
**Bonded abrasive products —
Dimensions —**

Part 12:

Grinding wheels for deburring and fettling
on a straight grinder

Produits abrasifs agglomérés — Dimensions —

*Partie 12: Meules pour ébarbage et ébavurage sur meuleuses portatives
droites*



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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 603-12 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 to ISO 603-11:1999 and ISO 603-13:1999 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 12:

Grinding wheels for deburring and fettling on a straight grinder

1 Scope

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

- Type 1: Straight grinding wheel
- Type 4: Wheel tapered on both sides
- Type 16: Cylindrical plug, tapered cone
- Type 18: Cylindrical plug, flat end
- Type 18R: Cylindrical plug, round end
- Type 19: Cylindrical plug, taper-roll shaped

These bonded abrasive products are intended to be used for deburring and fettling of any surfaces of a workpiece using hand-held grinding machines (straight grinder). The workpiece is fixed, the grinding machine is guided by hand.

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.

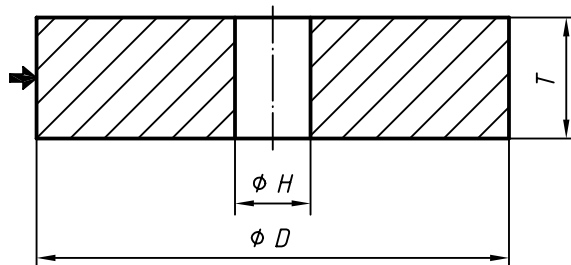


Figure 1 — Type 1

Table 1 — Dimensions of Type 1

D	T	H
32	10	8
40	10	10
50	10	10
	13	
	20	
63	10	10
	13	
	16	
	20	
80	10	16
	20	
	25	
	32	
100	20	16
	25	
	32	
	40	
100	20	20
	25	
	32	
	40	
125	20	16
	25	
	32	
	40	
125	20	20
	25	
	32	
	40	
D	T	H
125	20	32
	25	
	32	
	40	
150	20	16
	25	
	32	
	40	
150	20	20
	25	
	32	
	40	
150	20	32
	25	
	32	
	40	
180	20	20
	25	
	32	
	40	
180	20	32
	25	
	32	
	40	
200	25	20
	32	
200	25	32
	32	

3.2 Type 4: Wheel tapered on both sides

See Figure 2 and Table 2.

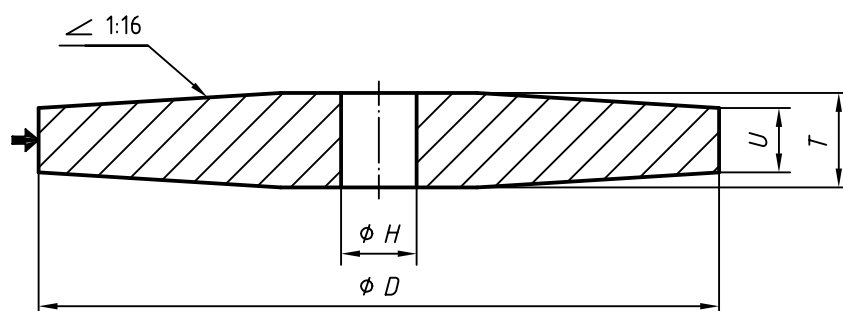


Figure 2 — Type 4

Table 2 — Dimensions of Type 4

D	T	H	U ≈
80	20	20	16
	25		21
100	20		15
	25		20
125	20		14
	25		19
150	20		13
	25		18
180	25	32	17
200	25		16

3.3 Type 16: Cylindrical plug, tapered cone

See Figure 3 and Table 3.

3.4 Type 18: Cylindrical plug, flat end

See Figure 4 and Table 3.

3.5 Type 18R: Cylindrical plug, round end

See Figure 5 and Table 3.

3.6 Type 19: Cylindrical plug, taper-roll shaped

See Figure 6 and Table 3.

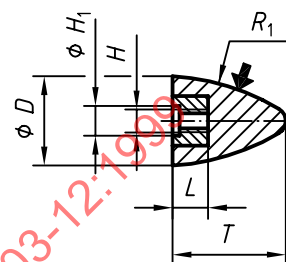
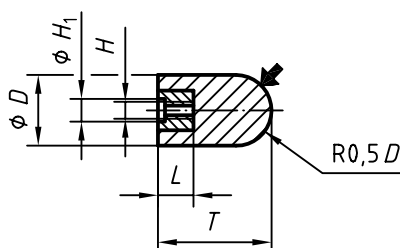
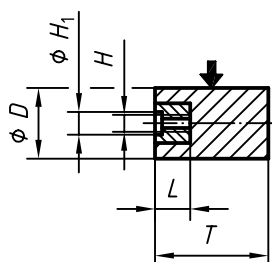
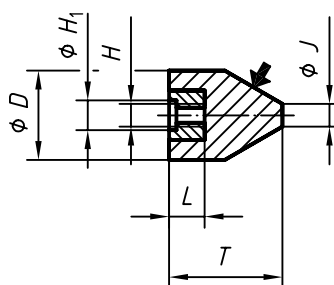


Figure 3 — Type 16

Figure 4 — Type 18

Figure 5 — Type 18R

Figure 6 — Type 19

Table 3 — Dimensions of Type 16, Type 18, Type 18R and Type 19

Type	D	T	H		H ₁		J	L	R ₁	
16	32	50	M10		12		10	16	—	
	40	63	M12		14			20		
	50	80	M12	M14	14	16	13	25		
	63	63	M16				16			30
		80								
		100								
	80	80					20			25
		100								30
18 and 18R	32	40	M10		12		—	16	—	
		50								
	40	40	M12		14			20		
		50								
		63								
	50	50	M12	M14	14	16		25		
		80								
	63	63	M16		18					
		80								
		80								
19	40	63	M12		14		—	20	190	
	63	80	M16		18			25	165	
	80	80						25	150	

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 deburring, Type 1, $D = 150$ mm, $T = 25$ mm, $H = 20$ mm, nature of abrasive A, grain size 24, grade Q, structure 5, nature of bond B and a maximum operating speed of 50 m/s is designated as follows:

Grinding wheel ISO 603-12 - 1 - 150 × 25 × 20 - A 24 Q5B - 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.