



**SLOVENSKI STANDARD**  
**oSIST prEN 1083-1:2023**  
**01-december-2023**

---

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

Power-driven brushes - Part 1: Definitions and nomenclature

Kraftbetriebene Bürstwerkzeuge - Teil 1: Definitionen und Nomenklatur

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

**Ta slovenski standard je istoveten z: prEN 1083-1**

---

**ICS:**

01.040.25	Izdelavna tehnika (Slovarji)	Manufacturing engineering (Vocabularies)
25.100.70	Brusiva	Abrasives
25.120.01	Preoblikovalni stroji na splošno	Chipless working equipment in general

**oSIST prEN 1083-1:2023**

**en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 1083-1**

October 2023

ICS 25.120.01; 01.040.25

Will supersede EN 1083-1:1997

English Version

## Power-driven brushes - Part 1: Definitions and nomenclature

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

Kraftbetriebene Bürstwerkzeuge - Teil 1: Definition  
und Nomenklatur

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 143.

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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

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.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

<https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/osist-pren-1083-1-2023>



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

<b>Contents</b>	<b>Page</b>
European foreword .....	3
<b>1 Scope</b> .....	<b>4</b>
<b>2 Normative references</b> .....	<b>4</b>
<b>3 Terms, definitions and symbols</b> .....	<b>4</b>
3.1 Terms and definitions .....	4
3.2 Symbols .....	5
<b>4 Designation system and nomenclature of power-driven brushes and of strip brushes</b> .....	<b>7</b>
4.1 Structure of the designation system .....	7
4.2 Data block 1: Types and dimensions .....	8
4.2.1 General.....	8
4.2.2 Cup brush and wheel brush, conical .....	13
4.2.3 Cylinder brush and wheel brush, straight .....	14
4.2.4 End brush.....	16
4.2.5 Disc brush .....	17
4.2.6 Tube brush .....	18
4.2.7 Head brush .....	19
4.2.8 Strip brush.....	19
4.3 Data block 2: Material type of filling material, shape of filling material and form of filling material .....	21
4.4 Data block 3: Abrasive additive in the filling material.....	24
4.5 Data block 4: Arrangement of filling material.....	25
4.6 Data block 5: Embedding of filling material (type of binding and hardness grade or removable supporting rings).....	29
4.6.1 General.....	29
4.6.2 Type of binding and hardness grade .....	29
4.6.3 Removable supporting rings .....	29
4.7 Data block 6: Direction of winding .....	30
4.8 Data block 7: Material type of brush body and its possible mantling.....	31
<b>Annex A (normative) Drawings and coding of the elements for data block 1 “Type and dimensions” of the brushes</b> .....	<b>33</b>
<b>Annex B (informative) Examples for the complete designation of brushes</b> .....	<b>69</b>
<b>Bibliography</b> .....	<b>78</b>

## European foreword

This document (prEN 1083-1:2023) has been prepared by Technical Committee CEN/TC 143 “Machine tools – Safety”, the secretariat of which is held by SNV.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1083-1:1997.

prEN 1083-1:2023 includes the following significant technical changes with respect to EN 1083-1:1997:

- a) The entire document has been updated with a new designation system to meet current needs of manufacturers and end users.
- b) New types of brushes and new materials have been added.

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[oSIST prEN 1083-1:2023](https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/osist-pren-1083-1-2023)

<https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/osist-pren-1083-1-2023>

## prEN 1083-1:2023 (E)

### 1 Scope

This document defines terms which are used to describe power-driven brushes and strip brushes and describes the designation system.

This document does not cover brushes for car wash sites, vacuum cleaners, carpet cleaning machines, sewer and street cleaning machines, dental brushes, brushes for sealing and stripping.

### 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 847-1:2017, *Tools for woodworking - Safety requirements - Part 1: Milling tools, circular saw blades*

ISO 525:2020, *Bonded abrasive products — Shape types, designation and marking*

ISO 6106, *Abrasive products — Checking the grain size of superabrasives*

ISO 8486-1, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220*

ISO 8486-2, *Bonded abrasives — Determination and designation of grain size distribution — Part 2: Microgrits F230 to F2000*

### 3 Terms, definitions and symbols

#### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 847-1:2017 and the following apply.

