INTERNATIONAL STANDARD

ISO 21537-2

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Clamping flanges for superabrasive cutting-off wheels —

Part 2: Building and construction

Flasques pour meules de tronçonnage superabrasives —

Partie 2: Bâtiment et génie civil

Reference number
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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 21537-2 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 5, *Grinding wheels and abrasives*.

ISO 21537 consists of the following parts, under the general title *Clamping flanges for superabrasive cutting-off wheels*:

— *Part 1: Natural stone*

— *Part 2: Building and construction*

Clamping flanges for superabrasive cutting-off wheels —

Part 2:
Building and construction

1 Scope

This part of ISO 21537 specifies dimensions for clamping flanges for the mounting of superabrasive cutting-off wheels (diamond saws) for use on stationary cutting-off machines, mobile cutting-off machines and hand-held cutting-off machines for the cutting of mineral materials.

2 Normative references

The following referenced documents are indispensable for the application 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 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

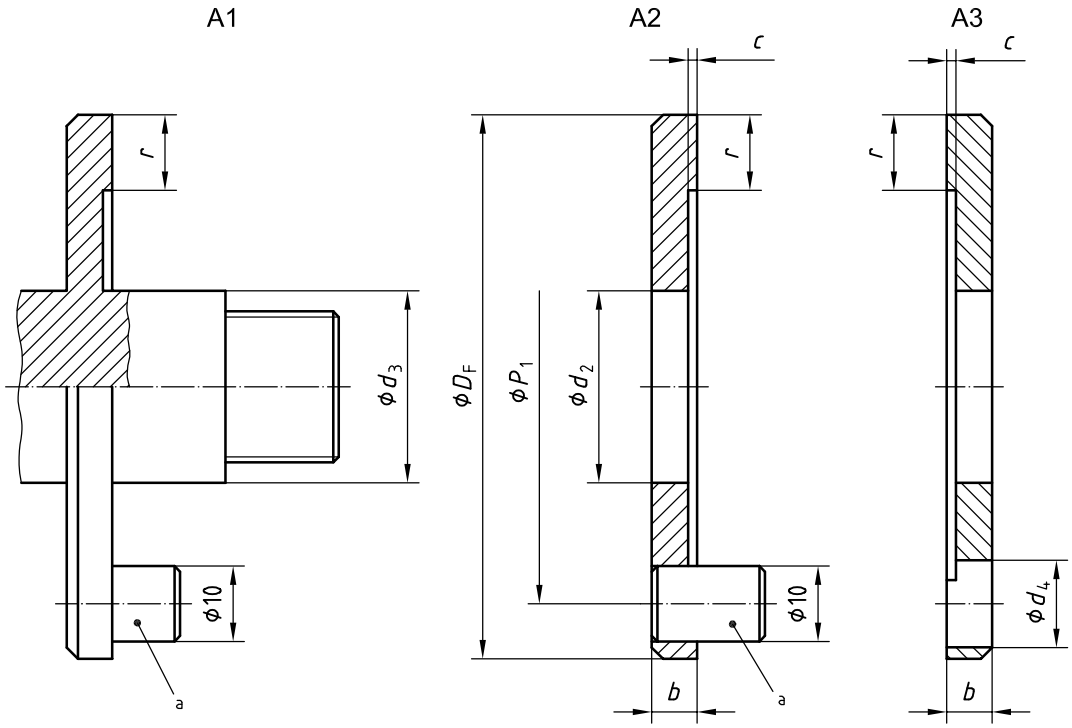
3 Dimensions

3.1 General

The dimensions of flanges used on hand-held cutting-off machines (type A), on masonry cutting-off machines (type B), on joint cutting machines (type C), on joint cutting machines (flush cuts) (type D) and on wall cutting-off machines (type E) for clamping suerabrasive cutting-off wheels are shown in Figures 1 to 5 and given in Tables 1 to 5 respectively.

Details which are not specified shall be chosen according to need.

3.2 Type A



a Optional drive pin for cutting-off wheels $D > 230$ mm.

