

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 603

BONDED ABRASIVE PRODUCTS
GRINDING-WHEEL DIMENSIONS
(PART 1)

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BRIEF HISTORY

The ISO Recommendation R603, *Bonded Abrasive Products—Grinding-Wheel Dimensions (Part 1)*, was drawn up by Technical Committee ISO/TC 29, *Small Tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1950 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In September 1964, this Draft ISO Recommendation (No. 736) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Argentina	Hungary	Poland
Australia	India	Spain
Austria	Iran	Sweden
Belgium	Israel	Switzerland
Canada	Italy	Turkey
Chile	Japan	U.A.R.
Czechoslovakia	Korea, Rep. of	United Kingdom
France	Netherlands	U.S.A.
Germany	New Zealand	Yugoslavia

One Member Body opposed the approval of the Draft:

U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in August 1967, to accept it as an ISO RECOMMENDATION.

BONDED ABRASIVE PRODUCTS GRINDING-WHEEL DIMENSIONS

(Part 1)

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F O R E W O R D

Except where otherwise indicated, the dimensions shown for these grinding wheels are in accordance with those in ISO Recommendation R 525-1966, *Bonded Abrasive Products—General Features (Designation—Ranges of Dimensions—Profiles)*.

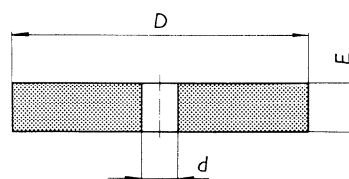
The letter symbols used for dimensions in this ISO Recommendation conform to those shown in ISO Recommendation R 525. Readers are reminded that they may be replaced in national standards by symbols conforming to the current practice of the country concerned until international agreement on a uniform system of symbols is reached.

The illustrations accompanying the tables are purely diagrammatic; for cup grinding-wheels and plain recessed wheels in particular, the internal angles should be replaced by radii which obviate any tendency for cracks to form, but which nevertheless permit correct assembly of the components on the spindle.

The dimensions in this ISO Recommendation are expressed in both millimetres and inches. As the holes are identical, wheels from the metric series and those from the inch series can be mounted on the same machines; since the overall dimensions may be slightly different in the two systems, however, wheels of either series can be considered only as equivalent to each other.

1. PLAIN GRINDING WHEELS FOR FETTLING AND GENERAL SHARPENING (Type 1)

1.1 Low-speed fettling, minor and general sharpening (for hand use)



Dimensions in millimetres					Dimensions in inches										
<i>D</i>	<i>E</i>				<i>d</i>	<i>D</i>	<i>E</i>						<i>d</i>		
80	6	10			13	3	1/4	3/8					0.5118		
100			13	20	16	4		1/2	3/4				0.6299		
125			20	25	20	5			3/4	1			0.7874		
150			20	25		6			3/4	1					
200			20	25		8			3/4	1					
250			20	25	32	32	10		3/4	1	1 1/4			1.26	
300				25	32		40	12			1	1 1/4	1 1/2		
350				32	40		50	14			1 1/4	1 1/2	2		
400				40	50	63	40	16			1 1/2	2	2 1/2	1.5748	
500					50	63	80	50.8	20			2	2 1/2	3	2
600						63	80	76.2	24				2 1/2	3	3
750						80			30					3	

1.2 High-speed fettling

1.2.1 on portable grinding-machines

Dimensions in millimetres					Dimensions in inches				
<i>D</i>	<i>E</i>			<i>d</i>	<i>D</i>	<i>E</i>			<i>d</i>
80	6	10		10	3	1/4	3/8		0.3937
100			20 25	13	4			3/4 1	0.5118
125			20 25	16	5			3/4 1	0.6299
150			20 25		6			3/4 1	
200			25		8			1	

