INTERNATIONAL STANDARD

ISO 603-2

Second edition
1999-07-15

Bonded abrasive products — Dimensions —

Part 2:
Grinding wheels for centreless external cylindrical grinding

Produits abrasifs agglomérés — Dimensions —

Partie 2: Meules pour rectification cylindrique extérieure sans centres

Reference number
ISO 603-2:1999(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 603-2 was prepared by Technical Committee ISO/TC 29, *Small tools*, subcommittee SC 5, *Grinding wheels and abrasives*.

This second edition, together with ISO 603-1:1999 and ISO 603-3:1999 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*

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— *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 2:
Grinding wheels for centreless external 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

— Type 7: Wheel recessed on both sides

These bonded abrasive products are intended to be used for the grinding of the external peripheral surface of a rotating workpiece. The workpiece is rotated and mechanically guided with reference to the grinding wheel by means of a control-wheel and rests on a straight-edge placed between the two wheels.

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 lates 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 Grinding wheels for centreless grinding

See Figures 1, 2 and 3 and Table 1.

Type 1: Straight grinding wheel

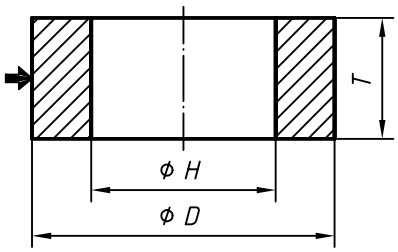
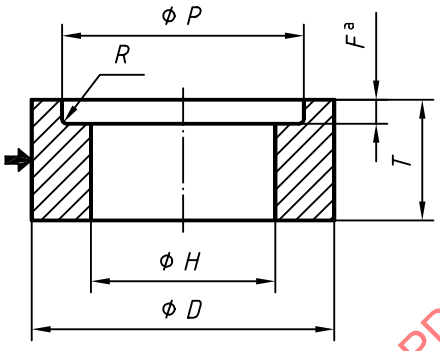


Figure 1 — Type 1

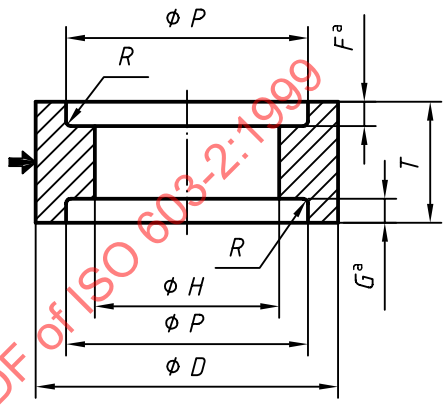
Type 5: Wheel recessed on one side



a The recess depth F is taken as less than or equal to half thickness T.

Figure 2 — Type 5

Type 7: Wheel recessed on both sides



a The recess depth F or $F + G$ are taken as less than or equal to half thickness T.

Figure 3 — Type 7

Table 1 — Dimensions of Type 1, Type 5 and Type 7

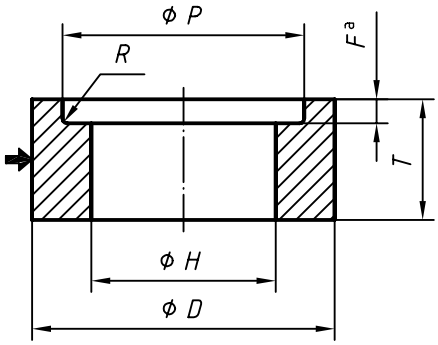
D	T[a]												H	P	R_{max}
	25	40	63	100	125	160	200	250	315	400	500	600			
300	X	X	X	X	X	—	—	—	—	—	—	—	127	190	5
400/406	X	X	X	X	X	X	X	X	—	—	—	—	203,2	280	
500/508	X[b]	X	X	X	X	X	X	X	X	X	X	X	304,8	400	8
600/610	X[b]	X[b]	X[b]	X	X	X	X	X	X	X	X	X			
750/762	–	–	–	X	X	X	X	X	X	X	X	X			

a For wheels with thicknesses of 200 mm and greater wheels may be supplied in more than one piece.

b Only camshaft grinding.

3.2 Type 5 Control wheels

See Figure 4 and Table 2.



a The recess depth F is taken as less than or equal to half thickness T.

Figure 4 — Control wheel

Table 2 — Dimensions of control wheels

D	T[a]												H	P	R_{max}
	25	40	63	100	125	160	200	250	315	400	500	600			
200	X	X	X	X	X	—	—	—	—	—	—	—	76,2	114	3,2
250	X	X	X	X	X	X	X	X	—	—	—	—	127	160	5
250	X	X	X	X	X	X	X	X	—	—	—	—	152,4	160	
300	—	X	X	X	X	X	X	X	—	—	—	—	127	190	
300	—	X	X	X	X	X	X	X	—	—	—	—	152,4	190	
350/356	—	—	—	X	X	X	X	X	X	X	X	X	127	203	
350/356	—	—	—	X	X	X	X	X	X	X	X	X	152,4	203	

a For wheels with thicknesses of 200 mm and greater wheels may be supplied in more than one piece.

4 Designation

A complete designation of a bonded abrasive product in accordance with this part of ISO 603 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 centreless external cylindrical grinding, Type 5, D = 500 mm, T = 200 mm, H = 304,8 mm, P = 400 mm, F = 70 mm, nature of abrasive A, grain size 60, grade L, structure 5, nature of bond V and a maximum operating speed of 50 m/s is designated as follows:

Grinding wheel ISO 603-2 - 5 - 500 × 200 × 304,8 - 400/70 A 60 L5V - 50 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.