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

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

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

##### 3.1.1

##### **brush**

assembly consisting of the brush body, soul, clamping part and the filling material

##### 3.1.2

##### **brush body**

component of a brush whose function is to keep the filling material together

##### 3.1.3

##### **filling material**

material (wire, filament or similar), fixed into the brush body or into the soul, in order to form the brush area and hence the working part of the brush

##### 3.1.4

##### **bundle**

number of elements of the filling material

**3.1.5****knot**

bundle twisted to a knot

**3.1.6****soul**

wires winded to a spiral, which fix the filling material and form also the brush body

**3.1.7****bound brush****binding**

brush with filling material that is embedded into a binding in a way that only the tips of the filling material are used during application

**3.1.8****working surface**

surface formed by the tips of the filling material, which contacts the workpiece

**3.2 Symbols**

Symbols, definitions and units are given in Table 1.

**Table 1 — Symbols, definitions und units**

Symbol	Definition	Unit
$\alpha$	Orientation of the filling material towards the axis (nominal dimension)	°
$C_H$	Nominal height of a strip brush	mm
$C_L$	Nominal length of strip brushes	mm
$C_W$	Nominal back width of strip brushes	mm
$D$	Nominal outside diameter of the brush or of the working surface of an end brush	mm
$D_A$	Bore diameter	mm
$D_{AM}$	Maximum bore diameter of the brush body	mm
$D_C$	Maximum bore diameter of the brush body	mm
$D_F$	Nominal diameter of the round filling material	mm
$D_{F1}$	Nominal diameter of the oval or rectangular filling material (higher value)	mm
$D_{F2}$	Nominal diameter of the oval or rectangular filling material (lower value)	mm
$D_I$	Nominal inside diameter of the working surface	mm
$D_M$	Diameter in the bore area	mm
$D_P$	Outside diameter of the pilot	mm
$D_S$	Shank diameter of brushes with shank Axis diameter of cylinder brushes Soul diameter of tube brushes	mm

**prEN 1083-1:2023 (E)**

<b>Symbol</b>	<b>Definition</b>	<b>Unit</b>
$D_T$	Nominal thread diameter, e.g. M14 × 2	—
$H$	Nominal total height (incl. parts for bore or thread and incl. shank)	mm
$L$	Nominal total length of end brushes (excl. pilot) and of tube brushes	mm
$L_B$	Body length of head brushes	mm
$L_H$	Length of soul at the head of tube brushes without filling material	mm
$L_P$	Visible nominal length of pilot	mm
$L_S$	Useable length of shank, total length of the clamping axis, usable length of thread	mm
$L_T$	Nominal length of the filling material (free length of filling material)	mm
$N_S$	Number of strips of cylinder brushes	—
$P_W$	Pitch of winding of cylinder brushes and of strip brushes	mm
$W_A$	Width of the brush body at the hole/at the thread	mm
$W_B$	Mounting width, maximum width of the brush body	mm
$W_F$	Nominal working width	mm

Itih Standards  
 (<https://standards.iteh.ai>)  
 Document Preview

[oSIST prEN 1083-1:2023](https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/osist-pren-1083-1-2023)

<https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/osist-pren-1083-1-2023>



## 4 Designation system and nomenclature of power-driven brushes and of strip brushes

### 4.1 Structure of the designation system

The individual item block of power-driven brushes and of strip brushes is composed from up to seven data blocks, depending of the brush type, see Table 2. The given sequence of the data blocks is mandatory.

All data blocks shall be separated with hyphens and without blanks (see Example 1).

**Table 2 — Designation system**

	Designation								
	Description block	Identity block							
		EN standard	Individual item block						
			Data block 1	Data block 2	Data block 3	Data block 4	Data block 5	Data block 6	Data block 7
<b>Designation</b>		EN 1083-1	Types and dimensions	Material type of filling material, shape of filling material and form of filling material	Abrasive additive in the filling material	Arrangement of filling material	Embedding of filling material (type of binding and hardness grade or removable supporting rings)	Direction of winding	Material type of brush body and its possible manteling
<b>Statement</b>	mandatory, if standard reference is not stated	optional	mandatory	mandatory	mandatory, if filling material with abrasive additive is used	mandatory, if filling material in form of rows, segments or knots is used	optional	optional	optional
<b>Clause</b>			4.2	4.3	4.4	4.5	4.6	4.7	4.8

**prEN 1083-1:2023 (E)**

EXAMPLE 1 Designation of a wheel brush:

Wheel brush EN 1083-1-WID-B-150×38-50,8A-32×32-0,3×25 -IRCR-2-S

Data block 1 – Types and dimensions

Data block 2 – Material type of filling material, shape of filling material and form of filling material

Data block 4 – Arrangement of filling material

Data block 7 – Material type of brush body

EXAMPLE 2 Additional examples see Annex B.

