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**INTERNATIONAL STANDARD**



**2933**

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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**Bonded abrasive products —  
Grinding wheel dimensions (Part 3)**

*Produits abrasifs agglomérés — Dimensions des meules (Troisième partie)*

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**Descriptors :** tools, abrasives, grinding wheels, dimensions.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2933 was drawn up by Technical Committee ISO/TC 29, *Small tools*, and circulated to the Member Bodies in October 1972.

It has been approved by the Member Bodies of the following countries :

Australia	Germany*	South Africa, Rep. of
Belgium	Hungary	Thailand
Bulgaria	India	Turkey
Czechoslovakia	Israel	United Kingdom
Egypt, Arab Rep. of	Poland	U.S.A.
France	Romania	

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Austria  
Italy  
Japan  
Sweden  
Switzerland

\* Germany approved only the part concerning depressed centre wheels with fabric reinforcement and abstained from voting on the rest of the document.

## Bonded abrasive products — Grinding wheel dimensions (Part 3)

### 1 SCOPE AND FIELD OF APPLICATION

This International Standard is a continuation of ISO/R 603 and ISO/R 1117. It specifies the shapes and dimensions of depressed centre wheels with fabric reinforcement — Type 27 — and of mounted wheels.

Save for the exceptions indicated by a reference mark, the dimensions retained for the wheels specified in this International Standard are those provided in ISO/R 525 and its Addendum 1.

The numerical values retained in this International Standard are given in both systems of units (metric and inch). The holes being identical, wheels of the metric series and those of the inch series can be mounted on the same machines; however, the overall dimensions being possibly slightly different, wheels of both series can only be considered as equivalent.

The symbols for dimensions used in the figures and tables are those provided in ISO/R 603. They may be replaced in national standards by those in conformity with the rules

prevailing in the country concerned, until international agreement regarding a single reference system is reached.

The figures accompanying the tables are only rough sketches which permit reference to the useful dimensions.

### 2 REFERENCES

ISO/R 525, *Bonded abrasive products — General features — Designation — Ranges of dimensions — Profiles.*

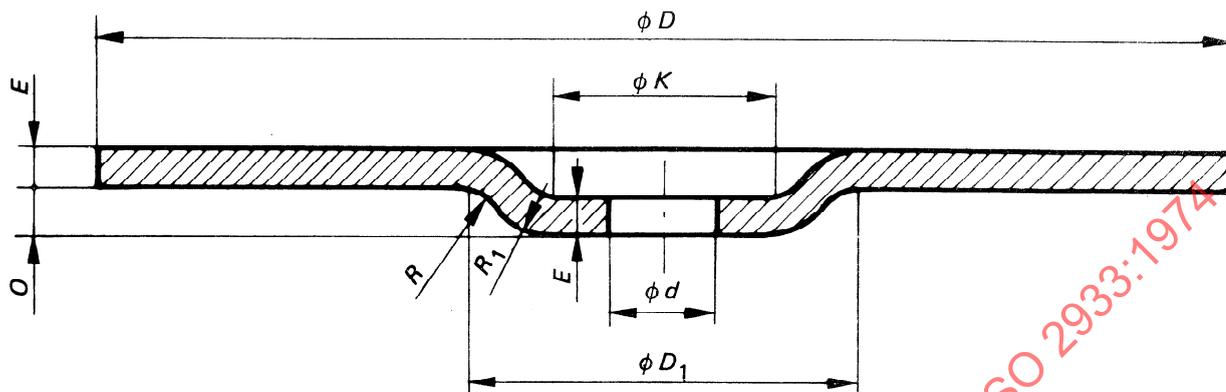
ISO/R 525-Addendum 1, *Bonded abrasive products — General features — Designation — Ranges of dimensions — Profiles — Dimensions of the wheel holes for special applications and tolerances.*

ISO/R 603, *Bonded abrasive products — Grinding wheel dimensions (Part 1).*

ISO/R 1117, *Bonded abrasive products — Grinding wheel dimensions (Part 2).*

3 DEPRESSED CENTRE WHEELS WITH FABRIC REINFORCEMENT – TYPE 27

NOTE – The external profile of depressed centre wheels with fabric reinforcement is determined by dimensions  $O - D_1 - K - R$  and  $R_1$ . The internal profile is not specified as it is left to manufacturers to maintain dimensions  $K$  and  $E$  which are fixed.