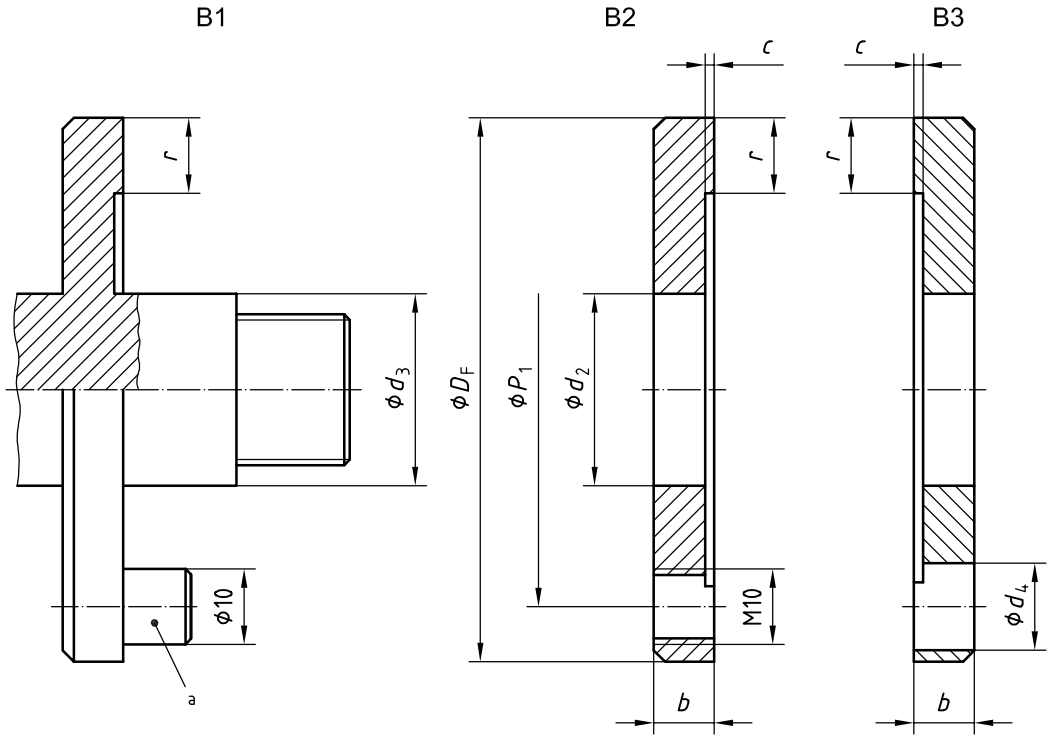
Figure 1 — Type A

Table 1 — Dimensions of clamping flanges for type A

Dimensions in millimetres
General tolerances ISO 2768 - m

Cutting-off wheel		**Flange**							
D	H	D_F	b	c min.	d_2 H7	d_3 g6	d_4	P_1 ± 0,1	r
$D \leqslant$ **100**	**16**	41	6	1	16		—	—	5
115 $\leqslant D \leqslant$ **230**	**22,23**				22,23				
230 $< D \leqslant$ **400**	**20**	72			20		11,5	57,4	10
	22,23				22,23				
	25,4				25,4				

3.3 Type B



a Optional drive pin.

Figure 2 — Type B

Table 2 — Dimensions of clamping flanges for type B

Dimensions in millimetres
General tolerances ISO 2768 - m

Cutting-off wheel		Size	Flange								Number of pins
D	H		D_F	b	c min.	d_2 H7	d_3 g6	d_4	P_1 ± 0,1	r	
$D \leqslant$ **250**	**20**	1	41	8	1	20	20	—	—	5	—
	25,4	2				25,4	25,4				
250 $< D \leqslant$ **400**	**25,4**	3	72			25,4	25,4	11,5	57,4	10	1
	30	4				30	30				
400 $< D \leqslant$ **700**	**25,4**	5	90	12		25,4	25,4			12	
	60	6				60	60				
700 $< D \leqslant$ **900**	**25,4**	7	140			25,4	25,4		100		3 × 120°
		8							120		1
	60	9				60	60		120		1
		10							100		3 × 120°
900 $< D \leqslant$ **1 000**	**25,4**	11	162			25,4	25,4		120		1
		12							100		3 × 120°
	60	13				60	60		120		1
		14							100		3 × 120°

