SLOVENSKI STANDARD
SIST EN 60276:1999

01-april-1999

Definitions and nomenclature for carbon brushes, brush-holders, commutators and slip-rings (IEC 60276:1968 +A1:1987))

Definitions and nomenclature for carbon brushes, brush-holders, commutators and slip-rings

Definitionen und Benennungen für Kohlebürsten, Bürstenhalter, Kommutatoren und Schleifringe

Définitions et nomenclature des balais de charbon, des porte-balais, des collecteurs et des bagues

Ta slovenski standard je istoveten z: **EN 60276:1996**

ICS:

01.040.29	Elektrotehnika (Slovarji)	Electrical engineering (Vocabularies)
29.100.20	Električni in elektromehanski sestavni deli	Electrical and electromechanical components
29.160.10	Sestavni deli rotacijskih strojev	Components for rotating machines

SIST EN 60276:1999 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Descriptors: Rotating electric machine, brushes for electric machines, brush holders for electric machines, commutators, ring, classifications, nomenclature, definitions

English version

Definitions and nomenclature for carbon brushes, brush-holders, commutators and slip-rings (IEC 276:1968 + A1:1987)

Définitions et nomenclature des balais de charbon, des porte-balais, des collecteurs et des bagues (CEI 276:1968 + A1:1987)

Definitionen und Benennungen für Kohlebürsten, Bürstenhalter, Kommutatoren und Schleifringe (IEC 276:1968 + A1:1987)

This European Standard was approved by CENELEC on 1995-09-20. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 276:1968 and its amendment 1:1987, prepared by IEC TC 2, Rotating machinery, was approved by CENELEC as HD 56 S2 on 1989-06-01.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60276 on 1995-09-20.

The following date was fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-10-01

Endorsement notice

The text of the International Standard IEC 276:1968 and its amendment 1:1987 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

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Définitions et nomenclature des balais de charbon, des porte-balais, des collecteurs et des bagues

Definitions and nomenclature for carbon brushes, brush-holders, commutators and slip-rings

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DEFINITIONS AND NOMENCLATURE FOR CARBON BRUSHES, BRUSH-HOLDERS, COMMUTATORS AND SLIP-RINGS

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote this international unification, the IEC expresses the wish that all National Committees having as yet no national rules, when preparing such rules, should use the IEC recommendations as the fundamental basis for these rules in so far as national conditions will permit.

4) The desirability is recognized of extending international agreement on these matters through an endeavour to harmonize national standardization rules with these recommendations in so far as national conditions will permit. The National Committees pledge their influence towards that end.

PREFACE

This Recommendation has been prepared by Sub-Committee 2F, Dimensions of Carbon Brushes, Brush-holders, Commutators and Slip-rings, of IEC Technical Committee No. 2, Rotating Machinery.

Drafts of the Recommendation were discussed at meetings held in London in 1959, in New-Delhi in 1960, in Bucharest in 1962, in Aix-les-Bains in 1964 and in Tokyo in 1965. As a result of this latter meeting, a final draft was submitted to the National Committees for approval under the Six Months' Rule in February 1966.

The following countries voted explicitly in favour of publication:

Australia
Austria
Belgium
Canada
Denmark
Finland
France
Germany
Israel
Italy
Netherlands
Norway
Romania
South Africa
Sweden
Switzerland
Turkey
Union of Soviet Socialist Republics
United Kingdom
United States of America

DEFINITIONS AND NOMENCLATURE FOR CARBON BRUSHES, BRUSH-HOLDERS, COMMUTATORS AND SLIP-RINGS

SECTION ONE — GENERAL

1. Scope

This Recommendation applies to carbon brushes and brush-holders for electrical machinery. For the present, it applies only to carbon brushes and brush-holders for cylindrical commutators and slip-rings.

2. Definitions of the classes of brush grades

2.1 *Hard carbon*

Consists of various forms of amorphous carbon.

2.2 *Carbon-graphite*

Consists of a mixture of amorphous carbon and graphite.

