INTERNATIONAL STANDARD

ISO 603-5

First edition
1999-07-15

Bonded abrasive products — Dimensions —

Part 5:
Grinding wheels for surface grinding/face grinding

Produits abrasifs agglomérés — Dimensions —

Partie 5: Meules pour rectification plane/meulage latéral

Reference number
ISO 603-5:1999(E)

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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 603-5 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 603-4:1999 and ISO 603-6:1999 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 5:
Grinding wheels for surface grinding/face grinding

1 Scope

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

— Type 2: Cemented or clamped cylinder wheel

— Type 6: Straight cup wheel

— Type 31: Segments

— Type 35: Cemented or clamped disc wheel

— Type 36: Disc wheel with inserted nuts

— Type 37: Cylinder wheel with inserted nuts

These bonded abrasive products are intended to be used for surface grinding where the workpiece is secured to a reciprocating table that moves in a straight line. The workpiece and the grinding wheel are mechanically guided.

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 Type 2: Cemented or clamped cylinder wheel

See Figure 1 and Table 1.

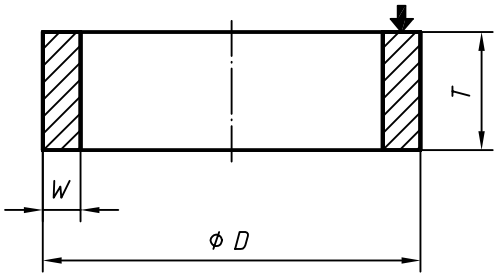

Figure 1 — Type 2

Table 1 — Dimensions of Type 2

D	*T*	*W*
150	80	16
180		20
200	100	20
250		25
300		32
350/356	125	40
400/406		
450/457		
500/508	125	50
600/610		63

3.2 Type 6: Straight cup wheels

See Figure 2 and Table 2.

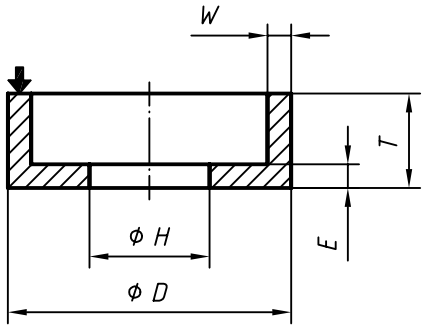

Figure 2 — Type 6

Table 2 — Dimensions of Type 6

D	*T*	*H*	*W*	*E* min.
125	63	32	13	16
150	80	32	16	20
180	80	76,2	20	
200	100	76,2	20	20
				25
	125	76,2	20	20
				25
250	100	76,2	25	25
		127		
	125	76,2		
		127		
300	100	127	25	25
	125	127		

3.3 Type 31: Segments

See Figures 3, 4 and 5 and Tables 3, 4 and 5.

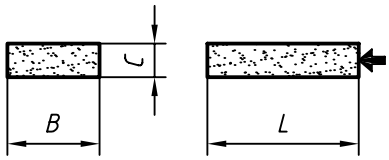

Figure 3 — Type 3101

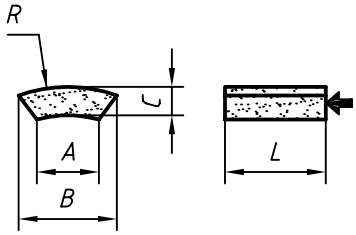

Figure 4 — Type 3104

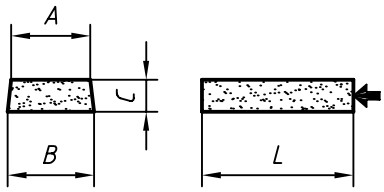

Figure 5 — Type 3109

Table 3 — Dimensions of Type 3101

B	*C*	*L*
50	25	150
60	25	
80	25	
80	30	
90	35	200
90	35	180
110	40	200
110	40	180
120	30	
120	40	
120	30	200
120	40	

Table 4 — Dimensions of Type 3104

B	*A*	*C*	*L*	*R*
95	72	25	120	170
103	77	25	150	200
106	80	25	150	180
117	74	39	120	171,5
143	103,5	38	200	273
152	108	44	200	179

Table 5 — Dimensions of Type 3109

B	*A*	*C*	*L*
60	54	22	110
70	64	25	110
70	64	25	150
80	70	40	150
103	94	38	150
103	94	38	180
120	106	41	200
152	135	63	200
152	135	63	250

3.4 Type 35: Cemented or clamped disc wheel

See Figure 6 and Table 6.

