



**2.308—  
2023**

2.308—2023

1 « - «  
» ( « »)

2 482 «  
»

3 10 2023 . 1373-

4

29 2015 . 162- « 26  
) — « ( » 1 -  
( ) « », « ».  
» . , — « -

([www.rst.gov.ru](http://www.rst.gov.ru))

© . « », 2023

-  
-

1	.....	1
2	.....	1
3	.....	2
4	.....	3
5	.....	6
6	.....	14
7	.....	18
8	.....	18
9	.....	19
( )	.....	21
( )	.....	22



Unified system for design documentation. Geometric tolerances. Implementation rules

— 2024—03—01

1

2

2.304  
24643

30893.2 ( 2768-2—89)

31254 ( 14660-1:1999, 14660-2:1999)

2.005

53090 ( 2692:2006)

53442 ( 1101:2012)

«

»,

«

»

1

( ).

3

2.005, 31254,

3.1

3.2

) /

3.3

3.4

3.5

3.6

[ 53090—2008, 3.1]

3.7

[ 53090—2008, 3.2]

3.8

[ 53090—2008, 3.3]

3.9

(MMVC).

[ 53090—2008, 3.11]

3.10

(LMVC).

[ 53090—2008, 3.12]

3.11

[ 53442—2015, 3.1]

3.12

1

2

3.13

: , ( ) -

( , ) ,

[ 53442—2015, 3.2]

3.14

: ,

1

( ). ( )

2

[ 53442—2015, 3.3]

3.15

: ,

[ 53442—2015, 3.7]

1

2

4

4.1 , ( — ) ,

4.2 , 53442. -

4.3 ( ) -

1.

1

		—
		—
		©
		—
—		-

4.4

( ),

2.

2

	®	5.6
		—
		8.2

		8.2
	<b>CZ</b>	5.10
	</	9.3
	</	9.5
	>	
	<u>(Z &gt;</u>	

4.5 , 53442. ,

4.6 , -

53442.

4.7

4.8 24643.

4.9 -

4.10

- ;

- ;

- ;

- 0;

- , ( ) ;

- ( ).

— — 0,2 .

4.11 ,

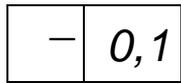
( , 30893.2).

**5**

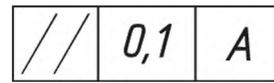
5.1

, , 1 2. -  
:  
- — , , 1;  
- ( — ); -

6.9—6.11.



1



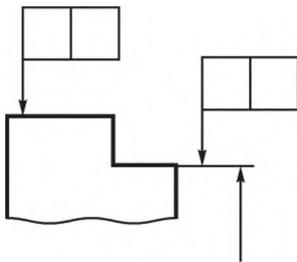
2

5.2

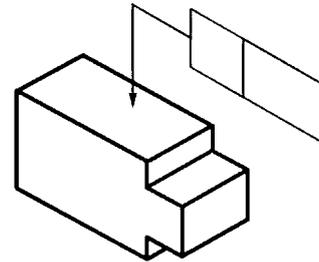
5.3

5.4

3.



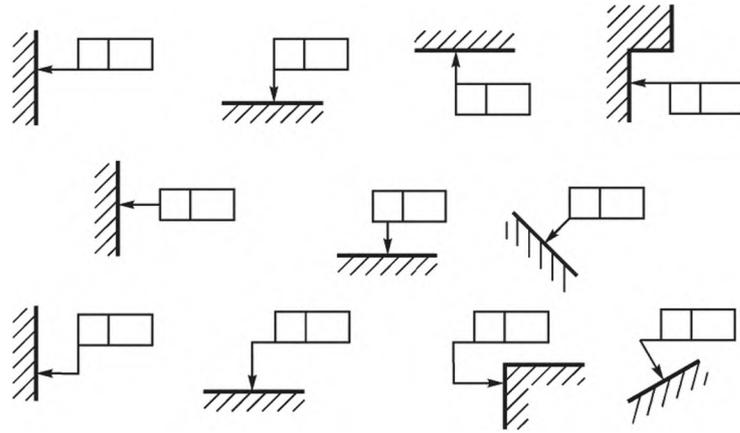
a)



b)

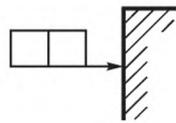
3

, , ),  
4.

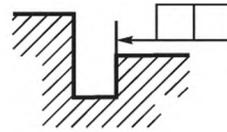


4

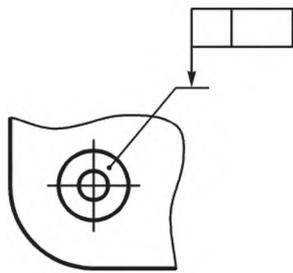
- : ( ) , 5 );  
 - 5 );  
 - , 5 ) ).



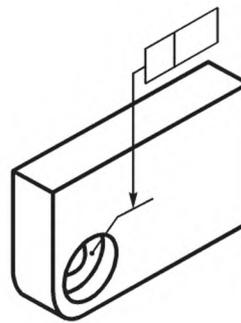
a)



б)



в)

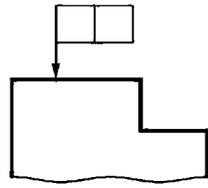


г)

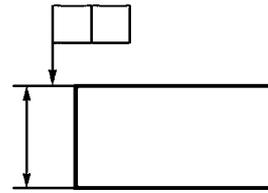
5

5.5  
 ),

6 7.