2.3 *Natural graphite*

Consists principally of natural graphite.

2.4 *Electrographite*

Consists of various forms of amorphous carbon converted during manufacture to artificial graphite.

2.5 *Metal-graphite*

Consists of a mixture of metals and graphite.

2.6 *Metal-impregnated graphite*

Consists of carbon or graphite which has been impregnated with molten metal under pressure.

2.7 *Resin-bonded*

Consists of carbon or graphite bonded with synthetic resin.

SECTION DEUX — NOMENCLATURE DES BALAIS DE CHARBON, DES PORTE-BALAIS, DES COLLECTEURS ET DES BAGUES

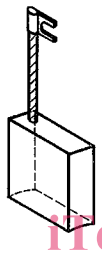
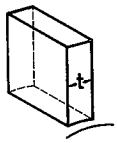
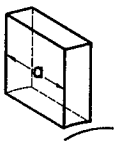
SECTION TWO — NOMENCLATURE OF CARBON-BRUSHES, BRUSH-HOLDERS, COMMUTATORS AND SLIP-RINGS

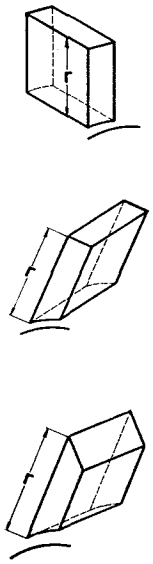
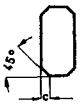
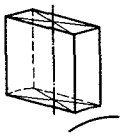
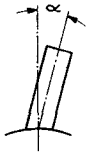
3. Balais de charbon

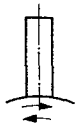
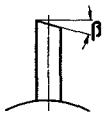
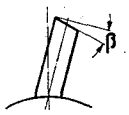
Note. — Dans la quatrième colonne, les termes sont donnés dans l'ordre suivant: allemand, espagnol, italien, néerlandais, polonais, suédois.

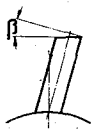
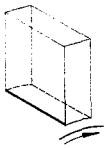
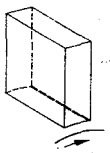
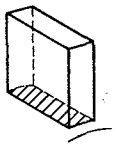
3. Brushes

Note. — In the fourth column, the terms are listed in the following order: German, Spanish, Italian, Dutch, Polish, Swedish.

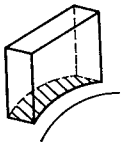
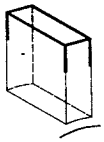
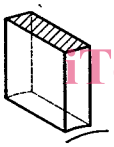
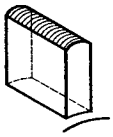
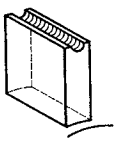
101		Balai Brush Щетка	Bürste Escobilla Spazzola Koolborstel Szczotka (El) borste
102		Dimension tangentielle Tangential dimension Тангенциальный размер	Tangentialmass Dimensión tangencial Dimensione tangenziale Tangentiële maat Wymiar styczny Tangentiell dimension
103		Dimension axiale Axial dimension Аксиальный размер	Axialmass Dimensión axial Dimensione assiale Axiale maat Wymiar poosiowy Axiell dimension

104		Dimension radiale *Note.* — « r » est la plus grande dimension parallèle à l'axe du balai Radial dimension *Note.* — "r" is the longest dimension parallel to the centre line Радиальный размер *Примечание.* — "r" наибольший размер, параллельный оси	Radialmass *Anm.* — « r » ist die grösste Abmessung parallel zur Hauptachse Dimensión radial *Nota.* — « r » es la dimensión máxima paralela al eje de la escobilla Dimensione radiale *Nota.* — « r » è la più grande dimensione parallela alla asse della spazzola Radiale maat Wymiar promieniowy Längd (radiell dimension) *Anm.* — « r » är borstens största dimension mätt parallellt med centrumlinjen
105		Chanfrein Chamfer Фаска	Kantenbruch Chaflán Smusso Afgeschuinde hoeken Ścięcie Fasning
106		Axe principal Centre line Ось	Hauptachse Eje principal Asse principale Hoofdas Oś główna Centrumlinje
107		Angle d'inclinaison Contact bevel angle Угол наклона щетки	Neigungswinkel Angulo de inclinación Angolo di inclinazione Borstelstelhoek Kąt nachylenia szczotki Lutningsvinkel

