SLOVENSKI STANDARD
SIST EN 1083-1:2025

01-april-2025

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

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Ta slovenski standard je istoveten z: **EN 1083-1:2024**

ICS:

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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

SIST EN 1083-1:2025 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1083-1

December 2024

ICS 01.040.25; 25.100.70

Supersedes 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: Definitionen und Nomenklatur

This European Standard was approved by CEN on 25 November 2024.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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Document Preview
SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/sist-en-1083-1-2025

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

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

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Ref. No. EN 1083-1:2024 E

SIST EN 1083-1:2025

Contents

Page

iTeh Standards
(https://standards.iteh.ai)
Document Preview
SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9eb-4ecb-b92e-184f504caecd/sist-en-1083-1-2025

SIST EN 1083-1:2025

European foreword

This document (EN 1083-1:2024) has been prepared by Technical Committee CEN/TC 143 “Machine tools – Safety”, the secretariat of which is held by SNV.

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 June 2025 and conflicting national standards shall be withdrawn at the latest by June 2025.

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

This document will supersede EN 1083-1:1997.

This document 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.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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 the United Kingdom.

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Document Preview
SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/sist-en-1083-1-2025

SIST EN 1083-1:2025

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*

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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.

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https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f594caecd/sist-en-1083-1-2025

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

SIST EN 1083-1:2025

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

For the purposes of this document, the symbols, definitions and units given in Table 1 apply.

Table 1 — Symbols, definitions und units

Symbol	Definition	Unit
α	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 outside 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

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(https://standards.iteh.ai)
Document Preview
SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4eeb-b92e-184f504caeed/sist-en-1083-1-2025

SIST EN 1083-1:2025

Symbol	Definition	Unit
D_S	Shank diameter of brushes with shank Axis diameter of cylinder brushes Soul diameter of tube brushes	mm
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

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Document Preview
SIST EN 1083-1:2025

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 on 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).

SIST EN 1083-1:2025

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**
Designation		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
Statement	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
Clause			4.2	4.3	4.4	4.5	4.6	4.7	4.8

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Document Preview

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 For additional examples, see Annex B.

SIST EN 1083-1:2025

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.

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.

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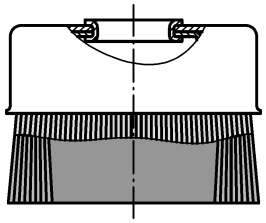
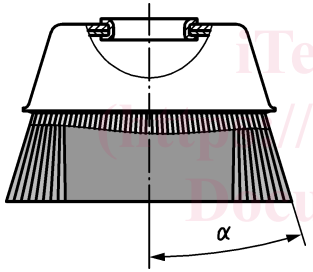
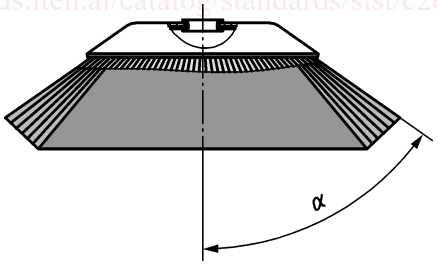
Document Preview

SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/sist-en-1083-1-2025

SIST EN 1083-1:2025

Table 3 — Type code

Type code	Figure	Designation	Clause
CS	 $\alpha \approx 0°$	cup brush, straight	4.2.2
CF	 $0° < \alpha < 45°$	cup brush, flared	
WC	 $45° \leq \alpha < 90°$	wheel brush, conical	

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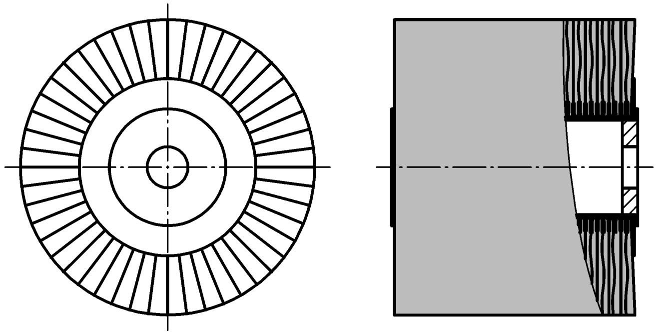
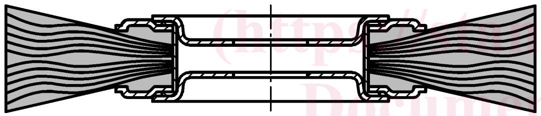
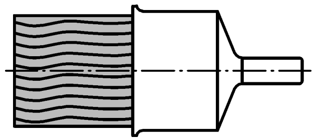
Document Preview
SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/e2e79944-f9e6-4ecb-a92e-184f504caecd/sist-en-1083-1-2025

