
INTERNATIONAL STANDARD



6104

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

Abrasive products — Diamond or cubic boron nitride grinding wheels and saws — General survey, designation and multilingual nomenclature

Produits abrasifs — Meules et scies à base de diamant ou de nitrure de bore — Généralités, désignation et nomenclature multilingue

First edition — 1979-04-01

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Descriptors : abrasives, grinding wheels, saws, diamond wheels, diamond saws, boron nitride wheels, boron nitride saws, designation, nomenclature.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6104 was developed by Technical Committee ISO/TC 29, *Small tools*, and was circulated to the member bodies in September 1977.

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It has been approved by the member bodies of the following countries:

Australia	Germany, F. R.	Romania
Austria	Hungary	South Africa, Rep. of
Belgium	India	Spain
Brazil	Israel	Sweden
Bulgaria	Italy	Switzerland
Canada	Japan	Turkey
Chile	Korea, Dem. P. Rep. of	United Kingdom
Czechoslovakia	Korea, Rep. of	USA
Egypt, Arab Rep. of	Mexico	USSR
France	Poland	Yugoslavia

No member body expressed disapproval of the document.

Abrasive products — Diamond or cubic boron nitride grinding wheels and saws — General survey, designation and multilingual nomenclature

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1 SCOPE AND FIELD OF APPLICATION

This International Standard contains the following elements concerning diamond or cubic boron nitride grinding wheels and saws :

- general survey of standardized grinding wheels and saws the sizes of which are the subject of ISO 6168 and ISO 6105 respectively;
- multilingual nomenclature of the dimensional characteristics (see note 1 below);
- designation system for grinding wheels and saws;
- code of designation for grinding wheel and saw forms.

NOTES

1 In addition to terms used in the three official ISO languages

(English, French and Russian), this International Standard gives the equivalent terms in the German, Italian, Dutch and Swedish languages; these terms are published under the responsibility of the relevant national member bodies. However, only the terms given in the official languages can be considered as ISO terms.

2 The term “diamond section” is used in this International Standard for the sake of simplicity but all the specifications are valid for boron nitride.

2 REFERENCES

ISO 6105, *Abrasive products — Diamond or cubic boron nitride saws — Dimensions.*¹⁾

ISO 6106, *Abrasive products — Grain sizes of diamond or cubic boron nitride.*¹⁾

ISO 6168, *Abrasive products — Diamond or cubic boron nitride grinding wheels — Dimensions.*¹⁾

1) At present at the stage of draft.

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3 GENERAL SURVEY OF STANDARDIZED GRINDING WHEELS AND SAWS

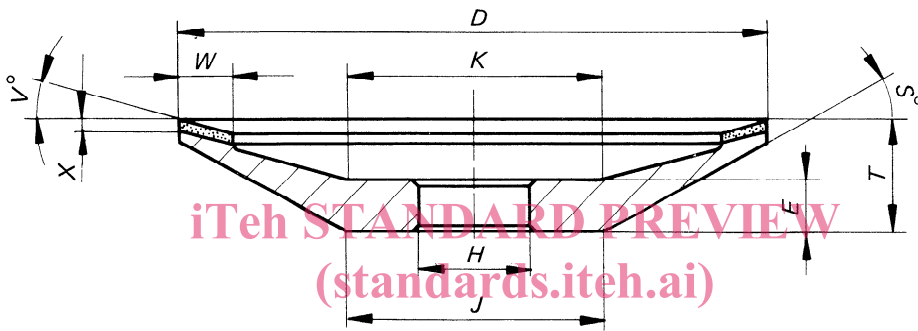
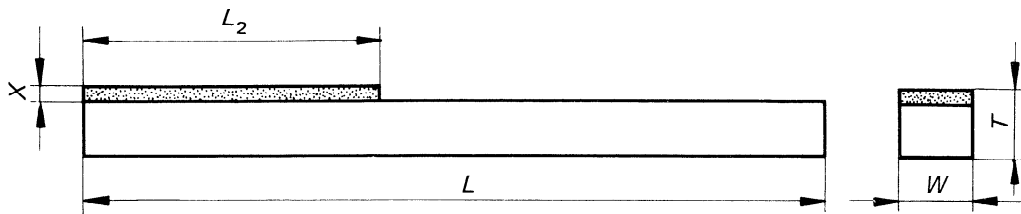
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14A1		6A9	
1L1		11V9	
1E6Q		12V9	
14E6Q		1EE1V	
14EE1		1V9	
1FF1		1A1RSS/C1	
6A2		1A1RSS/C2	
11A2			
12A2			