а)



б)

Рисунок 6

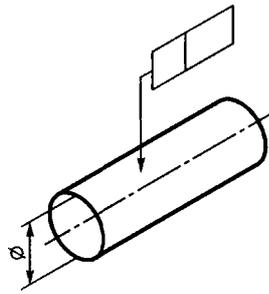
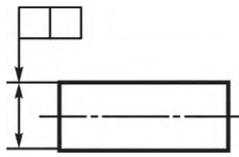


Рисунок 7

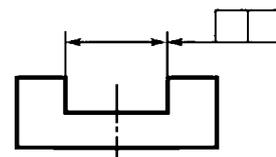
5.6  
)  
8 ), ), ).

(  
,  
-

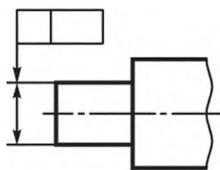
8 ).



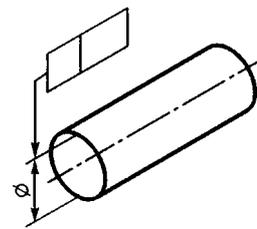
)



б)



)

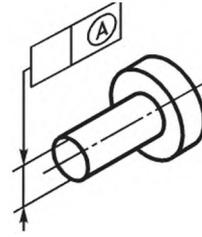


г)

8

( ),

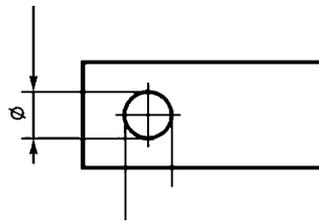
9 ) ).



9

5.7

10.

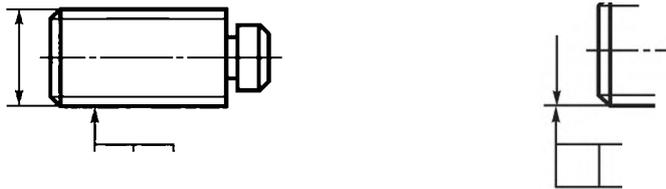


10

5.8

11 ).

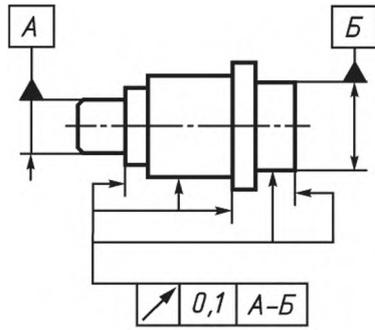
11 ).



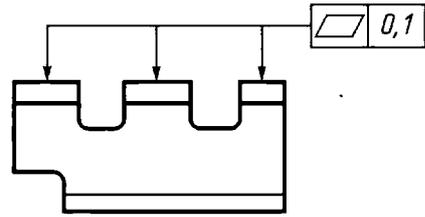
11

5.9

12 ) ).



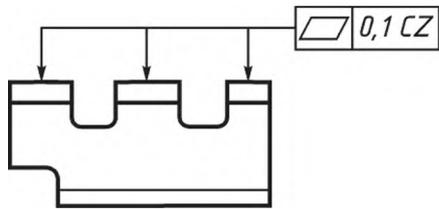
a)



б)

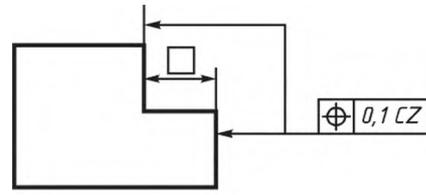
12

5.10



13.

«CZ»,



б)

13

13 ),

5.11

- 0 —
- S0 —

:

14 );

14 ).

00,1

800,2

)

14

5.12

( 15 ).

( 15 ) ).

15 ).

—	0,1
---	-----

—	0,1/100
---	---------

//	0,1/100*200
----	-------------

/ /	0,08
	0,01/100

)

)

)

15

5.13

16.

17 ) ) .

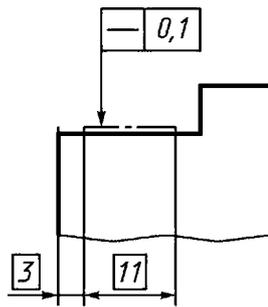
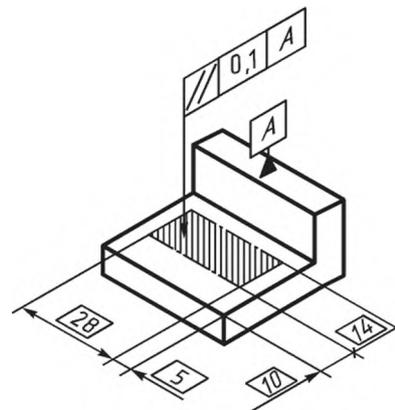
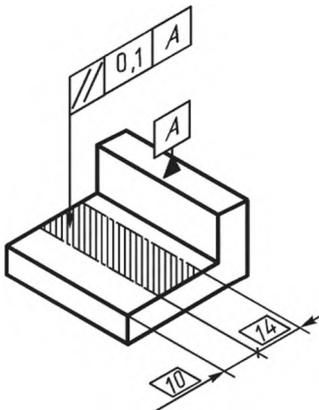