108		Balai radial Radial brush Щетка радиальная	Radialbürste Escobilla radial Spazzola radiale Radiale borstel Szczotka promieniowa Radialborste
109		Balai à réaction Reaction brush Щетка наклонная по направлению вращения (реактивная)	Reaktionsbürste Escobilla de reacción Spazzola a reazione Stekende borstel Szczotka pochylona w kierunku wirowania Reaktionsborste
110		Balai traînant Trailing brush Щетка наклонная против направления вращения	Treidelbürste Escobilla de arrastre Spazzola trascinata Slepende borstel Szczotka odchylona od kierunku wirowania Trailingborste
111		Angle du biseau supérieur Top bevel angle Угол скоса верхней поверхности	Winkel der Kopfschräge Angulo del bisel superior Angolo di inclinazione della faccia superiore Boven-afschuining Kąt górnej powierzchni Toppvinkel
112		Angle du biseau supérieur positif Positive top bevel angel Положительнний угол скоса верхней поверхности	Positiver Winkel der Kopfschräge Angulo del bisel superior positivo Angolo di inclinazione superiore positivo Positieve boven-afschuining Dodatni kąt górnej powierzchni Positiv toppvinkel

113		Angle du biseau supérieur négatif Negative top bevel angle Отрицательный угол скоса верхней поверхности	Negativer Winkel der Kopfschräge Angulo del bisel superior negativo Angolo di inclinazione superiore negativo Negatieve boven-afschuining Ujemny kąt górnej powierzchni Negativ toppvinkel
114		Arête d'entrée Entering edge (leading edge) * Набегающий край	Anlaufkante Arista de entrada Spigolo di entrata Aanloopkant Krawędź nabiegająca (Kontaktytans) framkant
115		Arête de sortie Leaving edge (trailing edge) * Сбегающий край	Ablaufkante Arista de salida Spigolo di uscita Afloopkant Krawędź zbiegająca (Kontaktytans) bakkant
116		Face frottante Contact surface (contact face) * Контактная поверхность	Lauffläche Cara de contacto Superficie di contatto Loopvlak Powierzchnia ślizgowa Kontaktyta
117		Face frottante biseautée Bevelled contact surface (bevelled contact face) * Контактная поверхность скошенная	Schräge Lauffläche Cara de contacto biselada Superficie di contatto inclinata Schuin loopvlak Powierzchnia ślizgowa skośna Sned kontaktyta

* Les termes entre parenthèses correspondent à la terminologie américaine.
Terms in brackets correspond to terminology in the USA.

118		Face frottante courbe Radiused contact surface (concave contact face) * Контактная поверхность закругленная	Ausgerundete Lauffläche Cara de contacto cóncava Superficie di contatto curva Ingeslepen loopvlak Powierzchnia ślizgowa zaokrąglona Konkav kontaktyta
119		Tête Top Верх	Kopf Cabeza Testa Kop Część górna Topp
120		Face supérieure Top surface Верхняя поверхность	Kopffläche Cara superior Faccia superiore Kopvlak Powierzchnia górna Toppyta
121		Tête arrondie Rounded top (convex top) * Верх закругленный	Abgerundeter Kopf Cabeza convexa Testa arrotondata Afgeronde kop Część górna zaokrąglona Konvex toppyta
122		Tête rainurée Grooved top Верх с канавкой	Kopfmulde Cabeza ranurada Testa scanalata Axiaal gegroefde kop Część górna z rowkiem Toppyta med axiellt spår

* Les termes entre parenthèses correspondent à la terminologie américaine.
Terms in brackets correspond to terminology in the USA.