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4 MULTILINGUAL NOMENCLATURE

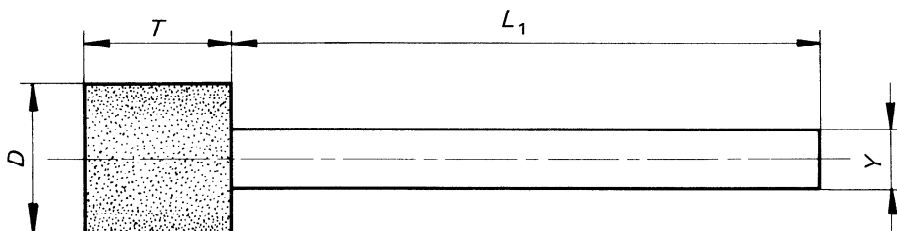
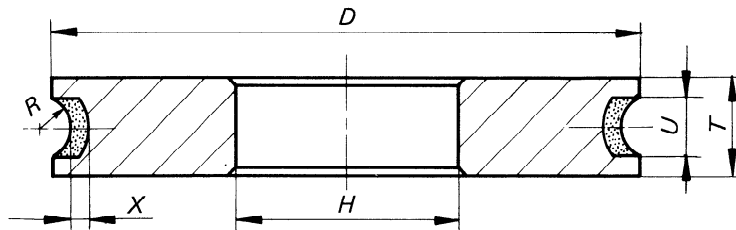
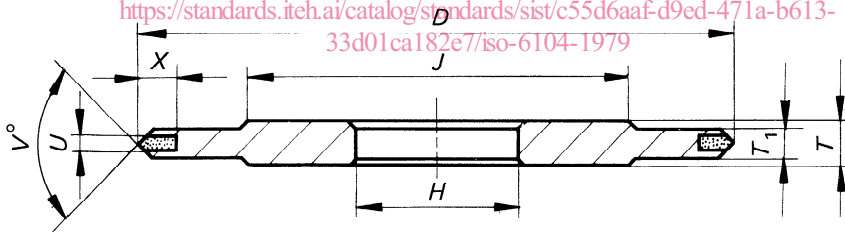
4.1 Dimensional characteristics of grinding wheels