Рисунок 16



17

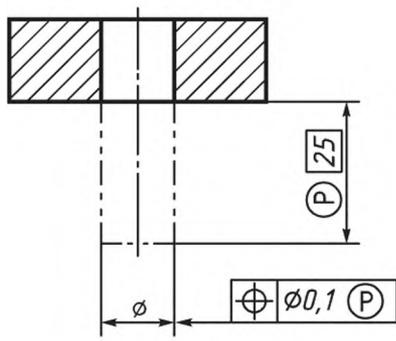
— 17 ) )

5.14

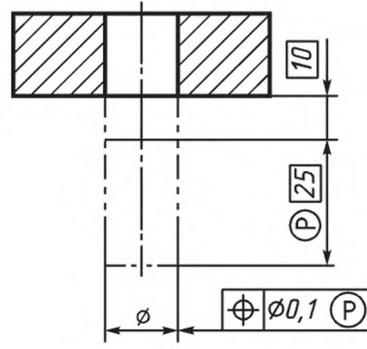
( ) .

18 ) .

18 ) .



a)



б)

18

5.15

19.

0,1

0,1

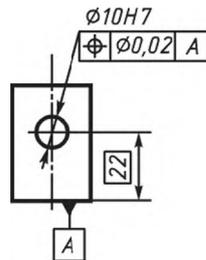
$\angle \pm 0,1 \text{ ns}$



19

5.16

20.



20

5.17

21 ) );

21 );

21 ).

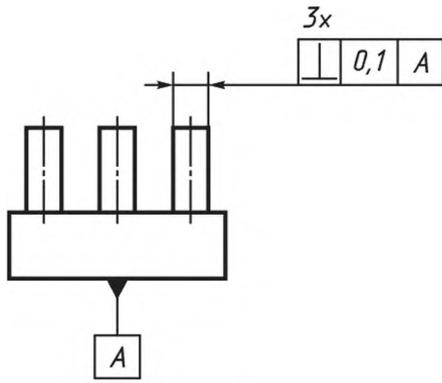
« »,

21 ),

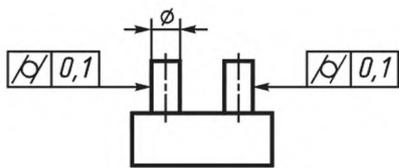
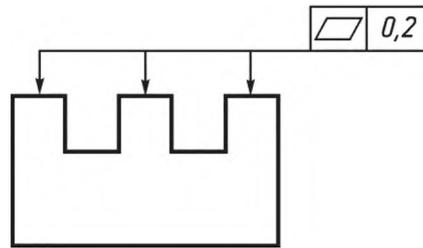
21 ).

5.16,

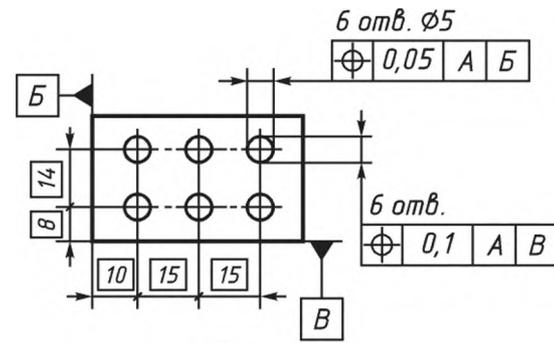
21 ).



a)



б)



г)

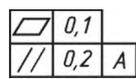
21

5.18

( ).

-  
22

22 ( ).



22

5.19



23.

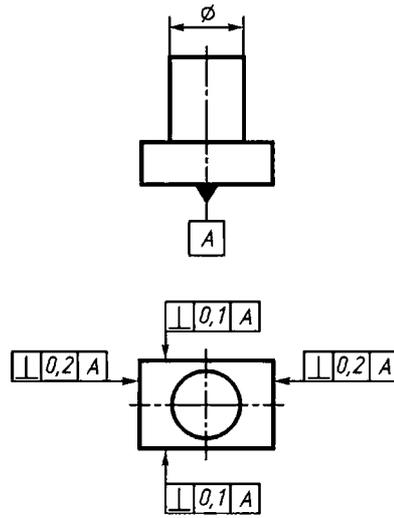


Рисунок 23

**6**

6.1

53442

6.2

6.3

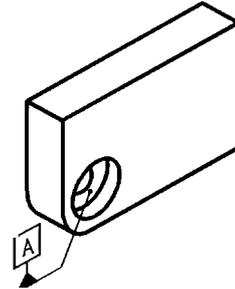
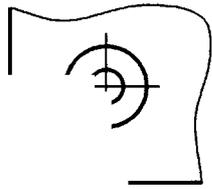
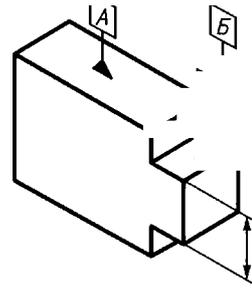
6.4

24 ).