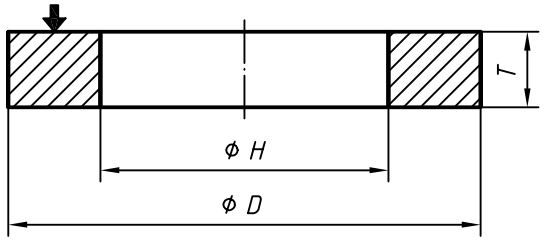

Figure 6 — Type 35

Table 6 — Dimensions of Type 35

D	*T*		*H* max.
350/356	63	80	203,2
400/406	63	80	254
450/457			304,8
500/508			
600/610	63	80	400
750/762			508
900/914	—	80	

3.5 Type 36: Disc wheel with inserted nuts

See Figures 7 to 15 and Tables 7 to 15.

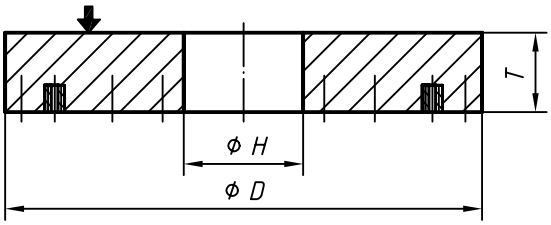

Figure 7 — Type 36

Table 7 — Dimensions of Type 36

D	*T*			*H* max.	**Insert layout**
350/356	63	80	—	120	See Figures 8 to 15 and Tables 8 to 15
400/406				140	
450/457			100	50	
500/508	63	80	100		
600/610				150	
750/762				50	
900/914	—	80	100	280	
1 060/1 067					

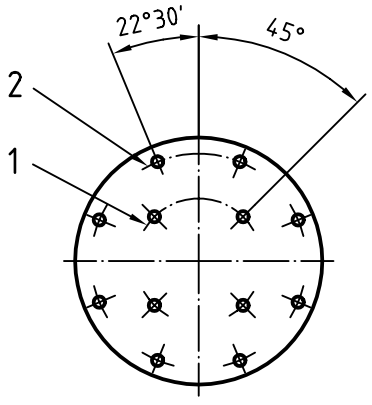

Figure 8 — *D* = 350 mm/356 mm

Table 8 — *D* = 350 mm/356 mm

Insert location		**Number of holes**
Row of inserts	Pitch circle diameter	
1	177,8	4 at 90°
2	304,8	8 at 45°

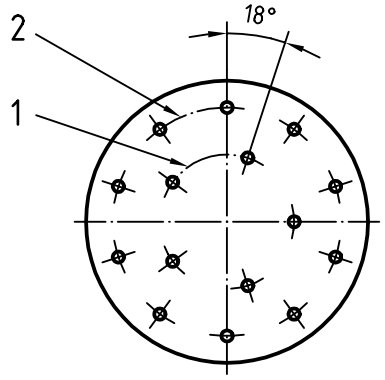

Figure 9 — D = 400 mm/406 mm

Table 9 — D = 400 mm/406 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	190,5	5 at 72°
2	323,85	10 at 36°

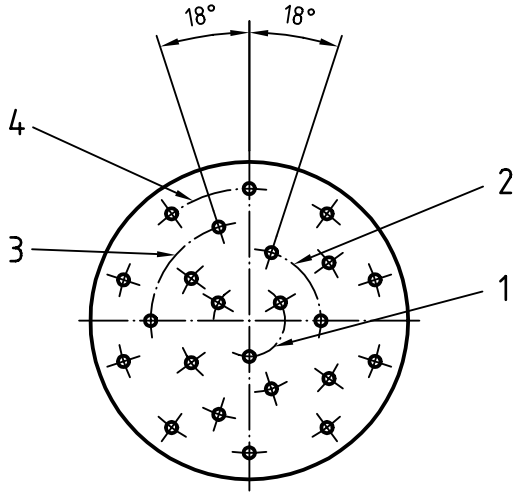

Figure 10 — D = 450 mm/457 mm

Table 10 — D = 450 mm/457 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	101,6	3 at 120°
2	203,2	5 at 72°
3	279,4	5 at 72°
4	374,65	10 at 36°

