
**Bonded abrasive products —
Dimensions —**

**Part 14:
Grinding wheels for deburring and
fettling/snagging on an angle grinder**

Produits abrasifs agglomérés — Dimensions —

*Partie 14: Meules pour ébarbage et ébavurage sur meuleuses
portatives à renvoi d'angle*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 5, *Grinding wheels and abrasives*.

This second edition cancels and replaces the first edition (ISO 603-14:1999), which has been technically revised.

The main changes are as follows:

- the scope has been specified;
- [Clause 2](#) “Normative references” has been revised;
- [Clause 3](#) “Terms and definitions” has been added;
- in [Clause 4](#) (former [Clause 3](#)), introductory, explanatory sentences have been added for better understanding;
- the figures with shape types and dimensions have been adapted to ISO 525:2020 (e.g. in shape types 27 and 28, the dimension “F” for the elevation of depressed centre has been renamed “M”);
- shape type 29 “Depressed centre grinding wheel, convex shape” has been added;
- the values in the tables have been adapted to the state of the art and the most common dimensions for imperial sizes have also been included for more global acceptance;
- [Clause 5](#) (former [Clause 4](#)) “Designation” has been revised with reference to ISO 525;
- former [Clause 5](#) “Specifications” has been removed and the reference to ISO 13942 (limit deviations and run out tolerances) has been given in the scope for information;
- the Bibliography has been revised.

A list of all parts in the ISO 603 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Dimensions and tolerances are expressed in millimetres, with dimensions in inches (in) shown between brackets.

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Bonded abrasive products — Dimensions —

Part 14:

Grinding wheels for deburring and fettling/snagging on an angle grinder

1 Scope

This document specifies the most common nominal dimensions, in millimetres, of:

- shape type 6: straight cup grinding wheel;
- shape type 11: taper cup grinding wheel;
- shape type 27: depressed centre wheel for grinding or grinding/cutting-off;
- shape type 28: depressed centre grinding wheel, concave shape;
- shape type 29: depressed centre grinding wheel, convex shape.

These bonded abrasive products are intended to be used for deburring and fettling/snagging of any surface of a workpiece using hand-held grinding machines (angle grinder). In this application, the workpiece is fixed and the grinding machine is guided by the operator.

This document does not specify limit deviations and run-out tolerances, which are given in ISO 13942.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 525, *Bonded abrasive products — Shape types, designation and marking*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Shape types and dimensions

4.1 Shape type 6: straight cup grinding wheel

This subclause specifies the shape that a product shall have to be referred to as a straight cup grinding wheel (shape type 6 according to ISO 525).

[Figure 1](#), [Figure 2](#) and [Figure 3](#) show different variations of a type 6 wheel. The symbols of the dimensions to describe a type 6 wheel are given in [Figure 1](#) in accordance with ISO 525.

Table 1 and Table 2 give the most common dimensions.