6.5

24 ).

24 ) ).



24

6.6

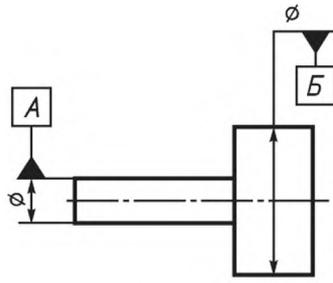
( ,

25.

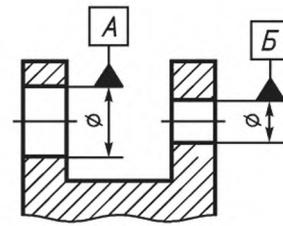
25 ) ).

25 )(

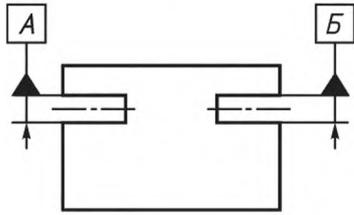
25 ).



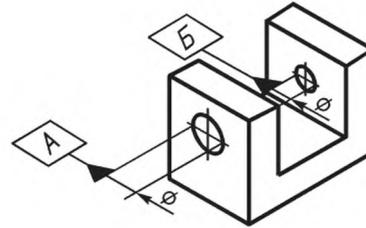
a)



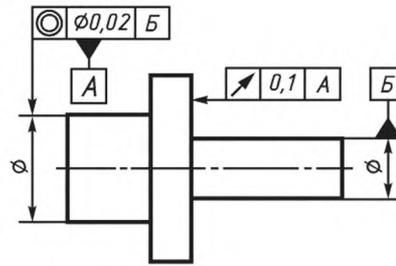
б)



в)



г)

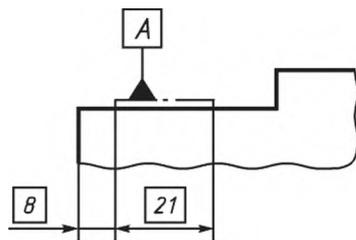


д)

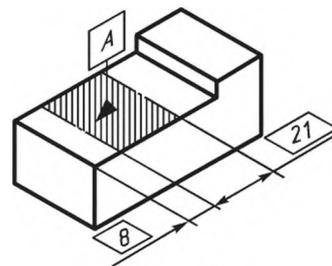
25

6.7

26 ), ).



a)



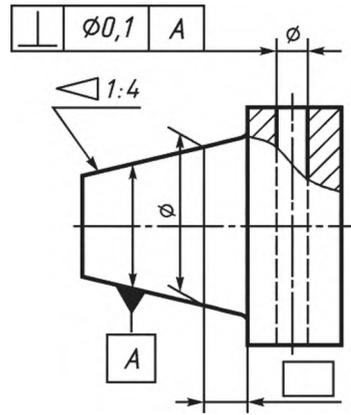
б)

26

— 26 )

6.8

27.

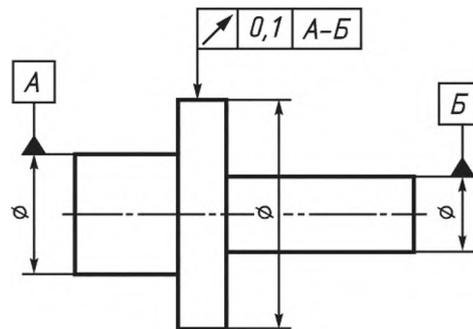


27

6.9

6.10

28.



28

6.11

( )

29.

( )

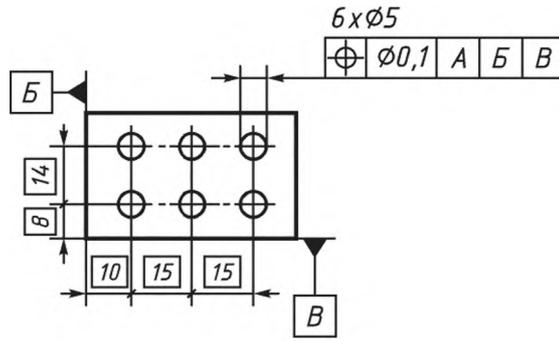


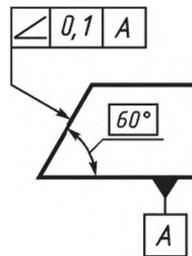
Рисунок 29

**7**

7.1

7.2

29 30.



30

**8**

8.1

53090.

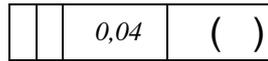
8.2

31 );

31 );

31 ).

1)



31

9

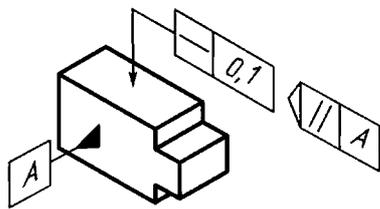
9.1

9.2

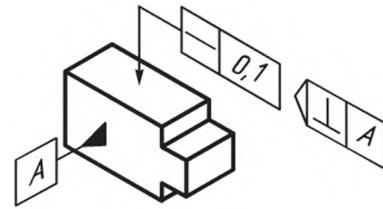
9.3

— (« »),

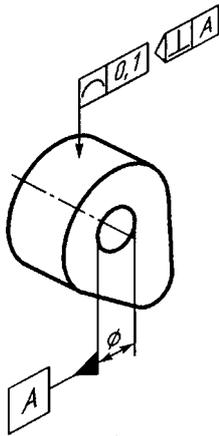
32 ), ), ), ).