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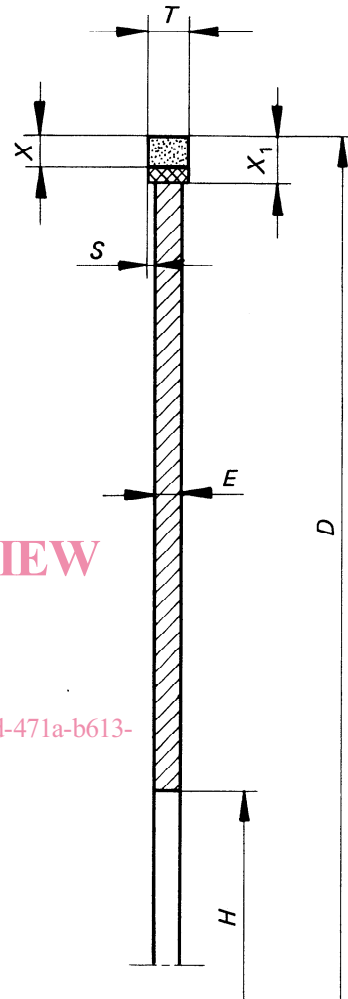
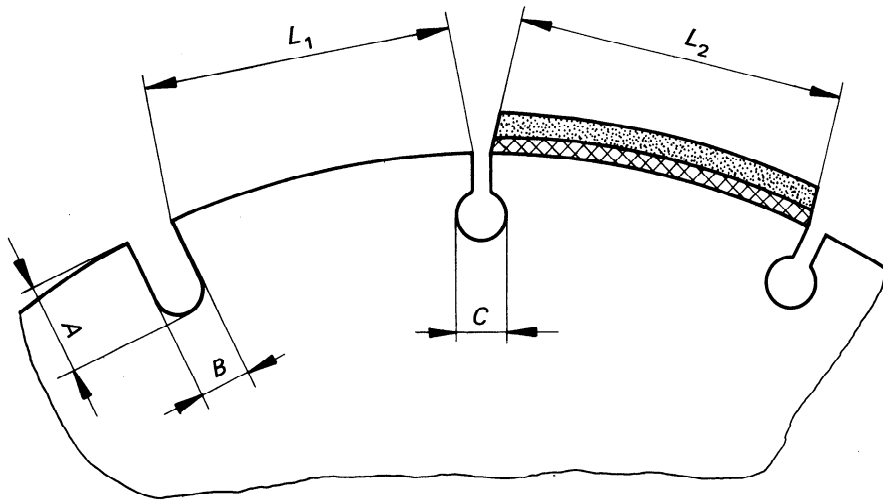
Symbol	English	French	Russian
<i>D</i>	Diameter	Diamètre	Наружный диаметр
<i>E</i>	Thickness at bore	Épaisseur de fond	Высота ступицы
<i>H</i>	Bore diameter	Alésage	Диаметр посадочного отверстия
<i>J</i>	Hub diameter	Diamètre de moyeu	Наружный диаметр ступицы
<i>K</i>	Inside recess diameter	Diamètre de fond d'embrèvement	Внутренний диаметр ступицы
<i>L</i>	Length of holder	Longueur de monture	Длина державки
<i>L₁</i>	Length of shaft	Longueur de tige	Длина оправки
<i>L₂</i>	Length of diamond section	Longueur de couche diamant	Длина алмазного слоя
<i>R</i>	Radius	Rayon	Радиус алмазной части
<i>S</i>	Angle of body	Angle du support	Угол корпуса
<i>T</i>	Overall thickness	Épaisseur totale	Высота
<i>T₁</i>	Reduced hub thickness	Épaisseur réduite	Высота
<i>U</i>	Thickness of diamond section (<i>when less than T or T₁</i>)	Épaisseur de la couche diamant (<i>lorsqu'elle est inférieure à T ou T₁</i>)	Толщина алмазной вставки
<i>V</i>	Face angle	Angle d'attaque	Угол наклона алмазного слоя
<i>W</i>	Rim width	Largeur de bord	Ширина алмазного слоя
<i>X</i>	Depth of diamond section	Profondeur de la couche diamant	Толщина алмазного слоя
<i>Y</i>	Diameter of mandrel	Diamètre de tige	Диаметр оправки