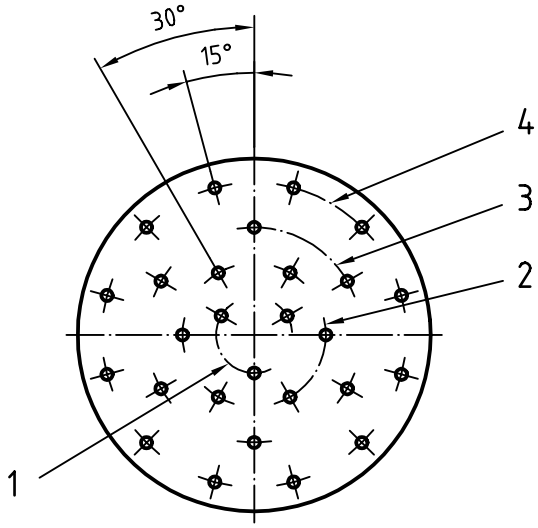

Figure 11 — D = 500 mm/508 mm

Table 11 — D = 500 mm/508 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	107,95	3 at 120°
2	203,2	6 at 60°
3	304,8	6 at 60°
4	431,8	12 at 30°

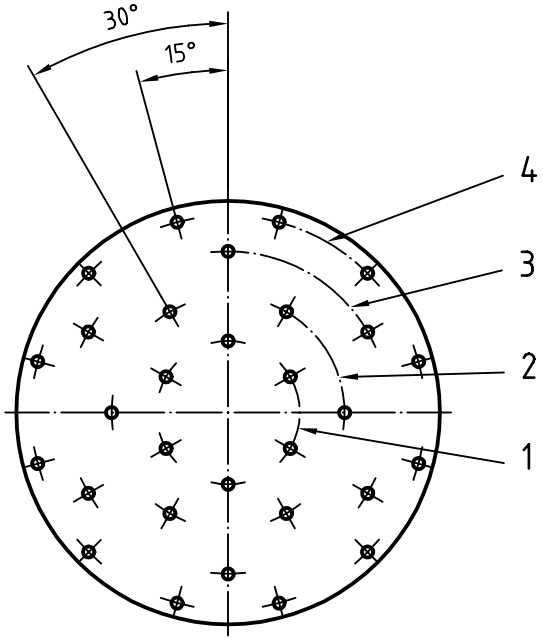

Figure 12 — D = 600 mm/610 mm

Table 12 — D = 600 mm/610 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	203,2	6 at 60°
2	330,2	6 at 60°
3	457,2	6 at 60°
4	558,8	12 at 30°

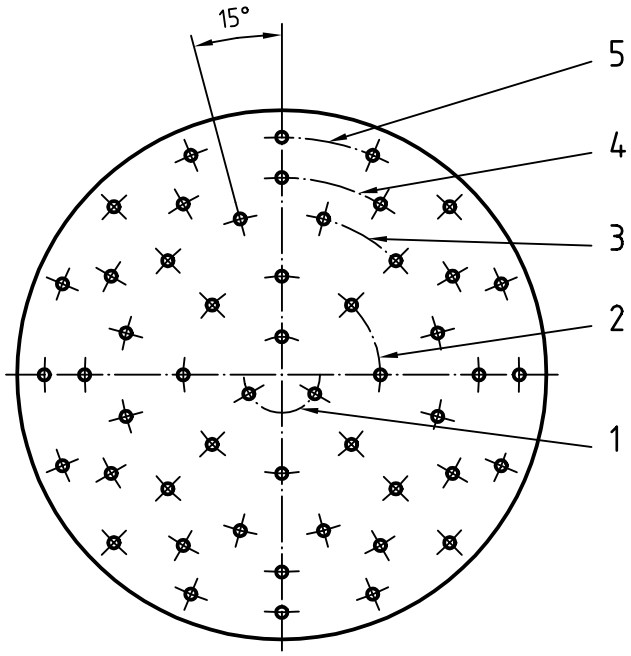

Figure 13 — D = 750 mm/762 mm

Table 13 — D = 750 mm/762 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	107,95	3 at 120°
2	279,40	8 at 45°
3	457,20	12 at 30°
4	558,80	12 at 30°
5	673,10	16 at 22°30'