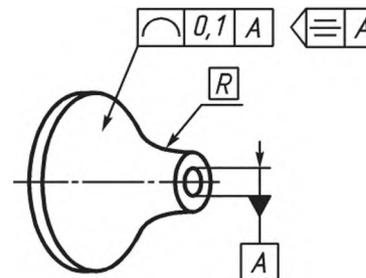
a)



б)



в)



32

— - ? (« »)

[ 32 ).

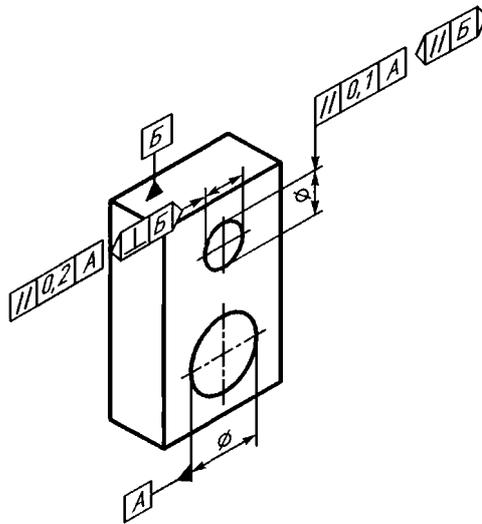
9.4

9.5

Z\_ (« »),

- , -  
 - , -  
 ( 2), // (« »), \_L (« »)

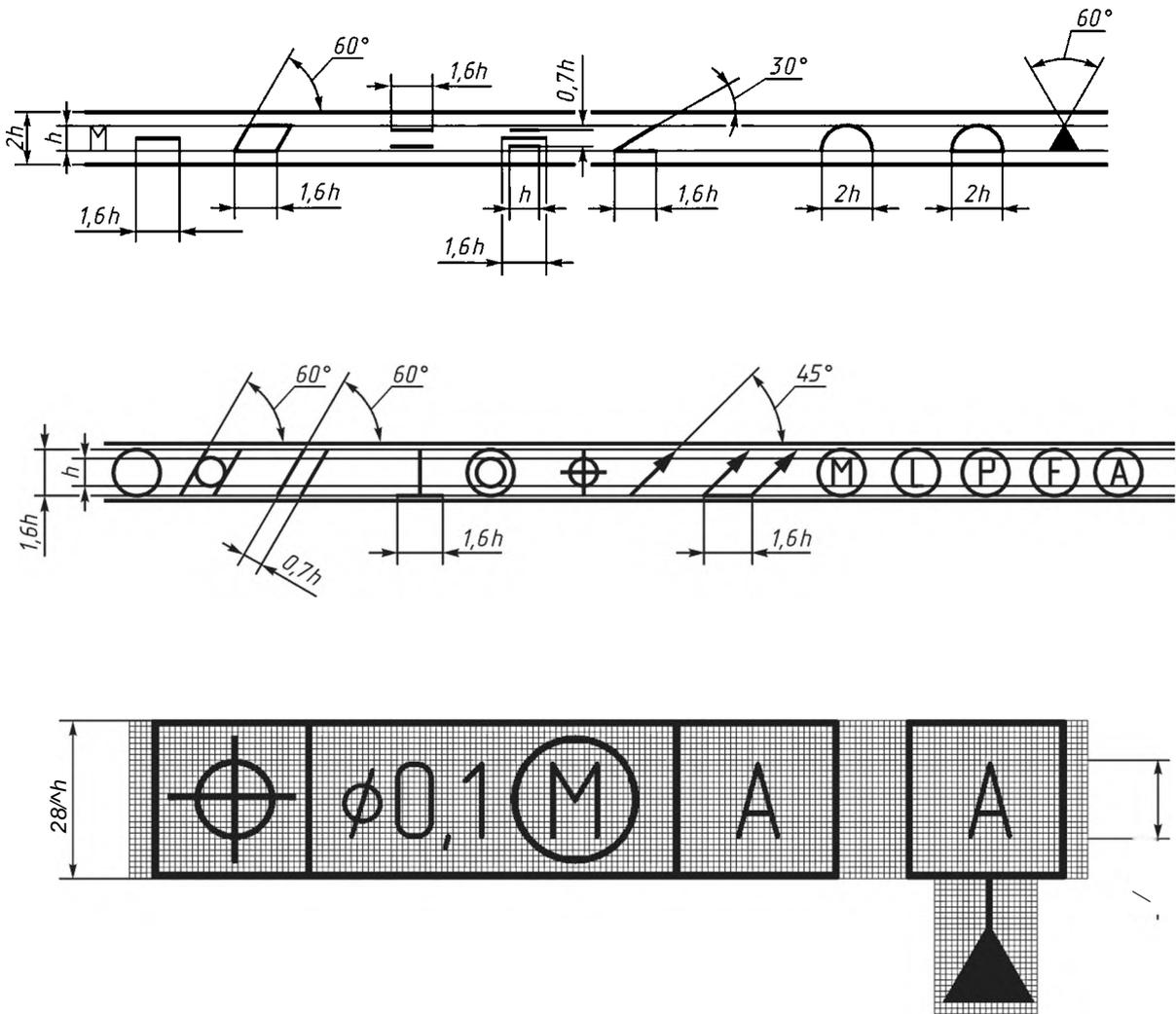
33.