3.4 Type C

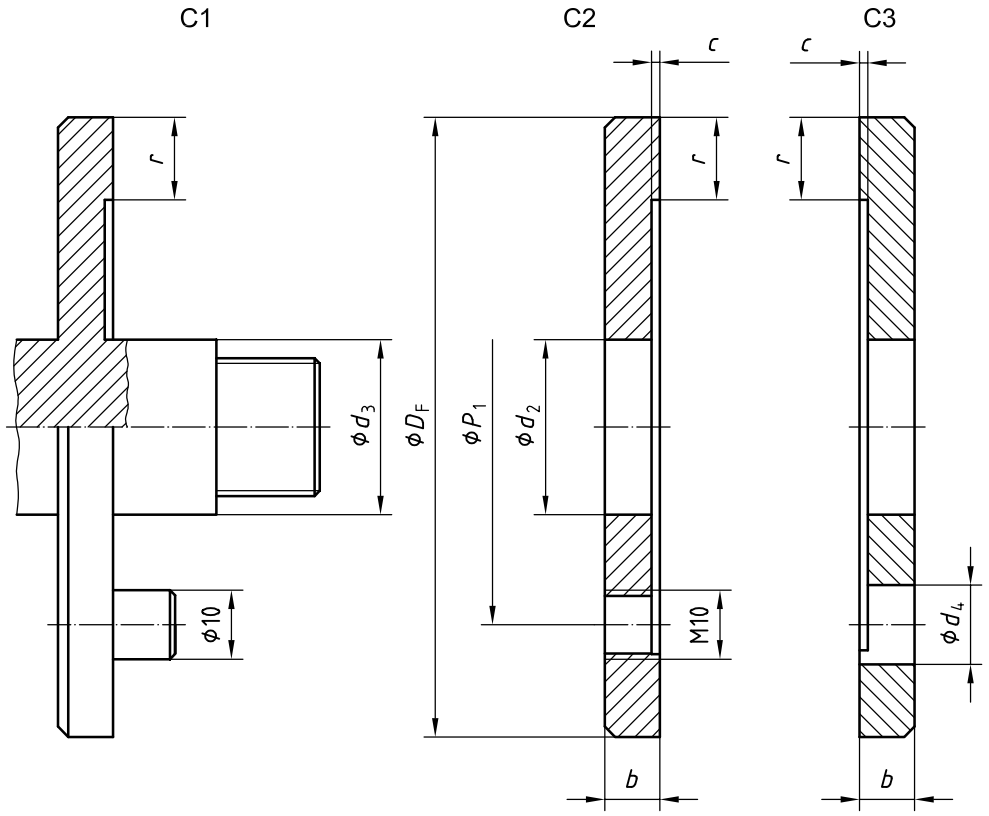


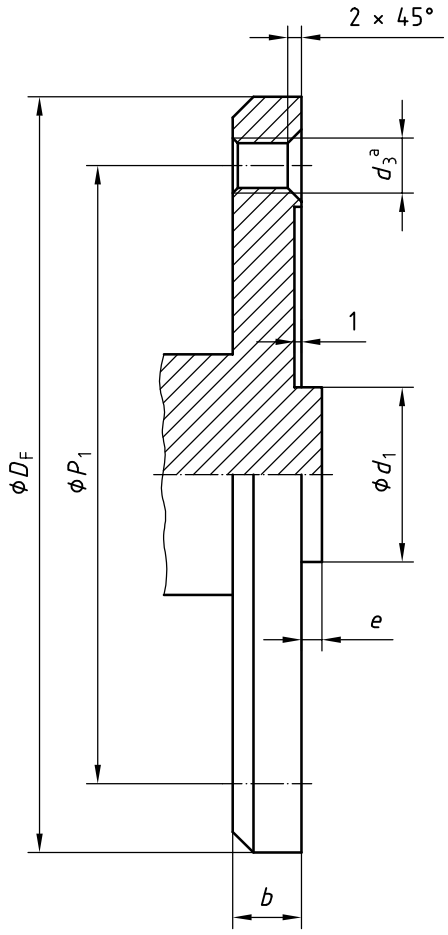
Figure 3 — Type C

Table 3 — Dimensions of clamping flanges for type C

Dimensions in millimetres
General tolerances ISO 2768 - m

Cutting-off wheel		Flange								Number of pins
D	H	D_F	b	c min.	d_2 H7	d_3 e8	d_4	P_1 ± 0,1	r	
$D \leqslant$ **350**	**25,4**	80	8	1	25,4		—	—	10	1
350 $< D \leqslant$ **500**	**25,4**	90			25,4		11,5	57,4	12	
	35				35					
500 $< D \leqslant$ **900**	**25,4**	140	12		25,4					
	35				35					
900 $< D \leqslant$ **1 500**	**25,4**	198	16	1,5	25,4				20	
	35				35					
	50				50			—		

3.5 Type D



a $6 \times 60°$

Figure 4

Table 4 — Dimensions of hub flanges for type D

Dimensions in millimetres
General tolerances ISO 2768 - m

Cutting-off wheel		Flange					
D	H	D_F	b	e $^{0}_{-0,1}$	d_1 e8	d_3 and number of threaded holes	P_1 ± 0,1
$D \leqslant$ **700**	**25,4**	110	10	3	25,4	M8 $6 \times 60°$	90
	35				35		
	50				50		
700 $< D \leqslant$ **1 200**	**25,4**	140	12	3,5	25,4		
	35				35		
	50				50		110
1 200 $< D \leqslant$ **1 500**	**25,4**	198	16	3,5	25,4	M8 or M12 $6 \times 60°$	120
	35				35		
	50				50		