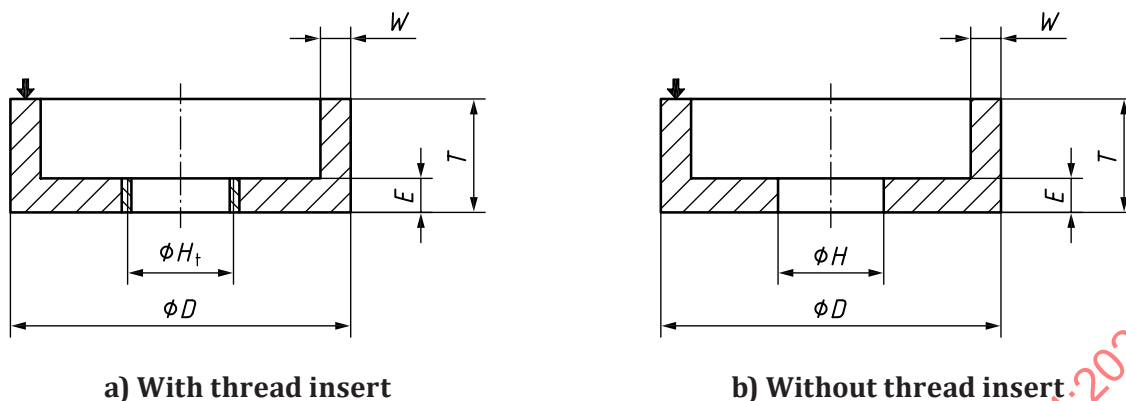


Figure 1 — Shape type 6 without prong anchor bushing or full metal back bushing

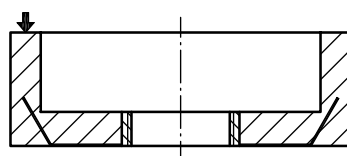


Figure 2 — Shape type 6 with prong anchor bushing and thread insert

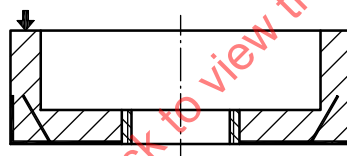


Figure 3 — Shape type 6 with full metal back bushing and thread insert

Table 1 — Dimensions of shape type 6 with thread inserts

Outside diameter D mm (in)	Overall thickness T mm	Thread diameter H_t	Rim width W mm	Thickness at bore $E_{\min}^a$ mm
50	60	5/8"	13,5	18
73	60	5/8"	18,0	23
82	45	M14	21,0	19
90	50	5/8"	20,0	18
100	50	M14	20,0	20
115 (4.5)	50	5/8"	32,5	18
125	50	M14	25,0	20
127 (5.0)	51	5/8" or M14	38,0	19
150	50	M14	40,0	20

^a Safety by design imposes that $E_{\min} \geq 0,25 \times T$.

Table 2 — Dimensions of Shape type 6 without thread inserts

Outside diameter D mm	Overall thickness T mm	Bore diameter H mm	Rim width W mm	Thickness at bore $E_{\min}^a$ mm
100	50	22,23	20	20
125			25	
	68	20,00	30	18
150	50	22,23	32	20

^a Safety by design imposes that $E_{\min} \geq 0,25 \times T$.

4.2 Shape type 11: taper cup grinding wheel

This subclause specifies the shape that a product shall have to be referred to as a taper cup grinding wheel (shape type 11 according to ISO 525).

Figure 4, Figure 5 and Figure 6 show different variations of a type 11 wheel. The symbols of the dimensions to describe a type 11 wheel are given in Figure 4 in accordance with ISO 525.

Table 3 and Table 4 give the most common dimensions.

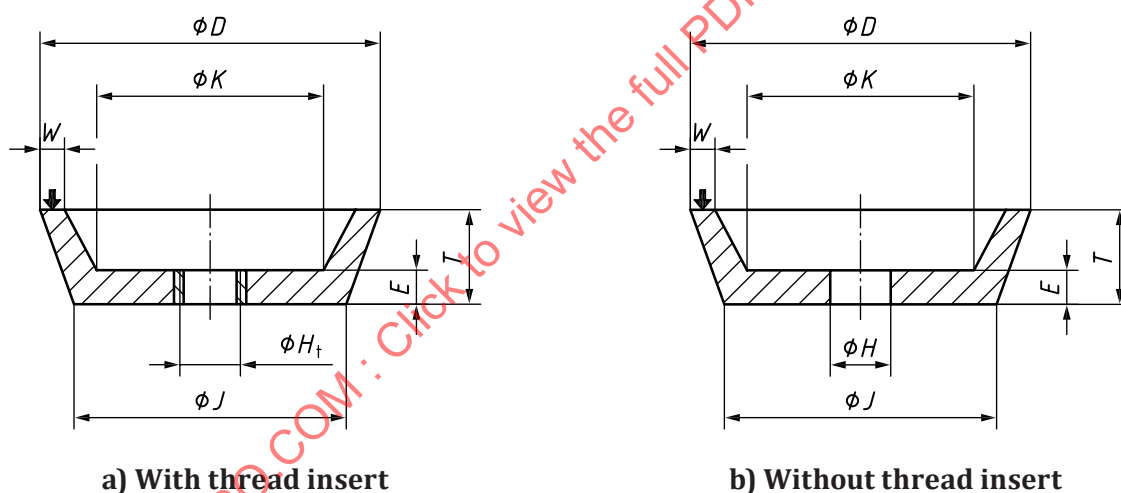
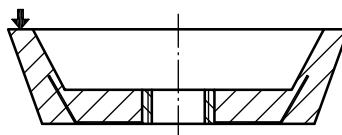
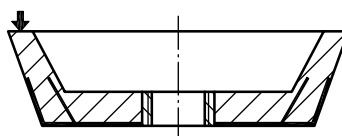
**Figure 4 — Shape type 11 without prong anchor bushing or full metal back bushing****Figure 5 — Shape type 11 with prong anchor bushing and thread insert****Figure 6 — Shape type 11 with full metal back bushing and thread insert**