33

( A )

Размеры графических символов



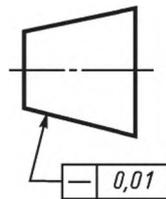
2.304.

$h$ —

.1

( )

.1



10 , 8\

**TZZZZZT**

**JZZZZZI**

0,25  
0,1/100

0,05 | | 0,1 |

— 0,01

— 00,08

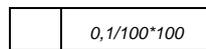
1

0,25

100 0,1 —

— 0,05 ,  
— 0,1

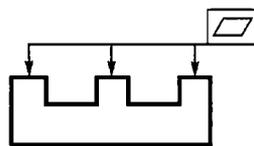
0,1 —



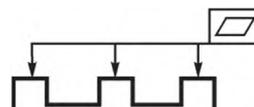
0,1

100 0 —

2

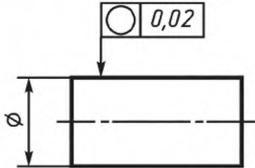
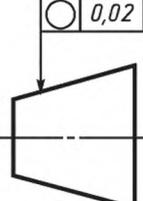
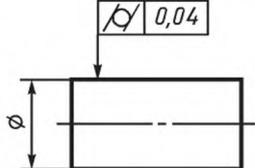
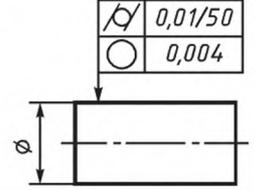
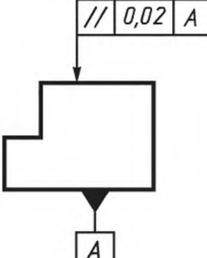
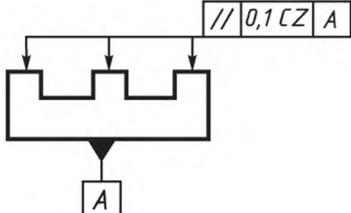


0,1 . —



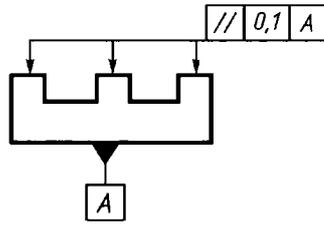
— 0,01 .

Продолжение таблицы Б.1

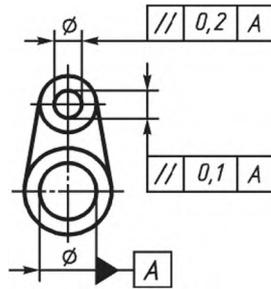
Вид допуска	Указание геометрического допуска в графическом документе	Пояснение
3 Допуск круглости		Допуск круглости вала — 0,02 мм
		Допуск круглости конуса — 0,02 мм
4 Допуск цилиндричности		Допуск цилиндричности вала — 0,04 мм
		Допуск цилиндричности вала — 0,01 мм на длине 50 мм. Допуск круглости вала — 0,004 мм
5 Допуск параллельности		Допуск параллельности поверхности относительно базовой поверхности A — 0,02 мм
		Допуск параллельности поверхностей относительно базовой поверхности A — 0,1 мм. Поле допуска — общее

. 1

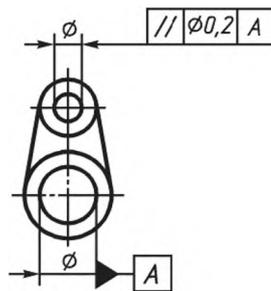
5



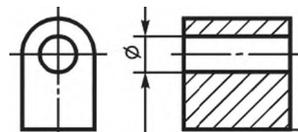
— 0,1



— 0,1  
,  
, — 0,2



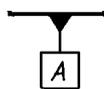
— 0,2



0,05

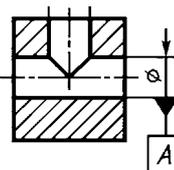
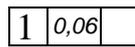
$\sim \sqrt{10,05} J$