3.6 Type E

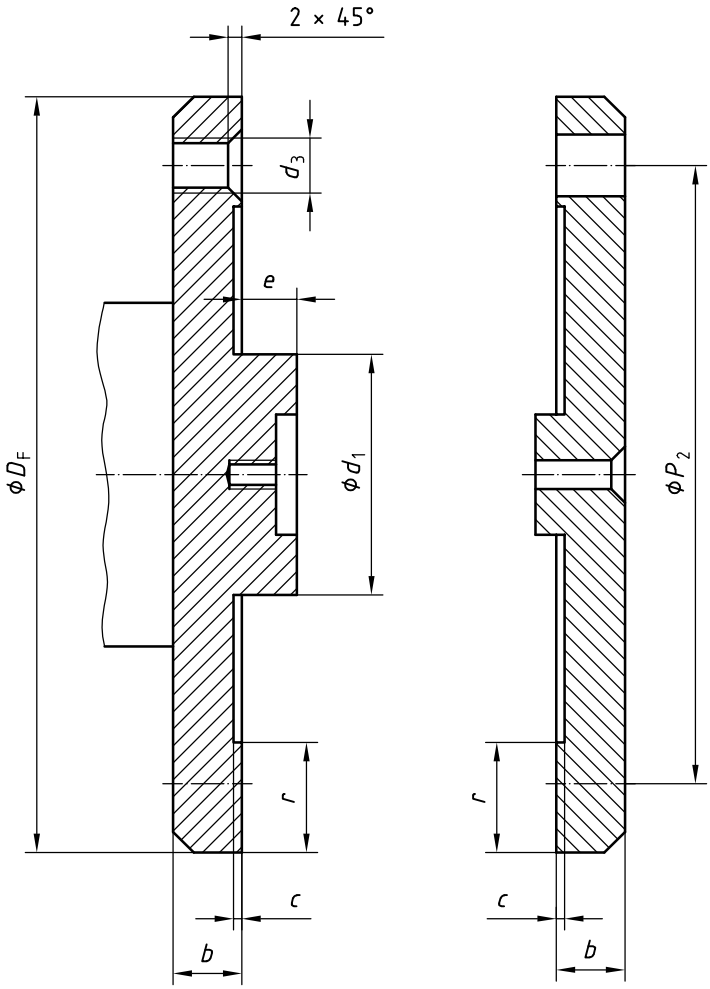


Figure 5 — Type E

Table 5 — Dimensions of hub flanges for type E

Dimensions in millimetres
General tolerances ISO 2768 - m

Cutting-off wheel		Flange														
D	H	D_F	e	b	c	d_1	d_2	d_3 and number of threaded holes	P_2 ± 0,1							r
		min.	$^{0}_{-0,1}$		min.	H7	e8		45	60	80	90	110	125	130	
$D \leqslant$ **400**	**25,4**	55	1,6	8	1	25,4		M5 4 × 90°	X	—	—	—	—	—	—	12
	35	80				35		M6 6 × 60°	—	X	—	—	—	—	—	16
400 $< D \leqslant$ **1 000**	**25,4**	110	2	10		25,4		M8 6 × 60°	—	—	X	—	—	—	—	
	35					35										
	50					50										
	60					60										
1 000 $< D \leqslant$ **1 600**	**25,4**	127	3,5	12	1,5	25,4		M8 6 × 60°	—	—	X	X	X	—	—	25
	35					35										
	50					50										
	60					60										
1 600 $< D \leqslant$ **2 000**	**25,4**	148	3,5			25,4		M8 6 × 60°	—	—	X	X	X	X	X	35
	35					35										
	50					50										
	60					60										

4 Requirements

4.1 Material

Specifies to the manufacturer's choice, elastic limit for steel at least 300 MPa.

4.2 Design

Clamping flanges of types A1 to C3 are to be used in pairs in the combinations A1/A3, B1/B3, C1/C3, A2/A3, B2/B3 or C2/C3.

Types A2, B2 and C2 are equipped on the rear side with a closed driving pin for a connection to the wheel spindle which is resistant to torque.

For clamping flanges of types A to C the drive pins shall not project beyond the clamping flange.

4.3 Supply schedule

The supply schedule of the clamping flanges types A to C comprise a fixed and a loose flange. For flanges types A, B and C, the drive pins are pressed into the fixed flange.

The supply schedule of hub flanges type D comprises hexagon socket countersunk screws.

The supply schedule of hub flange E comprises hexagon screws threaded up to the head and additional hexagon socket countersunk screws.

Only the screws intended by the machine manufacturer shall be used.

5 Designation

EXAMPLE A clamping flange type B1 for use on superabrasive cutting-off wheels, outisde diameter D = 700 mm and size 9 is designated as follows:

Flange ISO 21537-2 - B1 - 700 × 9

6 Marking

Clamping flanges according with this part of ISO 12537 shall be indelibly marked with the following data:

“Maximum diameter of the superabrasive cutting-off wheel intended for the relevant cutting-off machine.”

ICS 25.100.70

Price based on 8 pages