

Bonded abrasive products — Dimensions —

Part 3: Grinding wheels for internal cylindrical grinding

ICS 25.100.70

National foreword

This British Standard reproduces verbatim ISO 603-3:1999 and implements it as the UK national standard.

The UK participation in its preparation was entrusted to Technical Committee MTE/13, Grinding wheels, abrasive tools, paper, cloths and powder, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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A list of organizations represented on this committee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii and iii, a blank page, pages 1 to 5 and a back cover.

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Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 November 1999

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INTERNATIONAL STANDARD

**ISO
603-3**

First edition
1999-07-15

Bonded abrasive products — Dimensions —

Part 3: Grinding wheels for internal cylindrical grinding

Produits abrasifs agglomérés — Dimensions —

Partie 3: Meules pour rectification cylindrique intérieure



Reference number
ISO 603-3:1999(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 603-3 was prepared by Technical Committee ISO/TC 29, *Small tools*, subcommittee SC 5, *Grinding wheels and abrasives*.

This first edition, together with ISO 603-1:1999, ISO 603-2:1999 and ISO 603-4:1999 to ISO 603-16:1999, cancels and replaces ISO/R 603:1967, ISO 603-2:1981, ISO 1117:1975, ISO 2220:1972, ISO 2933:1974, ISO 3290:1976 and ISO 3921:1976 as a technical revision of these standards.

ISO 603 consists of the following parts, under the general title *Bonded abrasive products — Dimensions*:

- *Part 1: Grinding wheels for external cylindrical grinding between centres*
- *Part 2: Grinding wheels for centreless external cylindrical grinding*
- *Part 3: Grinding wheels for internal cylindrical grinding*
- *Part 4: Grinding wheels for surface grinding/peripheral grinding*
- *Part 5: Grinding wheels for surface grinding/face grinding*
- *Part 6: Grinding wheels for tool and tool room grinding*
- *Part 7: Grinding wheels for manually guided grinding*
- *Part 8: Grinding wheels for deburring and fettling/snagging*
- *Part 9: Grinding wheels for high-pressure grinding*
- *Part 10: Stones for honing and superfinishings*
- *Part 11: Hand finishing sticks*
- *Part 12: Grinding wheels for deburring and fettling on a straight grinder*
- *Part 13: Grinding wheels for deburring and fettling on a vertical grinder*

- *Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder*
- *Part 15: Grinding wheels for cutting-off on stationary or mobile cutting-off machines*
- *Part 16: Grinding wheels for cutting-off on hand held power tools*

Bonded abrasive products — Dimensions —

Part 3: Grinding wheels for internal cylindrical grinding

1 Scope

This part of ISO 603 specifies the nominal dimensions, in millimeters, of:

- Type 1: Straight grinding wheel
- Type 5: Wheel recessed on one side

These bonded abrasive products are intended to be used for the grinding of the internal surface of a rotating workpiece. The workpiece and the grinding wheel are mechanically guided.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 603. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 603 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 525:1999, *Bonded abrasive products — General requirements*.

ISO 6103:1999, *Bonded abrasive products — Static balancing of grinding wheels — Testing*.

ISO 13942:—¹⁾, *Bonded abrasive products — Limit deviations and run-out tolerances*.

¹⁾ To be published.

3 Dimensions

3.1 Type 1: Straight grinding wheel

See Figure 1 and Table 1.