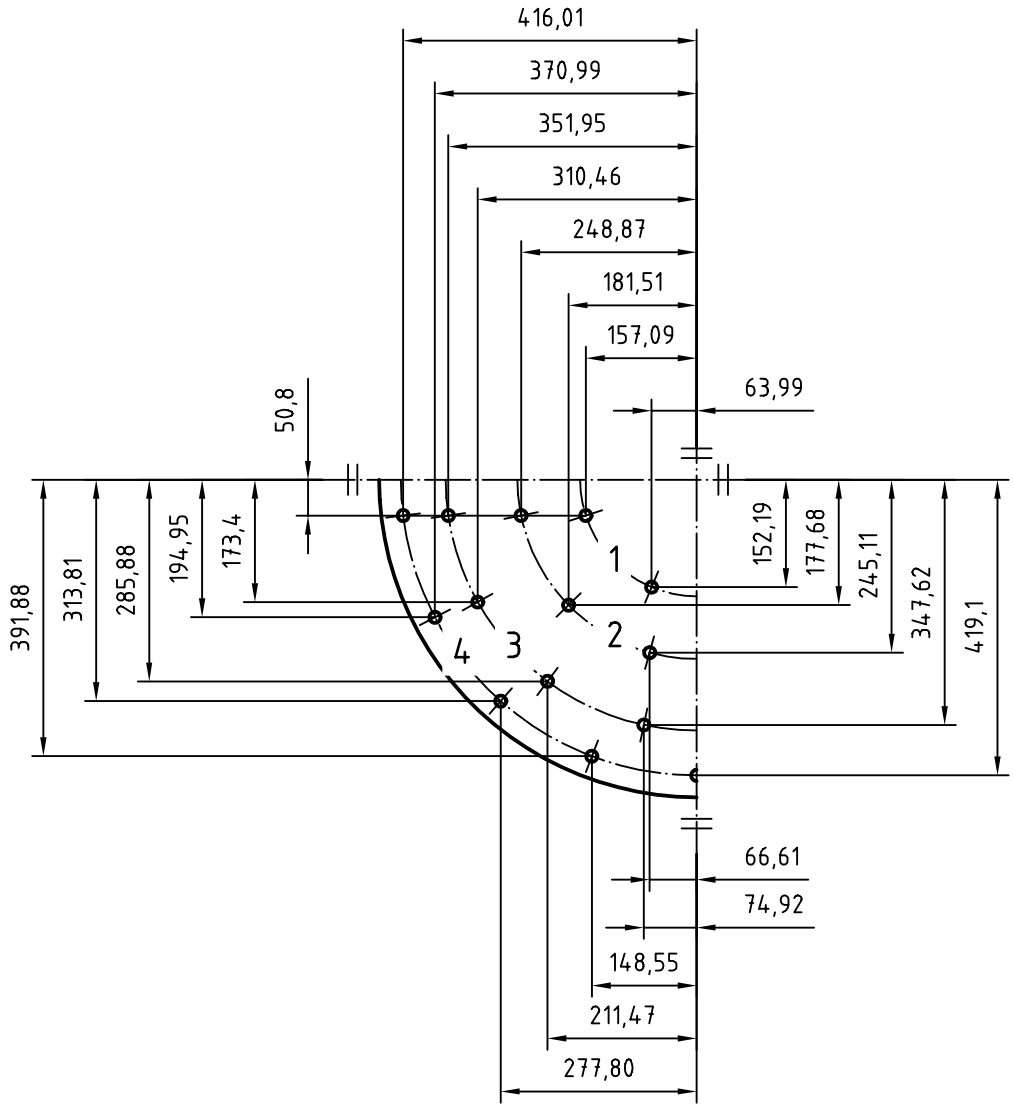

Figure 14 — D = 900 mm/914 mm

Table 14 — D = 900 mm/914 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	330,2	8
2	508	12
3	711,2	16
4	838,2	18