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Symbol	German	Italian	Dutch	Swedish
<i>D</i>	Außendurchmesser	Diametro	Diameter	Diameter
<i>E</i>	Bodendicke	Spessore del fondello	Dikte bij het asgat	Livtjocklek
<i>H</i>	Bohrungsdurchmesser	Diametro del foro	Diameter van het asgat	Håldiameter
<i>J</i>	Durchmesser der Anlagefläche	Diametro esterno del fondello	Diameter van het aanlegvlak	Anliggningsytans diameter
<i>K</i>	Durchmesser der Spannfläche	Diametro interno del fondello	Diameter van het spanvlak	Inre anliggningsytans diameter
<i>L</i>	Gesamtlänge	Lunghezza del sopporto	Totale lengte van de houder	Totalängd
<i>L₁</i>	Schaftlänge	Lunghezza del gambo	Lengte van de steel	Fästets längd
<i>L₂</i>	Belaglänge	Lunghezza della parte diamantata	Lengte van de diamantlaag	Beläggningenslängd
<i>R</i>	Radius	Raggio	Radius	Radie
<i>S</i>	äußerer Grundkörperswinkel	Angolo del sopporto	Afschuinings-buitenhoeck	Navvinkel
<i>T</i>	Gesambreite	Spessore totale	Totale dikte	Total tjocklek
<i>T₁</i>	reduzierte Breite		Gereduceerde dikte	
<i>U</i>	Belagbreite (<i>wenn kleiner als T oder T₁</i>)	Spessore della parte diamantata (<i>se inferiore a T o T₁</i>)	Dikte van de diamantlaag (<i>indien minder dan T of T₁</i>)	Beläggningens bredd (<i>när T eller T₁ är större aru U</i>)
<i>V</i>	Belagwinkel	Angolo esterno (o d'attacco)	Oppervlaktehoek	Beläggningensvinkel
<i>W</i>	Schleifrandbreite	Larghezza della fascia diamantata	Slijpbandbreedte	Beläggningensbredd
<i>X</i>	Belagtiefe	Spessore della parte diamantata	Slijpbanddikte	Beläggningens tjocklek
<i>Y</i>	Schaftdurchmesser	Diametro del gambo	Steeldiameter	Fästets diameter

4.2 Dimensional characteristics of saws



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Symbol	English	French	Russian
	<i>Circular saws</i>	<i>Scies circulaires</i>	<i>Дисковые пилы</i>
<i>A</i>	Depth of slot	Profondeur d'encoche	Глубина паза
<i>B</i>	Width of slot	Largeur d'encoche	Ширина паза
<i>C</i>	Diameter of slot hole	Diamètre du trou au fond de l'encoche	Диаметр отверстия паза
<i>D</i>	Diameter	Diamètre	Наружный диаметр
<i>E</i>	Centre thickness	Épaisseur du centre	Толщина корпуса
<i>H</i>	Bore diameter	Alésage	Диаметр посадочного отверстия
<i>L₁</i>	Length of tooth	Longueur du talon	Длина зуба
<i>L₂</i>	Length of segment	Longueur du segment	Длина сегмента
<i>S</i>	Side clearance	Dépouille	Величина нависания алмазного слоя
<i>T</i>	Width of diamond segment	Épaisseur de la couche diamant	Толщина алмазного слоя
<i>X</i>	Depth of diamond section	Profondeur de la couche diamant	Высота алмазного слоя
<i>X₁</i>	Overall depth of segment	Hauteur totale du segment	Высота сегмента
	<i>Other terms</i>	<i>Autres termes</i>	<i>Другие термины</i>
	Number of segments	Nombre de segments	Количество сегментов
	Wide slot	Encoches larges	Широкий паз
	Narrow slot	Encoches étroites	Узкий паз
	Driving holes	Trous d'entraînement	

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Symbol	German	Italian	Dutch	Swedish
	<i>Trennscheiben</i>	<i>Seghe circolari</i>	<i>Cirkelzagen</i>	<i>Cirkelsågar</i>
<i>A</i>	Schlitztiefe	Profondità dell'intaglio	Gleufdiepte	Slitsdjup
<i>B</i>	Schlitzbreite	Larghezza dell'intaglio	Gleufbreedte	Slitsbredd
<i>C</i>	Hinterlochung	Diametro del foro al fondo dell'intaglio (interloculo)	Diameter van gatonderaan de gleuf	Slitshåldiameter
<i>D</i>	Außendurchmesser	Diametro	Diameter	Diameter
<i>E</i>	Kerndicke	Spessore dell'anima	Kerndikte	Livtjocklek
<i>H</i>	Bohrungsdurchmesser	Diametro del foro centrale	Diameter van asgat	Håldiameter
<i>L₁</i>	Steglänge	Lunghezza del dente	Lengte van de tand	Steglängd
<i>L₂</i>	Segmentlänge	Lunghezza del settore	Lengte van het segment	Segmentlängd
<i>S</i>	Überstand	Spoglia laterale (spalla)	Oversteek	Sidsläppning
<i>T</i>	Schnittbreite	Spessore del settore diamantato	Gediamanteerde dikte	Skärbredd
<i>X</i>	Belagdicke	Altezza diamantata	Gediamanteerde hoogte	Beläggningstjocklek
<i>X₁</i>	Segmentdicke	Altezza totale del settore	Segmenthoogte	Total segmenthöjd
	<i>weitere Begriffe</i>	<i>Altre definizioni</i>	<i>Andere aanduidingen</i>	<i>Andra termer</i>
	Segmentanzahl	Numero di settori	Aantal segmenten	Segmentantal
	breiter Schlitz	Intagli larghi	Brede gleuf	Bred slits
	schmaler Schlitz	Intagli stretti	Nauwe gleuf	Smal slits
	Mitnehmerlöcher	Fori di trascinamento	Meeneemgaten	Medbringarhål