1.2.2 on fixed or swing-frame grinding-machines

Dimensions in millimetres					Dimensions in inches						
<i>D</i>	<i>E</i>			<i>d</i>	<i>D</i>	<i>E</i>			<i>d</i>		
350	50			127.0	14	2			5		
400	50	63	152.4		16	2	2½	6			
500	50	63			80	20	2			2½	3
600		63	80	304.8	24		2½	3			
750			80		100	30			3	4	12
900					80	100			36		3

NOTE. – The following values from the transitional series of holes are permissible by special agreement in place of the nearest value of *d* in the Tables above:

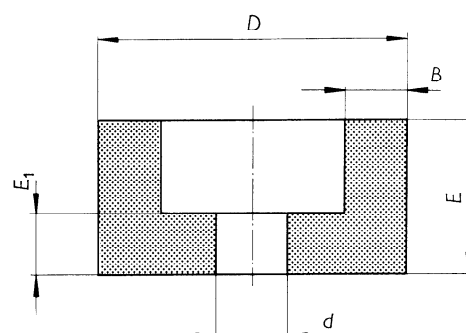
in millimetres	12.7	15.88	19.05	31.75	38.1
in inches	1/2	5/8	3/4	1 1/4	1 1/2

2. HIGH-SPEED CUP GRINDING-WHEELS FOR PORTABLE MACHINES

(Types 6 and 11)

2.1 Straight cup grinding-wheels (Type 6)

Dimensions in millimetres				
D	E	d^*	B	E_1
100	50	22.23	20	20
125			25	
150			40	
Dimensions in inches				
D	E	d^*	B	E_1
4	2	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
5			1	
6			$1\frac{1}{2}$	

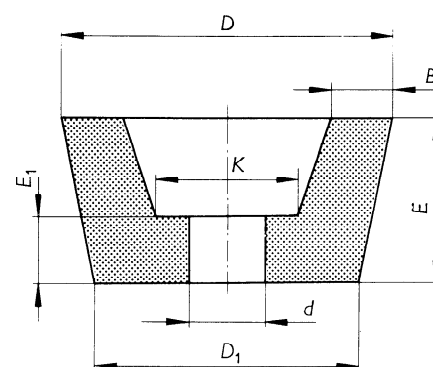


Grinding-wheels with nuts. – For grinding-wheels which have a nut instead of a hole, for preference always adopt the UNIFIED thread $\frac{5}{8}$ – 11 UNC for this nut.

*Exceptions to the recommended series of holes in ISO Recommendation R 525-1966.

2.2 Taper cup grinding-wheels (Type 11)

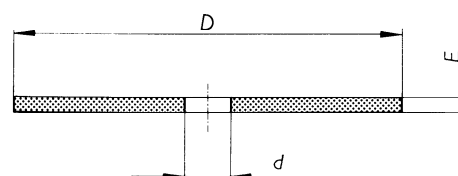
Dimensions in millimetres						
D	D_1	E	d^*	B	E_1	K min.
100	80	50	22.23	20	20	45
125	100			25		54
150	120			40		
Dimensions in inches						
D	D_1	E	d^*	B	E_1	K min.
4	3	2	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$	$1\frac{13}{16}$
5	$3\frac{3}{4}$			1		$2\frac{1}{8}$
6	$4\frac{3}{4}$			$1\frac{1}{2}$		



*Exceptions to the recommended series of holes in ISO Recommendation R 525-1966.

3. GRINDING-WHEELS FOR CUTTING AND SLITTING, WITHOUT REINFORCEMENT (Type 1)

Dimensions in millimetres			Dimensions in inches		
D	E	d	D	E	d
100	1	20	4	$\frac{3}{64}$	0.7874
150	1.6		6	$\frac{1}{16}$	
200	2		8	$\frac{5}{64}$	
250	2.5	25	10	$\frac{3}{32}$	0.9843
300			12		
400	3.2		16	$\frac{1}{8}$	
500	4		20	$\frac{5}{32}$	
600			24		



NOTE. – The following values from the transitional series of holes are permissible by special agreement in place of the nearest value of d in the adjoining Table:

in millimetres 19.05 25.4
in inches $\frac{3}{4}$ 1