## 4.2 Data block 1: Types and dimensions

### 4.2.1 General

Data block 1 is mandatory (see Table 2). For the structure of data block 1, different information about the types and dimensions are necessary, depending on the brush type.

<https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/osist-pren-1083-1-2023>

Table 3 gives the brush types, regardless of the type of mounting, with references on the relevant clause, which gives the mandatory parameters. Annex A gives detailed explanations (e.g. on clamping type, position of the indication of measurements) and drawings.

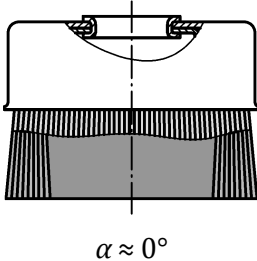
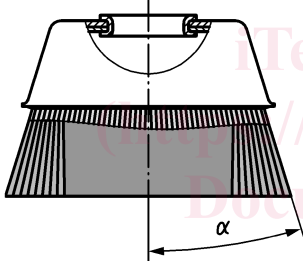
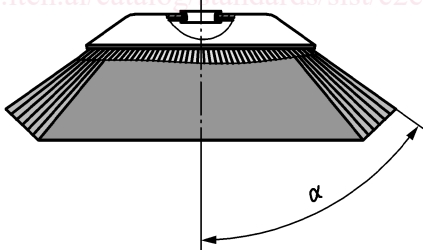
The structure of data block 1 is given in Figures 1 to 7, depending on the brush type. As separation between the statements, the symbols “-” and “×” shall be used, as defined in the following subclauses.

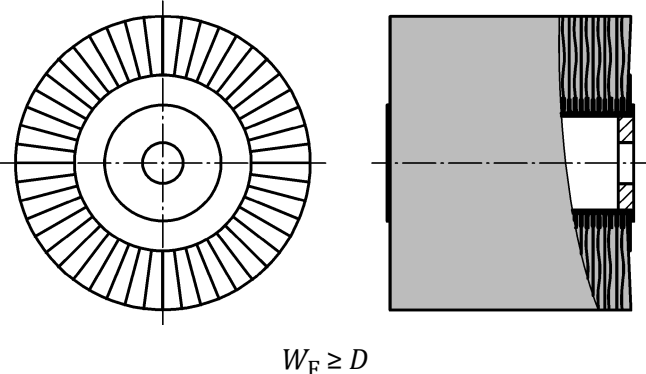
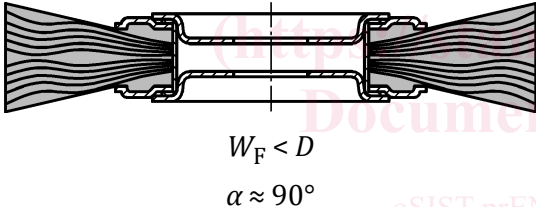
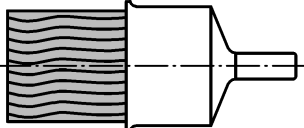
Statements in brackets in the columns “Dimensions” are optional and shall be included or left out only in the whole. If the information in brackets shall be given, the brackets themselves shall not be included into the designation system.

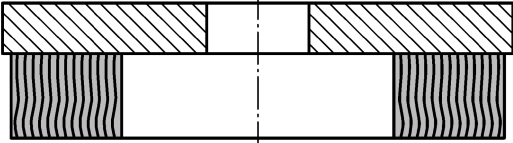

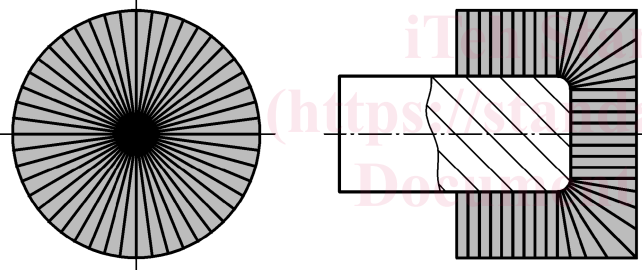
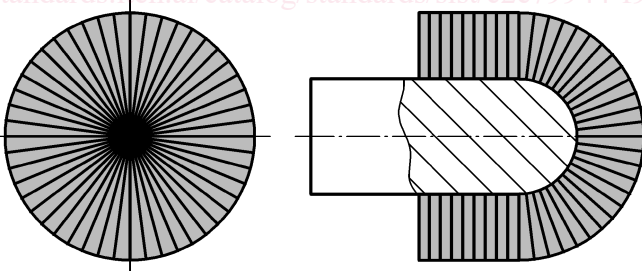
The filling material is shown in grey.

