetres;
 V_s is the maximum speed in metres per second.

2.16 spindle (shank)

Male extension, (usually of an end, wheel or cup brush) of a size and shape capable of being gripped in a three jaw chuck or collet of appropriate size (see figure 1). Brushes that are to be guided in the workpiece are additionally equipped with a pilot (see figure 17).

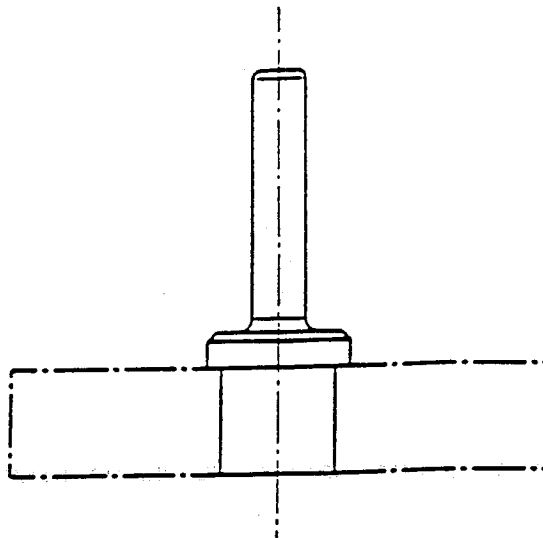


Figure 1: Spindle (shank)

2.17 bore adaptor

Part used to reduce the size of the standard bore in a brush. A bore adaptor often takes the form of a concentric ring, with or without a flange (see figure 2).

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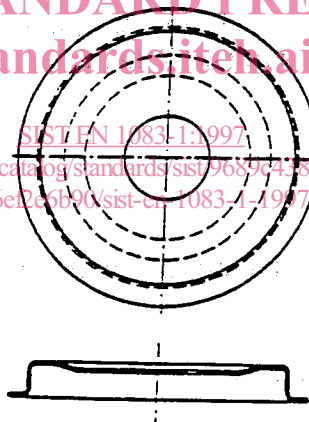


Figure 2: Bore adaptor (axle plate)

3 Nomenclature of power-driven brushes by shape and configuration

NOTE: The symbols used in the figures illustrating brush shapes and configurations (figures 3 to 38) are as follows:

d_1	overall diameter
l_1	overall length
h	overall height
l_2	visible trim length
b	working width
d_2	bore/thread diameter
d_3	spindle diameter

b_1 body length

l_3	spindle length
d_4	core diameter
p	pitch
z	number of rows (class 2 brushes only)
d_5	pilot diameter
l_4	pilot length
d_6	fill material diameter

3.1 Cup brushes, type I, with straight sides

Cup brushes of type I having a straight side parallel to the axis of the brush (see figures 3 and 4). They are described by additional information, such as overall diameter, overall height, visible trim length and bore diameter. In the case of a knot-type brush of class 2, the number of rows is also given.

The description of the brush includes an indication of the fill material as follows:

Class 1 (figure 3): crimped wire, man-made fibres, hair or other fibre described by the fill material diameter and including any appropriate chemical and physical data, e.g. steel wire, stainless steel wire, alloyed steel wire, wire of non-ferrous metal and, in the case of man-made fibres, their type.

The brushes can also be supplied with vegetable fibres, animal hair and bristle with an indication of their type and quality.

Class 2 (figure 4): twisted bundle (tuft) or knot. In the case of wire fill material, the same description as class 1 is applied.

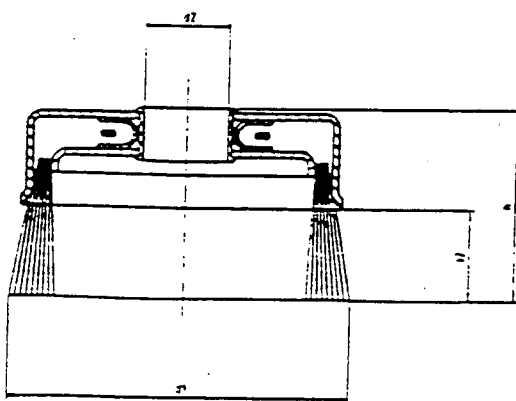


Figure 3:
Cup brush, type I (class 1)