5 DESIGNATION

The complete designation system of a diamond or cubic boron nitride grinding wheel or saw comprises the following elements :

- code for the form of the grinding wheel or saw (see clause 6);
- dimension of the grinding wheel or saw (see ISO 6105 and ISO 6168);
- diamond or cubic boron nitride concentration (see clause 7);
- designation of diamond or cubic boron nitride grain according to ISO 6106.

6 CODE OF SYMBOLIZATION OF DIAMOND OR CUBIC BORON NITRIDE GRINDING WHEEL AND SAW FORMS

6.1 Explanation of the code system

The code system comprises three symbols intended only for the designation of the diamond or boron nitride grinding wheel and saw forms. The three symbols shall be included in any designation. A supplementary symbol may be used if necessary.

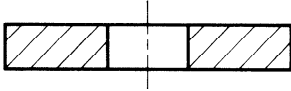
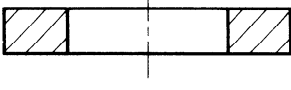
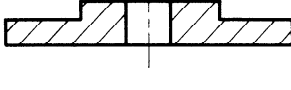
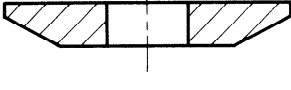
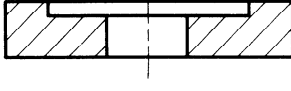

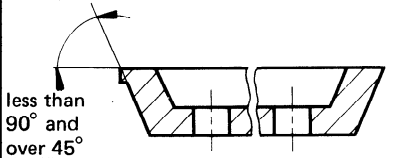
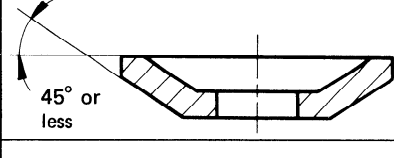
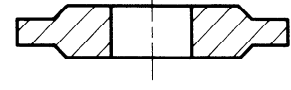
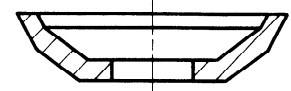
The meaning of these symbols is the following :

- ① Digit or characteristic number for the basic core shape on which the diamond abrasive section is mounted.
- ② One or two letter symbols for the shape of diamond cross-section.
- ③ Digit or characteristic number for location of the diamond section on the core.
- ④ Possibly, one or several letter symbols for the core modifications.

6.2 Symbols

6.2.1 Basic core shape

These symbols are defined irrespective of the location of the diamond abrasive section on the core, or the end use of the grinding wheel. The presence or a recess in the core to accommodate the diamond abrasive section does not affect the determination of the symbol.

Symbol	Form
1	
2	
3	
4	
6	
9	
11	
12	
14	
15	

6.2.2 Diamond cross-section

The symbols are defined irrespective of the location of the diamond abrasive section on the core. The axis of the diamond section may be in any direction. The diamond section is defined by four surfaces : outside surface, inside surface, and two side surfaces.

Symbol	Form	Symbol	Form	Symbol	Form	Symbol	Form	Symbol	Form
A		D		FF		L		QQ	
AH		DD		G		LL		S	
B		E		H		M		U	
C		EE		J		P		V	
CH		F		K		Q		Y	

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