3.1 Cutting-off grinding wheels type 27 – Dimensions

Dimensions in millimetres

D	E				d	O**	D <sub>1</sub>	K	R	R <sub>1</sub>
	2,5	3,2	5	6						
80	X	X			9,53*	4,0	34,0	20,0	3,2	4,9
100	X	X								
180	X	X			22,23*	4,8	68,0	42,0	10,0	10,0
230		X								
400			X		76,20	7,5	146,3	120,8	5,0	9,5
500				X						

\* Special hole (ISO/R 525 – Add. 1).

\*\* The tolerance on O will be specified later.

Dimensions in inches

D	E				d	O**	D <sub>1</sub>	K	R	R <sub>1</sub>
	3/32	1/8	3/16	1/4						
3	X	X			3/8*	5/32	1 5/16	3/4	1/8	3/16
4	X	X								
7	X	X			7/8*	3/16	2 5/8	1 5/8	3/8	3/8
9		X								
16			X		3	19/64	5 3/4	4 3/4	13/64	23/64
20				X						

\* Special hole (ISO/R 525 – Add. 1).

\*\* The tolerance on O will be specified later.

3.2 Grinding wheels type 27 for operations excluding cutting-off – Dimensions

Dimensions in millimetres

D	E				d	O**	D <sub>1</sub>	K	R	R <sub>1</sub>
	4	6	8	10						
80	X	X	X	X	9,53*	4,0	34,0	20,0	3,2	4,9
100	X	X	X	X						
180	X	X	X	X	22,23*	4,8	68,0	42,0	10,0	10,0
230	X	X	X	X						

\* Special hole (ISO/R 525 – Add. 1).

\*\* The tolerance on O will be specified later.

Dimensions in inches

D	E				d	O**	D <sub>1</sub>	K	R	R <sub>1</sub>
	5/32	1/4	5/16	3/8						
3	X	X	X	X	3/8*	5/32	1 5/16	3/4	1/8	3/16
4	X	X	X	X						
7	X	X	X	X	7/8*	3/16	2 5/8	1 5/8	3/8	3/8
9	X	X	X	X						

\* Special hole (ISO/R 525 – Add. 1).

\*\* The tolerance on O will be specified later.

## 4 MOUNTED WHEELS

### 4.1 General

To facilitate identification, these wheels are designated in this International Standard by a number.

The dimensions indicated in the tables of 4.3 are not imperative, provided that the general outlines of the corresponding sketch are respected.

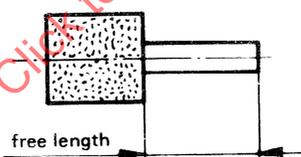
### 4.2 Mandrels

#### 4.2.1 Diameters (tolerance h9)

Type Units	A	B	W					
mm	6,30	3,15	No. ≤ 187 3,15	188 ≤ No. ≤ 197 6,30	200 ≤ No. ≤ 204 3,15	205 ≤ No. ≤ 208 6,30	215/216 3,15	No. ≥ 217 6,30
in	0.250	0.125	0.125	0.250	0.125	0.250	0.125	0.250

#### 4.2.2 Lengths

Recommended free lengths : 25 mm – 1 in and 40 mm – 1 1/2 in.