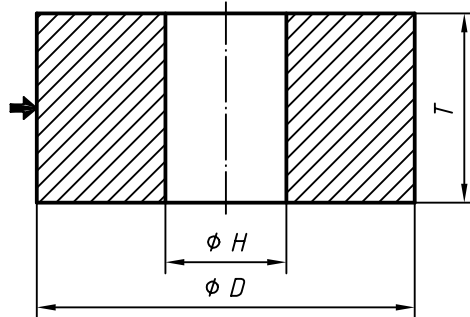


Figure 1 — Type 1

Table 1 — Dimensions of Type 1

<i>D</i>	<i>T</i>										<i>H</i>	
	6	10	13	16	20	25	32	40	50	63		
6	X	—	—	—	—	—	—	—	—	—	—	2,5
10	X	X	X	X	—	—	—	—	—	—	—	4
13	X	X	X	X	X	—	—	—	—	—	—	
16	X	X	X	X	X	—	—	—	—	—	—	6
20	X	X	X	X	X	X	X	—	—	—	—	
25	X	X	X	X	X	X	X	—	—	—	—	10
32	X	X	X	X	X	X	X	X	X	—	—	
40	X	X	X	X	X	X	X	X	X	—	—	13
50	—	X	X	X	X	X	X	X	X	X	X	20
63	—	—	X	X	X	X	X	X	X	X	X	
80	—	—	—	—	X	X	X	X	X	X	X	32
100	—	—	—	—	X	X	X	X	X	X	X	
125	—	—	—	—	—	X	X	X	X	X	X	
150	—	—	—	—	—	—	X	X	X	X	X	
200	—	—	—	—	—	—	—	X	X	X	X	

3.2 Type 5: Wheel recessed on one side

See Figure 2 and Table 2.

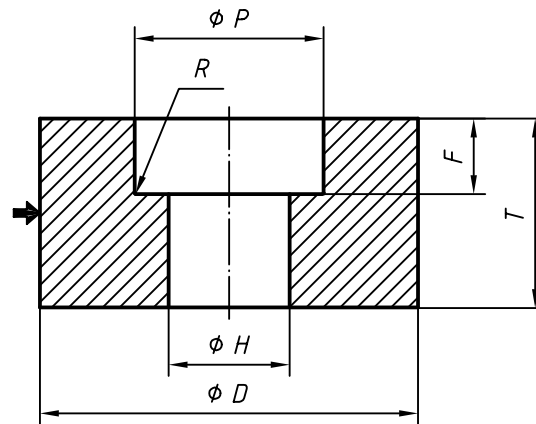


Figure 2 — Type 5

Table 2 — Dimensions of Type 5

D	T	H	P	F	R_{max}
13	13	4	8	6	0,3
16	10	6	10	4	
	16			6	
20	13	6	13	6	
	20			8	
25	10	6 or 10	16	4	
	16			6	
	25			10	
32	13	10	16	6	
	20			8	
	32			12	
40	16	13	20	6	
	25			10	
	40			15	
50	16	20	32	6	
	25			10	
	40			15	
63	25	20	40	10	
	40			15	
	50			20	
80	40	20	45	15	
	50			20	
	63			25	
100	40	32	50	15	
	50			20	
	63			25	
125	40	32	63	15	
	50			20	
	63			25	
150	40	32	80	15	
	50			20	
	63			25	
200	50	32	100	20	
	63			25	

4 Designation

A complete designation of a bonded abrasive product in accordance with this part of ISO 603 shall be consist of the following information:

- a) designation of the bonded abrasives, e.g. "Grinding wheel";
- b) reference of this part of ISO 603;
- c) type (shape);
- d) dimensions;
- e) specifications of an internal nature;
- f) the maximum operating speed.

} In accordance with ISO 525 and
this part of ISO 603

EXAMPLE

A grinding wheel for internal cylindrical grinding, Type 1, $D = 63$ mm, $T = 40$ mm, $H = 20$ mm, nature of abrasive A, grain size 80, grade K, structure 5, nature of bond V and a maximum operating speed of 32 m/s is designated as follows:

Grinding wheel ISO 603-3 - 1 - 63 × 40 × 20 - A 80 K5V - 32 m/s

5 Specifications

The specifications are left to the manufacture's discretion, see ISO 525.

5.1 Tolerances

Limit deviations and run-out tolerances in accordance with ISO 13942.

5.2 Balancing

Balancing is in accordance with ISO 6103.

5.3 Marking

Marking of bonded abrasive products is in accordance with ISO 525.

Bibliography

- [1] ISO 8486-1, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220.*
- [2] ISO 8486-2, *Bonded abrasives — Determination and designation of grain size distribution — Part 2: Microgrits F230 to F1200.*

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