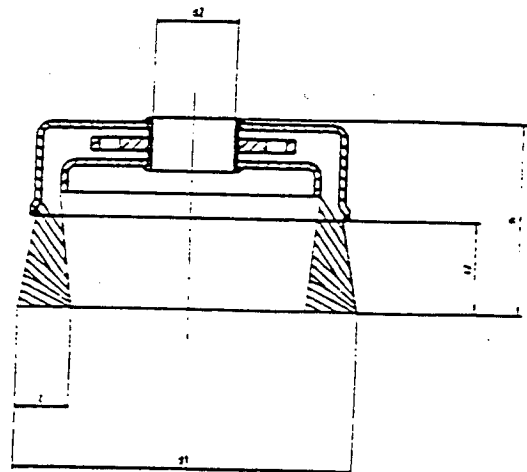


Figure 4:
Cup brush, type I (class 2)

3.2 Cup brushes, type II, with flared cup

Cup brushes of type II with flared cup shape, the included angle of the cup being variable depending on the application (see figures 5 and 6). The brushes are described in the same terms as straight sided cup brushes indicating any additional information, such as overall diameter, overall height, visible trim length and bore diameter. In the case of a knot-type brush of class 2, the number of rows is also given.

Class 1 (figure 5): crimped wire, man-made fibres; hair or other fibre described by the fill material diameter and including any appropriate chemical and physical data, e.g. steel wire, stainless steel wire, alloyed steel wire, wire of non-ferrous metal and, in case of man-made fibres, their type.

The brushes can also be supplied with vegetable fibres, animal hair and bristle with an indication of their type and quality.

Class 2 (figure 6): twisted bundle (tuft) or knot. In the case of wire fill material, the same description as class 1 is applied.

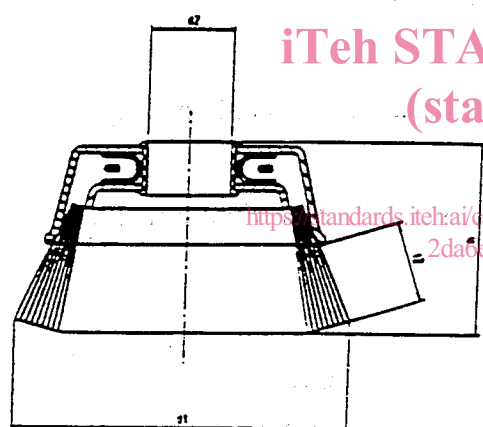


Figure 5:
Cup brush, type II (class 1)

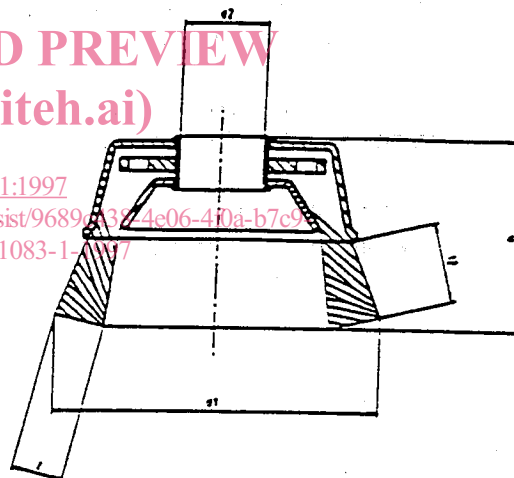


Figure 6:
Cup brush, type II (class 2)

3.3 Cup brushes, type III, with straight sides and spindle

Cup brushes of type II with a cup shape supplied with a spindle instead of a bore (see figures 7 and 8). The brushes are described by indicating the spindle diameter and length, rather than the bore diameter, together with the additional information given in 3.1.