$\pm 0,02$



— 0,02

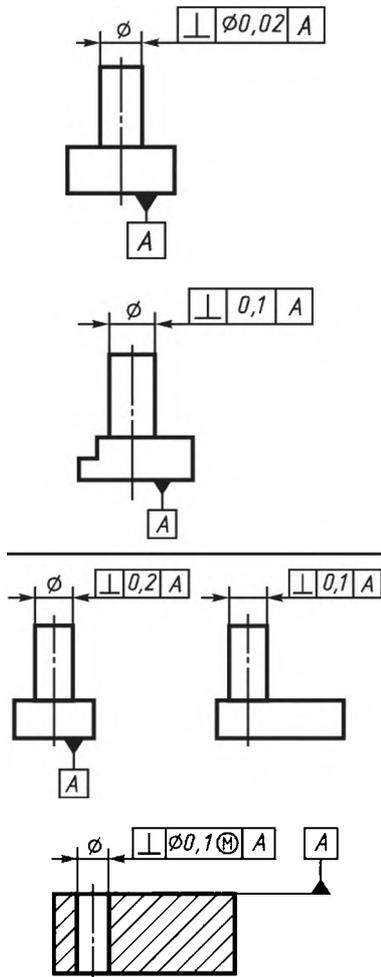
6



— 0,06

.1

6



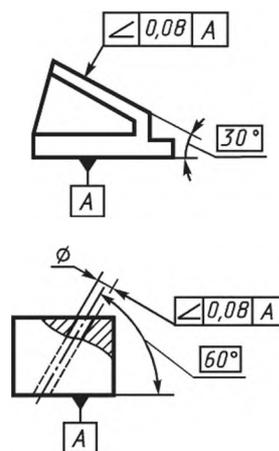
00,02

— 0,1

— 0,2  
— 0,1

— 00,1

7

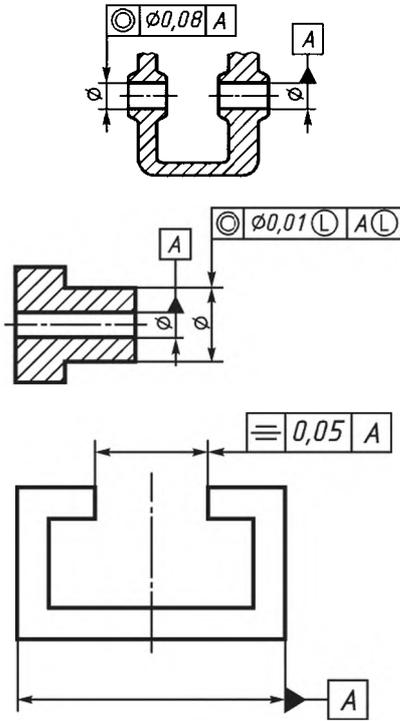


0,08

0,08

. 1

8

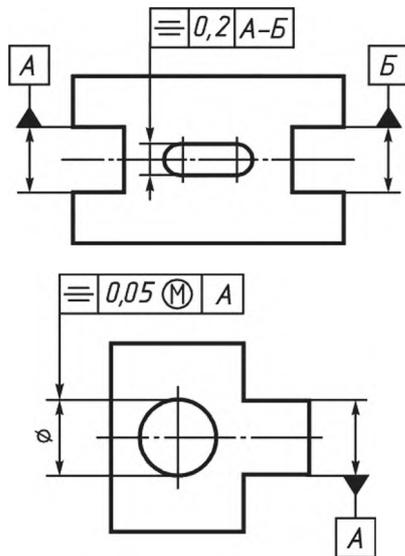


00,08

— 00,01

— 0,05

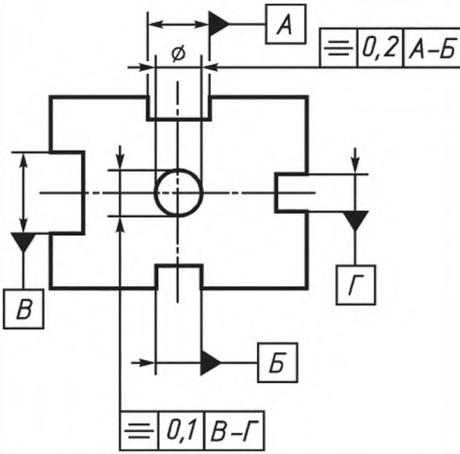
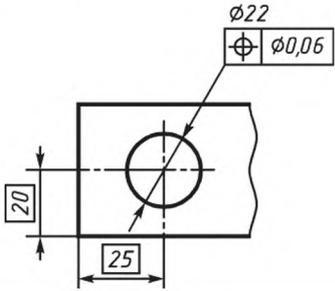
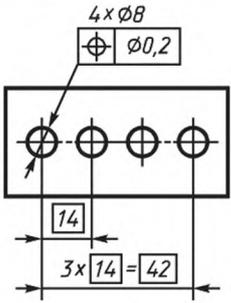
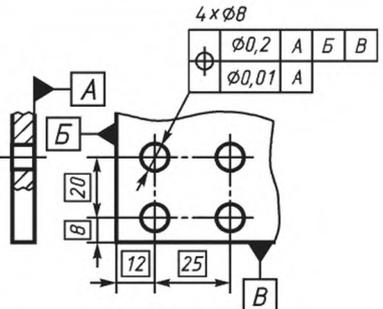
9