Table 3 — Dimensions of shape type 11 with thread inserts

Outside diameter D mm (in)	Overall thickness T mm	Smallest diameter J mm	Thread diameter H_t	Rim width W mm	Thickness at bore $E_{\min}^a$ mm
75	44	68	M14	12,5	12
100	50	76 or 80		20,0	20
102 (4.0)	51	76	5/8" or M14	20,0	19
110	55	90			
125	40	100	5/8"	25,0	20
	50		5/8" or M14	40,0	
		94 or 100	5/8" or M14	25,0	
127 (5.0)	51	94	5/8" or M14	25,0	19
150	50	120	M14	30,0	20
			5/8"	40,0	
152	51	120	5/8" or M14	30,0	19
178	63	140	3/4" or M14	40,5	20
180	63	140	M14	40,0	20
	80	120		41,0	25

^a Safety by design imposes that $E_{\min} \geq 0,25 \times T$.

Table 4 — Dimensions of shape type 11 without thread inserts

Outside diameter	Overall thickness	Smallest diameter	Bore diameter	Rim width	Thickness at bore
D mm	T mm	J mm	H mm	W mm	$E_{\min}^a$ mm
100	50	76	22,23	20	19
110	55	55		20	19
		90			14
125	50	94		25	19
150	50	120		30	19
180	63	140		41	20
	80		22		

^a Safety by design imposes that $E_{\min} \geq 0,25 \times T$.

4.3 Shape type 27: depressed centre wheel for grinding or grinding/cutting-off

This subclause specifies the shape that a product shall have to be referred to as a depressed centre grinding wheel for grinding or grinding/cutting-off (shape type 27 according to ISO 525).

The shape and symbols of the dimensions to describe a type 27 wheel are given in [Figure 7](#) in accordance with ISO 525.

[Table 5](#) gives the most common dimensions.

NOTE Variations of these products with a threaded hub are possible.

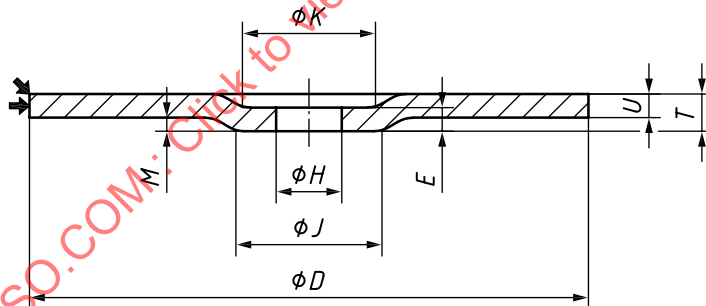


Figure 7 — Shape type 27

Table 5 — Dimensions of shape type 27

Outside diameter D mm (in)	Smallest thickness U mm										Bore diameter H mm	Minimum internal diameter of recess K_{min} mm	Minimum elevation of depressed centre M_{min} mm
	2,0	2,5	3,5	4,0	5,0	6,0	6,5	7,0	8,0	10,0			
76 (3.0)	—	—	—	X	X	X	X	—	—	—	9,53 ^a / 10,00	≥ 23,0	≥ 3,5
80	—	—	—	X	X	X	X	—	—	—	9,53 ^a / 10,00	≥ 23,0	
100	X	X	X	X	X	X	X	—	—	—	15,88 ^a / 16,00	≥ 35,5	
115 (4.5)	X	X	X	X	X	X	X	X	—	—	22,23	≥ 45,0	≥ 4,0
125	X	X	X	X	X	X	X	X	X	—			
127 (5.0)	X	X	X	X	X	X	X	X	X	—			
150	—	—	X	X	X	X	X	X	—	—			
178 (7.0)	—	—	X	X	X	X	X	X	X	X			
180	—	—	X	X	X	X	X	X	X	X			
230 (9.0)	—	—	X	X	X	X	X	X	X	X			

^a These bore sizes are for machines using imperial units only.