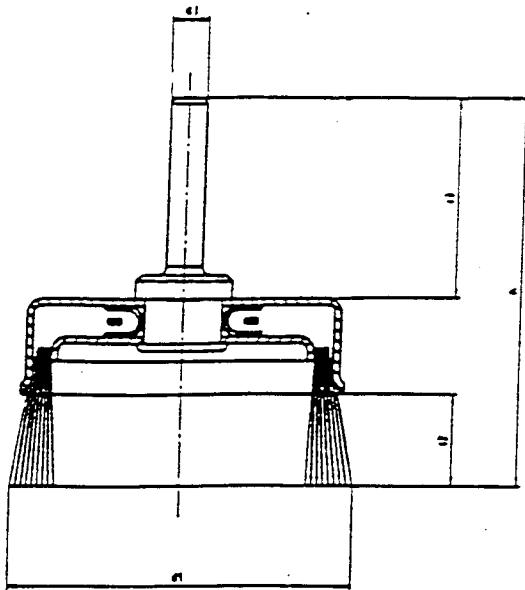


Figure 7:
Cup brush, type III (class 1)

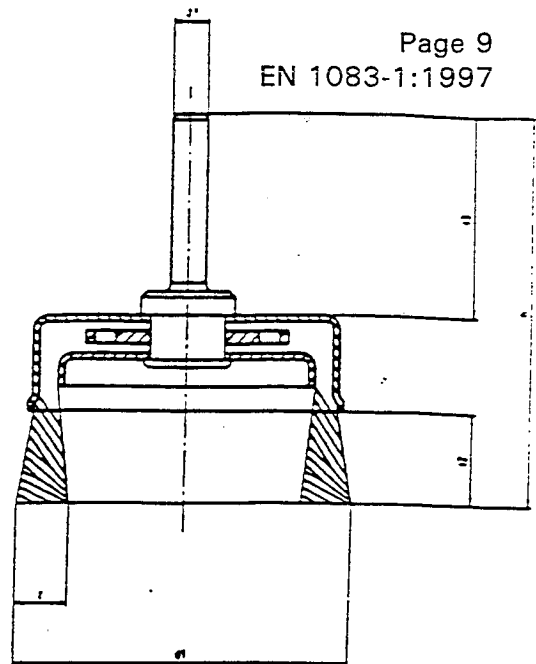


Figure 8:
Cup brush, type III (class 2)

3.4 Cup brushes, type IV, with flared cup and spindle

Cup brushes of type IV with a flared cup shape and with a spindle instead of a bore (see figures 9 and 10). The brushes are described by indicating the spindle diameter and length, rather than the bore diameter, together with the additional information given in 3.1

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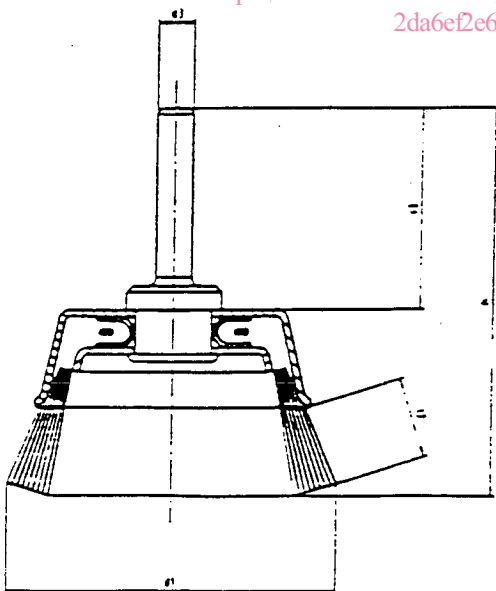


Figure 9:
Cup brush, type IV (class 1)

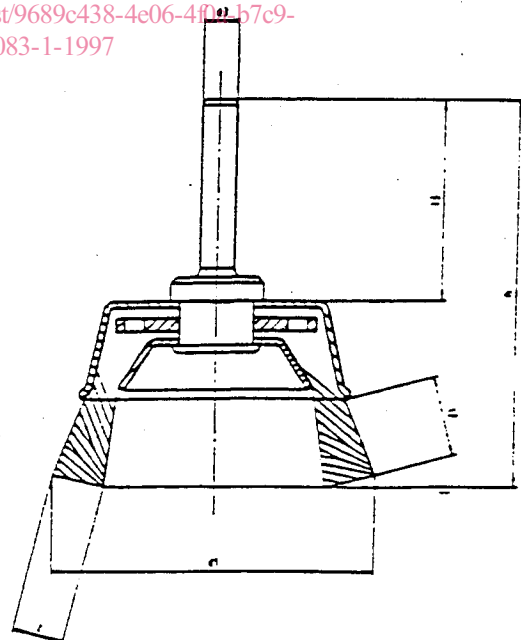


Figure 10:
Cup brush, type IV (class 2)