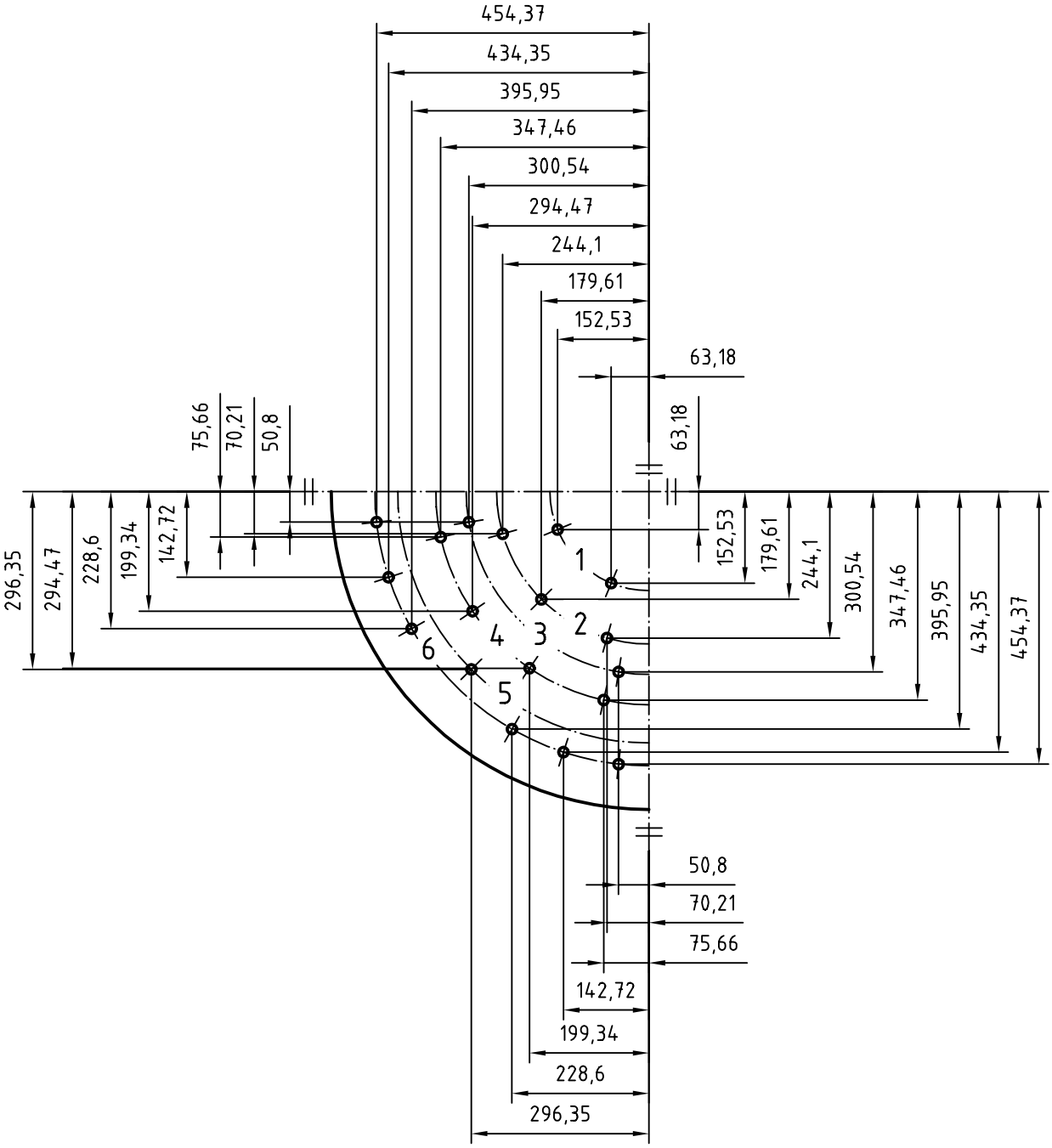

Figure 15 — D = 1 060 mm/1 067 mm

Table 15 — D = 1 060 mm/1 067 mm

Insert location		Number of holes
Row of inserts	Pitch circle diameter	
1	330,2	8
2	508	12
3	609,6	8
4	711,2	16
5	838,2	4
6	914,4	24

3.6 Type 37: Cylinder wheel with inserted nuts

See Figure 16 and Table 16.

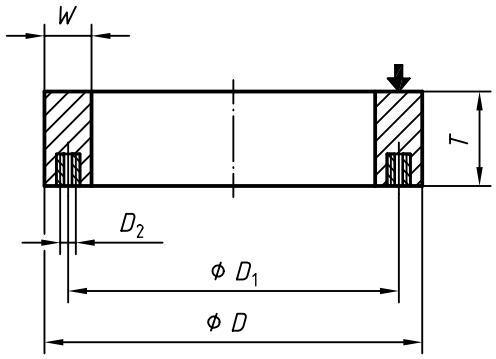

Figure 16 — Type 37

Table 16 — Dimensions of Type 37

D	T	W	Insert layout		
			D_1	Number of holes	D_2
300	100	50	250	6 at 60°	M10
350/356			300	8 at 45°	
400/406			350		
450/457			400	10 at 36°	
500/508	125		450		
600/610		63	540	12 at 30°	

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 grinding of flat surfaces, Type 2, D = 300 mm, T = 100 mm, W = 32 mm, nature of abrasive A, grain size 46, grade H, structure 8, nature of bond B and a maximum operating speed of 32 m/s is designated as follows:

Cylinder wheel ISO 603-5 - 2 - 300 × 100 -32 - A 46 H8B - 32 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.

Bibliography

[1] ISO 8486-1, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220*.

[2] ISO 8486-2, *Bonded abrasives — Determination and designation of grain size distribution — Part 2: Microgrits F230 to F1200*.

ICS 25.100.70

Price based on 13 pages