SIST EN 1083-1:2025

Type code	Figure	Designation	Clause
CID	 $W_F \geq D$	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	 $W_F < D$ $\alpha \approx 90°$	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)	

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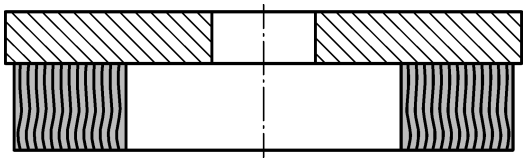
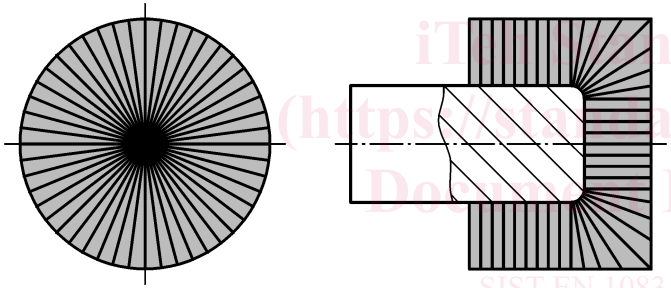
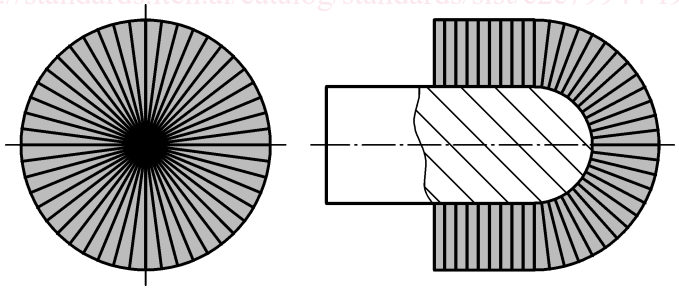
SIST EN 1083-1:2025

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	

iTeh Standards
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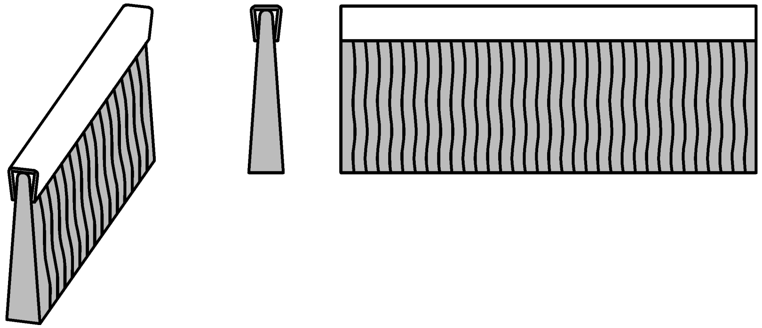
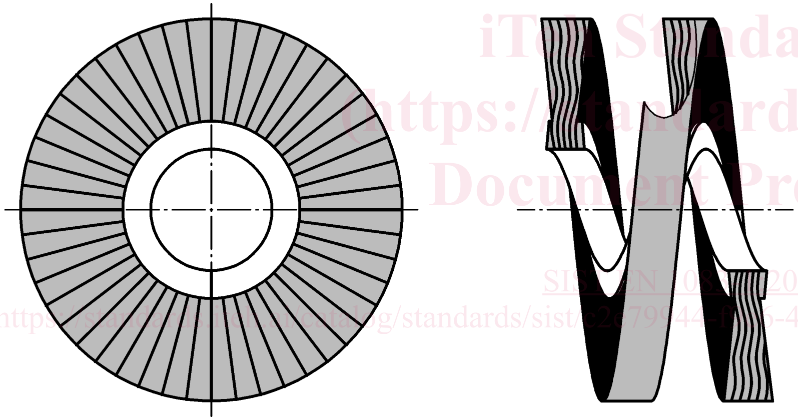
Document Preview
SIST EN 1083-1:2025
https://standards.iteh.ai/catalog/standards/sist/c2e79944-f9e6-4ecb-b92e-184f504caecd/sist-en-1083-1-2025

SIST EN 1083-1:2025

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	

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Document Preview
SIST EN 1083-1:2025
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