— 0,2

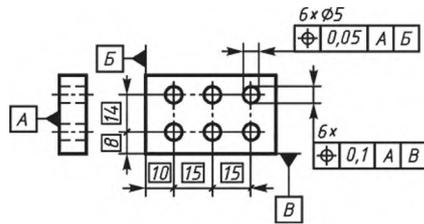
— 0,05

. 1

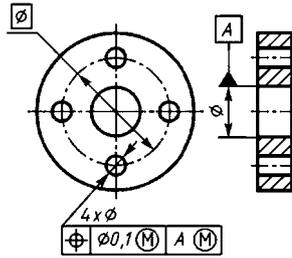
Вид допуска	Указание геометрического допуска в графическом документе	Пояснение
9 Допуск симметричности		<p>Допуск симметричности оси отверстия относительно общей базовой плоскости симметрии А-В, образованной базовыми элементами А и В, — 0,2 мм; относительно общей базовой плоскости симметрии В-Г, образованной базовыми элементами В и Г, — 0,1 мм</p>
10 Позиционный допуск		<p>Позиционный допуск оси отверстия — <math>\varnothing 0,06</math> мм</p>
10 Позиционный допуск		<p>Позиционный допуск осей отверстий — <math>\varnothing 0,2</math> мм</p>
10 Позиционный допуск		<p>Позиционный допуск осей отверстий относительно комплекта баз А, Б, В — <math>\varnothing 0,2</math> мм, относительно базы А — <math>\varnothing 0,01</math> мм</p>

. 1

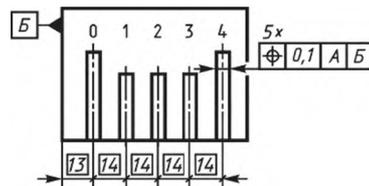
10



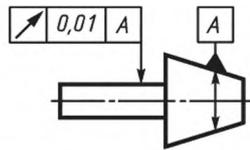
— 0,05 ,  
— 0,1



— 00,1

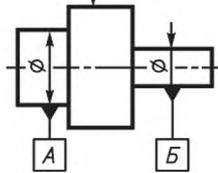
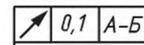


, — 0,1

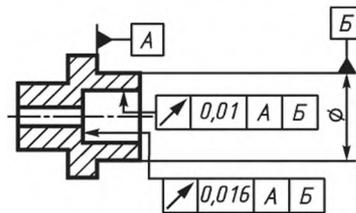


0,01 ( ) —  
—

11



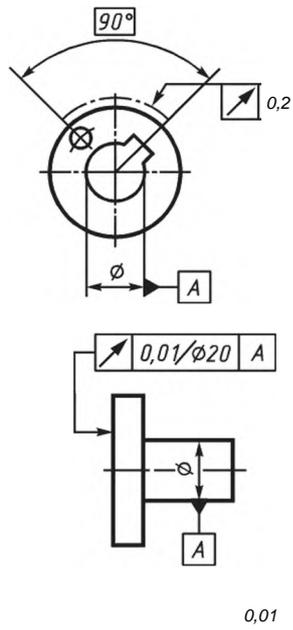
1 , — 0,1



( ) — 0,01 ,  
— 0,016

.1

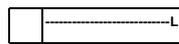
11



—0,2

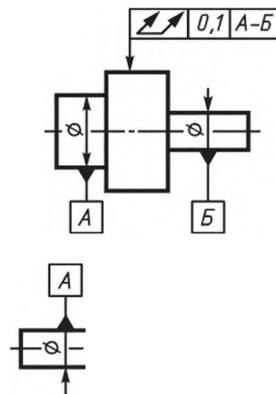
20  
—0,01

0,01



, —0,01

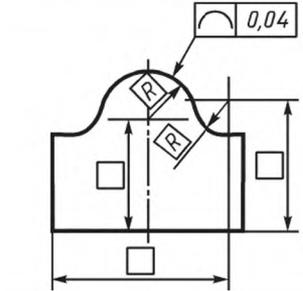
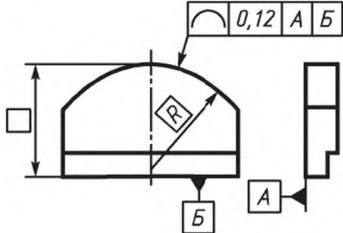
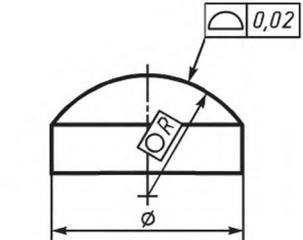
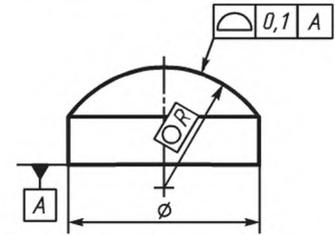
12



, —0,1

—0,1

Окончание таблицы Б.1

Вид допуска	Указание геометрического допуска в графическом документе	Пояснение
13 Допуск формы заданного профиля		Допуск формы заданного профиля — 0,04 мм
		Допуск формы заданного профиля относительно комплекта баз А, В — 0,12 мм
14 Допуск формы заданной поверхности		Допуск формы заданной поверхности — 0,02 мм
		Допуск формы заданной поверхности относительно базы А — 0,1 мм

62(084.11 ):006.354

01.080

: , , , , , -  
, , , , ,

22.11.2023.

29.11.2023.

60x84%.

. . . 4,18. - . . . 3,34.

« »

117418 , - , . 31, . 2.

[www.gostinfo.ru](http://www.gostinfo.ru) [info@gostinfo.ru](mailto:info@gostinfo.ru)