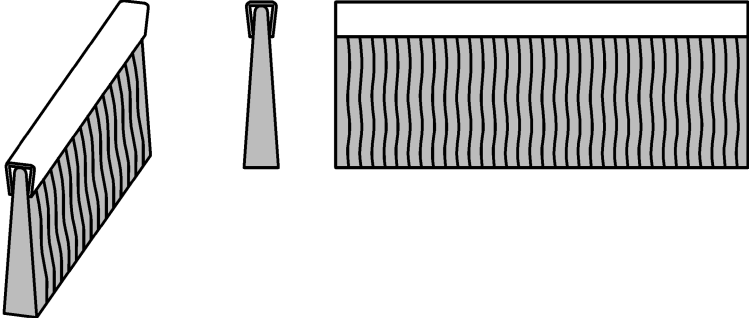
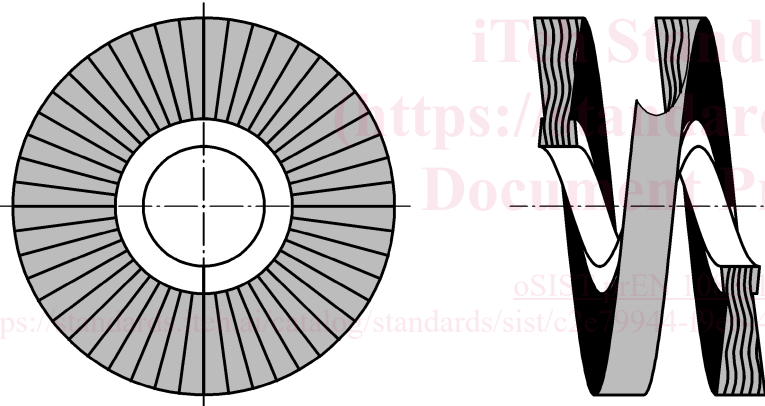
iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

Table 3 — Type code

Type code	Figure	Designation	Clause
CS	 <p style="text-align: center;"><math>\alpha \approx 0^\circ</math></p>	cup brush, straight	
CF	 <p style="text-align: center;"><math>0^\circ &lt; \alpha &lt; 45^\circ</math></p>	cup brush, flared	4.2.2
WC	 <p style="text-align: center;"><math>45^\circ \leq \alpha &lt; 90^\circ</math></p>	wheel brush, conical	

Type code	Figure	Designation	Clause
CID	 <p style="text-align: center;"><math>W_F \geq D</math></p>	cylinder brush, individual brush disc	4.2.3
CSS		cylinder brush, strip straight	
CSH		cylinder brush, strip helical	
CSW		cylinder brush, strip wounded	
CCP		cylinder brush, core punched	
WID	 <p style="text-align: center;"><math>W_F &lt; D</math> <math>\alpha \approx 90^\circ</math></p>	wheel brush (straight), individual brush disc	4.2.3
WSS		wheel brush (straight), strip straight	
WSH		wheel brush (straight), strip helical	
WSW		wheel brush (straight), strip wounded	
WCP		wheel brush (straight), core punched	
ES		end brush, solid working surface	4.2.4
EH		end brush, hollow working surface	
EP		end brush, hollow working surface, with pilot	
ER		end brush, flared end (round)	
EW		end brush, flared end (square)	

Type code	Figure	Designation	Clause
DI		disc brush, flat body	4.2.5
TT		tube brush, 2 core wires	4.2.6
TF		tube brush, 4 core wires	
HS		headbrush, square end	4.2.7
HR		headbrush, round end	

Type code	Figure	Designation	Clause
SS		strip brush, straight	4.2.8
SWO		strip brush as single ring ( $P_W = 0$ ) or wounded, filaments outside	