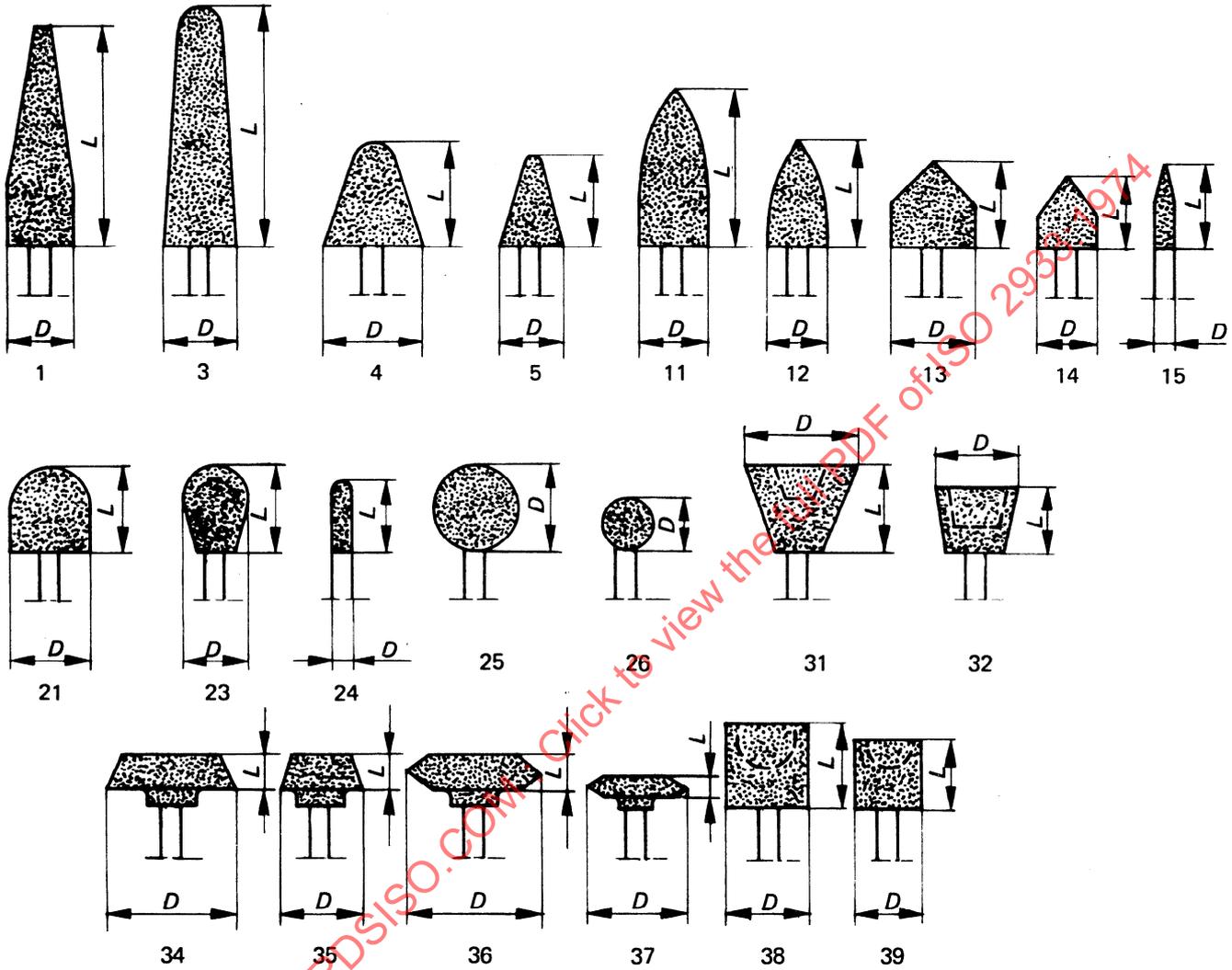


If special lengths are needed, the choice shall be restricted, if possible, to the following dimension :

63 mm – 2 1/2 in

4.3 Grinding wheel dimensions

4.3.1 Grinding wheels type A



No.	mm		in	
	D	L	D	L
1	20	65	3/4	2 1/2
3	22	70	1	2 3/4
4	30	30	1 1/4	1 1/4
5	20	28	3/4	1 1/8
11	21	45	7/8	2
12	18	30	11/16	1 1/4
13	25	25	1 1/8	1 1/8
14	18	22	11/16	7/8
15	6	25	1/4	1 1/16
21	25		1	1
23	20		3/4	

No.	mm		in	
	D	L	D	L
24	6	20	1/4	3/4
25	25	X	1	X
26	16		5/8	
31	35	26	1 3/8	1
32	25	20	1	5/8
34	38	10	1 1/2	3/8
35	25		1	
36	40		1 5/8	
37	30	6	1 1/4	1/4
38	25	25	1	1
39	20	20	3/4	3/4